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GEORGE'S ROLL TOBACCO PAPER and CLOTH, the best in the Market. Wholesale and retail—trade price very low, samples sent on application.—J. GEORGE, 10, Victoria Road, Putney, Surrey.

REPAIRS to HOT WATER PIPES in GREENHOUSES, &c., undertaken by a Practical Man at moderate charges in Town or Country.—WILLIAM HOWE, 60, Grayshott Road, Clapham Junction, S.W.

NEW HARDY SWEET SCENTED WHITE PASSION FLOWER,

"CONSTANCE ELIOTT."

1st Class Certificate, R.H.S., 1884.

LUCOMBE, PINCE & Co., The Exeter Nursery, Exeter, will be prepared to send out this novelty in the Spring of 1885. They have purchased the whole stock from the raisers, MESSRS. FULLER & SON, of Newton Abbott.

PRICE 5s. EACH. A FEW EXTRA SIZED PLANTS, 10s. 6d. EACH.

Terms to the Trade on Application.

Dutch and Other Bulbs.

CHARLES TURNER'S

CATALOGUE IS NOW READY.

The First Consignments are to Hand in Excellent Condition.

The New Rose Catalogue is in the Press.

THE ROYAL NURSERIES, SLOUGH.

SALES BY AUCTION.

DUTCH BULBS.

Sales Every Monday, Thursday, and Saturday.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C. (next door but one to Bennett's Clock), every MONDAY, THURSDAY, and SATURDAY, at half-past 11 o'Clock precisely each day, extensive consignments of the best named HYACINTHS, TULIPS, CROCUS, NARCISSUS, SNOWDROPS, and other ROOTS from Holland, in lots to suit the Trade and Private Buyers.

On view morning of Sale. Catalogues of the Auctioneers, 67 and 68, Cheapside, E.C.

Great Horticultural Sale Week.

IMPORTANT NOTICE to NURSERYMEN and FLORISTS.

MESSRS. PROTHEROE AND MORRIS beg to call special attention to the following SALES of HEATHS and other PLANTS, all of which have been arranged to take place the same week.

Their Sales for this particular week will comprise in the aggregate nearly 8,000 lots, and have been arranged in this manner to enable country buyers to attend them all during one visit to London.

Offices and Auction Rooms, 67 and 68, Cheapside, E.C.

Lee, Kent, S.E.

GREAT ANNUAL TRADE SALE.

To commence punctually at 11 o'Clock, in consequence of the unusually large number of 1,140 lots.

MESSRS. PROTHEROE AND MORRIS are instructed by the Executors of the late Mr. B. Maller, to SELL by AUCTION on the Premises, The Burnt Ash Nursery, Lee, Kent, S.E., adjoining the Lee Railway Station, on TUESDAY, September 16, at 11 o'Clock precisely, 20,000 Winter-blooming HEATHS, beautifully grown, and well set with bloom-buds, and which are unsurpassed in the Trade, comprising.—

15,000 Erica hyemalis	7,000 Solanum capsicastrum, well berried
3,000 „ gracilis	2,000 Adiantum cuneatum, graeillimum, and Pacottii
1,000 „ caffra	1,000 Cyclamen persicum
Large quantities of ventricosa, grandinosa, melanthera, and others	1,000 Ampelopsis Veitchii
Thousands of Erica hyemalis in small pots for growing on	6,000 Bouvardias, including the double white and red Alfred Neuner, and President Garfield
1,000 Epacris	2,000 Genistas
1,000 Decorative Palms	
1,000 Grevillea robusta	

Maréchal Niel and other dwarf ROSES; 600 PASSION-FLOWERS, English grown; AZALEAS and CAMELLIAS, double white PRIMULAS, extra strong; STEPHANOTIS, HOYAS, GARDENIAS, and other Stock.

May now be viewed. Catalogues may be had on the Premises, or of the Auctioneers, 67 and 68, Cheapside, London, E.C.

N.B. The Auctioneers desire to call attention to this Annual Sale. The Stock is in unusually fine condition, as in previous years, and intending purchasers are invited to inspect it.

Lea Bridge Road Nurseries, Leyton, E.

UNRESERVED SALE. EXPIRATION OF LEASE.

GREAT ANNUAL TRADE SALE of WINTER FLOWERING HEATHS and other PLANTS, by order of Mr. John Fraser.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the premises, The Lea Bridge Road Nurseries, Leyton, E., close to Hoe Street Railway Station, on WEDNESDAY, September 17, at 11 o'Clock precisely (in consequence of there being upwards of 1,100 lots) without reserve many Thousands of Winter Blooming and other HEATHS, remarkably well-grown, including hyemalis, gracilis, hybrida, candidissima, Parmentieria rosca, persoluta alba, and others; EPACRIS of the choicest kinds; 1,500 AZALEA INDICA, 2,000 CYCLAMEN PERSICUM, 1,000 GENISTA FRAGRANS, Tea Scented and Noisetta ROSES, SOLANUM CAPSICASTRUM in berry, several hundreds of well-grown CAMELLIAS well set with bloom; CLEMATIS INDIVISA LOBATA and other GREENHOUSE CLIMBERS; 1,500 early flowering CHRYSANTHEMUMS, 200 Maréchal Niel and other ROSES, from 7 to 10 feet; a large quantity of fine plants of AMPELOPSIS VEITCHII; a variety of GREENHOUSE PLANTS; fine healthy young plants of LAPAGERIA ALBA and ROSEA SUPERBA, a beautiful lot of about 300 ARAUCARIA EXCELSA, CLEMATIS JACKMANNI, a splendid lot of variegated IVIES, and other stock.

May now be viewed. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C.

Brunswick Nursery, Tottenham.

GREAT ANNUAL TRADE SALE of Winter-blooming HEATHS and other PLANTS, by order of Mr. John Maller.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises, The Brunswick Nursery, Tottenham, on THURSDAY, September 18, at 11 o'Clock precisely, many thousands of exceptionally well-grown Winter-blooming HEATHS and other PLANTS.

Full particulars of which will appear next week.

Sidcup, Kent, S.E.

GREAT TRADE SALE

Of WINTER-BLOOMING HEATHS and other PLANTS, comprising probably one of the largest Stocks ever offered in one day.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. Gregory and Evans to SELL by AUCTION on the premises. The Longland's Nursery, Sidcup (about 10 minutes walk from Pope Road Station, S.E.R.), on FRIDAY, September 19, at 11 o'Clock punctually, in consequence of there being upwards of 1,000 lots.

40,000 WINTER-BLOOMING HEATHS

which are particularly well-grown and beautifully set with flower consisting of

15,000 Erica hyemalis	4,000 Genistas
10,000 „ gracalis	3,000 Solanums, well berried
5,000 „ persoluta alba	2,000 Adiantums
5,000 „ Cavendishi	2,000 Cinerarias
5,000 „ ventricosa	1,000 Double Primulas

and other stock.

May be viewed. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C.

N.B.—Messrs. Gregory and Evans in announcing this, the first of their Annual Sales, beg to call the attention of the Trade to their unrivalled Stock of ERICA HYEMALIS, GRACILIS, ADIANTUMS, &c., as advertised above, the whole being in unusually fine condition. The Stock will be offered in extra large lots and an inspection is invited.

Preliminary Notice.

The well known collection of ORCHIDS formed by Oscar Lamarche, Esq., of Liège.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions by Oscar Lamarche, Esq., to SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C., EARLY IN OCTOBER, his entire COLLECTION of ORCHIDS, which enjoys a reputation probably unequalled on the Continent.

Special Notice.

HARDY FLORISTS FLOWERS: Their Culture and Management. By JAMES DOUGLAS. Price 3s. 6d., post free.—Address, Mr. James Douglas, Great Gearies, Ilford.

OPINIONS OF THE PRESS.

"We have in 'Hardy Florists Flowers' not only a trustworthy, but a tasteful and presentable little volume."—*Gardeners' Chronicle.*

"Mr. Douglas may be said to have presented in 'Hardy Florists Flowers' a series of complete treatises—short, pithy, and to the point."—*The Garden.*

"The book opens with a portrait of the veteran Charles Turner, of Slough, and closes with a capital index; while between the two will be found a directory for the florist, which he may follow without fear through every step and stage of work and criticism."—*Gardeners' Magazine.*

A Copy will be sent on receipt of Stamps or Postal Order.

THE THAMES BANK IRON COMPANY,

Gold and Silver Medals.

Also Special Certificate, Awarded May 22, 1883.

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HOT-WATER BOILERS, PIPES, AND CONNECTIONS,

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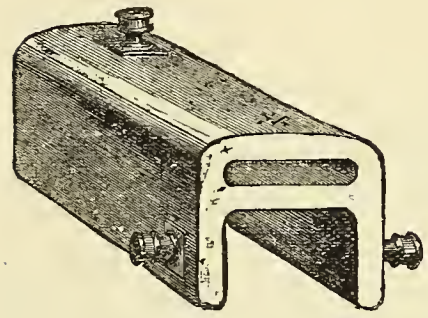

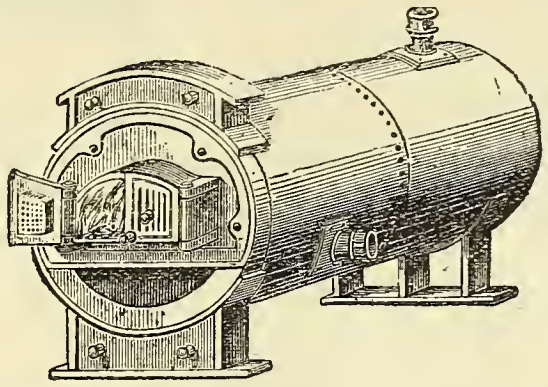

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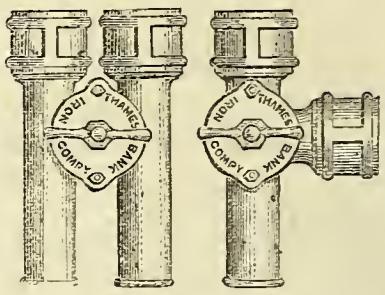

See *Gardeners' Chronicle*, June 7, 1883.

Patent Reliance Rotary Valves.

CLEMATIS JACKMANNI ALBA.

The WHITE Jackman's Clematis

Is now in bloom. All interested in this, the most valuable introduction of modern times, should come and see it. Book to Sunningdale Station, South-Western Railway, and ask for

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Who import none but first-class Bulbs, have received their

FIRST IMPORTATION,

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COLLECTIONS OF BULBS,

Either for in or out door culture, are made up to suit all classes of buyers, at moderate prices, from

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HIGHGATE NURSERIES, LONDON, N.

SMYTH'S

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE.

4d. per bushel; 100 for 25s.; truck (loose, about 2 tons), 40s.; 4-bushel bags, 4d. each.

LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks for 25s.; sacks, 4d. each.

BLACK FIBROUS PEAT, 5s. per sack; 5 sacks, 22s.; sacks, 4d. each.

COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton; in 2-bushel bags, 4d. each.

YELLOW FIBROUS LOAM, PEAT MOULD, and LEAF MOULD, 1s. per bushel. SPHAGNUM MOSS, 8s. 6d. per sack.

MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c.

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KENT.—THE GARDEN OF ENGLAND.

(REGISTERED TITLE.)

GEORGE BUNYARD & CO.,

THE OLD NURSERIES, MAIDSTONE.

FRUIT TREES A SPECIALITY. 700 KINDS TRUE TO NAME. ROSES FROM KENT DO LIVE.

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"The finest stock of Fruit Trees in Britain."

H. LANE & SON'S

Descriptive Catalogue of

ROSES, FRUIT TREES,

CONIFERS,

Deciduous and Evergreen Trees and Shrubs,

AZALEA, INDICA, AND CAMELLIAS, &c.,

MAY BE HAD ON APPLICATION AT

THE NURSERIES, GREAT BERKHAMSTEAD,

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150 Acres are devoted to the Cultivation of Nursery Stock.

CARRIAGE PAID TO LONDON UPON ALL ORDERS OVER £1.

The Nurseries are within Ten Minutes' Walk of the Berkhamstead Station of the London and North-Western Railway, and 28 miles distant from London (Euston Square).

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, SEPTEMBER 6th, 1884.

"The Gardening World."—What! another gardening paper! will doubtless be the exclamation of many into whose hands this number will be delivered by those universal friends of man, who so ably distribute Her Majesty's mails. Oh yes, say we, and none can tell how many more may yet be born. Some folks that we wot of, held up their hands in something like ludicrous astonishment when they heard, strictly *sub-rosa* of course, that another gardening paper was coming out. Others again, endowed with large bumps of inquisitiveness, have been most industrious in their cultivation of the fertile field of imagination; and wiseacres, generally, have shaken their heads, and for the life of them, could not see how such a venture could succeed, the said wiseacres totally ignoring the fact that just the same thing was said, only said perhaps more forcibly when each now established paper was launched into life. We ask, why should not our new venture succeed? Surely there is room enough not only for all, but even more in this newspaper reading nation, and amongst a rapidly increasing intelligent people. Who can doubt but that in the United Kingdom there are at the present moment fully one million of adult persons deeply imbued with a love for gardening. How many millions more are there also who, if not actually fond of or identified with the beautiful science, are at least dependent upon its practitioners for some portion of their daily food? Add to these numbers, whatever the reader may estimate them to be, the thousands of skilled husbandmen who have left these shores for that Greater Britain which is the pride and glory of the mother country, included among whom are a great number of readers of English gardening literature; consider when the vastness of the total number is realised that the entire weekly circulation of all the gardening publications put together does not exceed the regular issue of a first-class daily paper, and it is impossible not to recognise the fact that an immense constituency still remains to be reached, taught, and interested in gardening pursuits. Who, twenty years ago, would have believed that over 100,000 readers of gardening papers were possible? Yet some twenty years hence this large number may be far more than doubled, because there is no vocation, that being at once an important industrial occupation, and at the same time an intensely admired and appreciated means of recreation, has so many earnest lovers as gardening. We may say for ourselves that we want not only to satisfy a demand which we believe already exists, we desire also to create one, and that, we consider a new gardening publication, conducted with spirit, skill, and true appreciation for the needs and requirements of readers is certain to succeed in doing. We would make gardening the gospel of recreation, and trust The Gardening World may rank amongst the most successful of its evangelists.

Grapes.—The appearance at the last South Kensington Fruit Show of such fine black grapes as Gros Maroc and Alnwick Seedling, and both shown in superb form, may be taken we hope to indicate that some other black kinds besides Hamburghs, are being cultivated for exhibition purposes. The general excellence of the Black Hamburgh and the comparative ease with which it can be grown, has somewhat handicapped other black grapes that are in flavour perchance superior, and certainly much so in respect of keeping qualities. But apart from this latter consideration, no gardener who has to furnish his employer's table with grapes from day to day, should condemn him eternally to Hamburghs and Muscats, with Lady Downes for late winter consumption. There is particular pleasure and enjoyment found for lovers of good grapes, and they are legion, in having their desserts varied by the introduction of diverse flavoured kinds, and if one though ever so grand-looking be a little more flat than others, at least it serves to render the flavour of the others all the more piquant. Our most common black grapes, after the Hamburgh, are Gros Colmar, Madresfield Court, Alicante, and Lady Downes, all excellent, yet scarcely giving variety enough, or thoroughly testing the cultivating powers of the gardener. If to that list, however, be added Gros Maroc, Alnwick Seedling, Mrs. Pince's Black Muscat, and the pleasant eating Abercairney Seedling, a fine selection is offered. In the same way amongst whites, we may hope to see added to Buckland Sweetwater, Foster's Seedling, and Muscat of Alexandria, such fine grapes as Duke of Buccleuch, Golden Queen, Mrs. Pearson, and Royal Vineyard.

Exhibition Growers.—Very unpleasant, indeed, is the experience of judges when they get into a locality where deep-seated suspicion on the part of exhibitors and intense jealousy of each other exists. Accompanying these bad elements of the human mind, too often also is found a distressing incapacity to accept a defeat or a beating in a gentle and proper spirit. In such case we pity, indeed, the men who with the best intentions and the purest motives have made the awards, and in all cases to those exhibits they, in their matured and unbiassed judgment, think to be the best. But the disappointed exhibitor knows better than these gentlemen do, and his disgust for their incapacity to vote the merits of his exhibits is so great that he cannot refrain from giving vent to it by using foul language, or at least language that is more forcible than courteous. What a reward is it to men of intelligence and position to find that they have been but casting their pearls of judgment before swine. We do not defend judges from these virulent and odious attacks. They do not need vindication, because they are honourable men, who have most conscientiously discharged a difficult, yet not impossible duty. We should like to see show committees repressing these exhibitions of ill-feeling, and bad taste, but much more should prefer to see exhibitors of every class learning to deport themselves even under disappointment, always and again as gentlemen.

Single Dahlias.—So perfect in form and so varied in colour have our raisers of these flowers brought them, that it would seem as if they were, like Alexander of old, about to cry for other worlds to conquer, only, in their case, floral ones. When flowers of any kind can be raised easily from seed, and from that seed is obtained in abundance the same beautiful and perfect forms and colours found in the best-named parents, it is obvious that the propagator's occupation is well nigh gone. Certainly, if a packet of seed will give a score or two of plants producing beautiful flowers at a cost of 1s., the public will hardly purchase named plants at 1s. each. Raisers or trade growers of these things must now take another tack, and strive to obtain fo the public, who have grown so exceedingly partial to single Dahlias, a very compact-habited yet floriferous strain—plants not exceeding two feet in height, dense in habit, and producing immense quantities of beautiful flowers. What has been accomplished for the bedding Dahlia must now be done for the single Dahlia, especially if it is to rank as a bedding plant, for which it is so admirably fitted, because it blooms so freely and continuously. There is danger that the flowers may, on the present strong-growing, breeding plants, become too large: with very many the yellow eyes are far too big. Again, single flowers become formal if they are too rounded, for in single blooms of the kind under consideration somewhat irregular outlines are, to our thinking, the most pleasing. All these so-called best forms are in that respect perfect enough; indeed there seems to be already a rebellion from perfect form in a taste for those rugged, semi-double kinds of which the Cactus Dahlia is the type. Whatever raisers may do, we trust they will bear the need for a dwarf, compact race of singles well in mind.

Plums.—It is somewhat odd to find that the old Green Gage, literally one of the oldest of plums, should still remain the best flavoured of all dessert kinds, indeed of all kinds. We met the other day, with a Green Gage, unhappily then not ripe, said to be even better flavoured than the ordinary kind, and, therefore, it would seem as if there were differences of goodness even in the Green Gages themselves. But we would suggest to those who make plums a speciality, that some attempt at intercrossing the Green Gage with other good kinds, though not large ones, is desirable. Large plums look well but they are decidedly unfitted for the dessert table. Pretty medium-sized, freestone kinds are best, but even if the most beautiful they still are valueless without good flavour. The Victoria ranks amongst the best of culinary plums, for it is hardy, bears freely, and is of fair flavour. A cross between this kind and the Green Gage might well be expected to produce something of intermediate size, and if the result was a combination of all the best properties of the parents, with of course good flavour, we should indeed obtain a genuine *primo* amongst plums. Again, something really good should come from a cross between the Green Gage and one of our more prolific Damsons, such as the Crittenden. Damsons are excellent for tarts and for preserving, but they hardly rank as dessert fruits. Yet were there more of real plum flavour, and a little more size thrown into them, there is no reason why, combined with their unquestioned prolificacy, they should not develope into favourites for table use. We have an abundance of big plums of many shapes and colours, and excellent in their way, especially for cooking, but in the way of high flavour none can say that we have any too much.

The Gladiolus.—The truly magnificent displays of these beautiful autumn flowers made from year to year at our metropolitan shows by the Messrs. Kelway, of Langport, naturally leads up to the inquiry, How is it that the Gladiolus is not more widely grown? It would seem as if some special charm attached to the Langport district, as far as these flowers are concerned, for few seem able to grow them elsewhere, or if they do they, at least, fail to let the world know of and see them. Every year, too, a certain number of the most beautiful kinds sent up by Messrs. Kelway receive certificates of merit, yet we rarely hear that they get into

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commerce; still less that anyone else succeeds in growing them. Where does the fault lie? Is it in want of knowledge how to grow them on the part of the purchasers, or lack of stamina on the part of the flowers? Gladioli of almost any kind should thrive well in good garden soil, and should need no special coddling. That some strains will is evident, as we hear of French bulbs, seedlings of fine form and quality, turning out really grand flowers under ordinary cultivation, and yet these seedlings cost the trade but some 13s. 6d. to 15s. per hundred. Why, if they cost 20s., what a small figure that would be, compared with the marvellous beauty, got out of 100 plants. The real difficulty seems, however, not so much to be in the purchasing and growing of the bulbs successfuly the first year, but in perpetuating them; and here, indeed, it would seem, lies the secret of the fact to which we have previously alluded—that only a trade cultivator or two grow Gladioli largely, and that is because they are ever raising large quantities from seed. Private growers can hardly do that, but if they can purchase good seedling flowering bulbs cheaply they have no cause for complaint.

Ringing the Changes.—Out of distrust grows another evil, and that is constant changing of the judges, hardly any one man being invited two years in succession. Especially is this distrust manifest when committees are largely composed of exhibitors themselves, for those who are unsuccessful always attribute their absence of such, rather to the want of perspicuity on the part of the judges than to want of merit in their exhibits. The result is that fresh judges are obtained the next year, and with their decisions some other exhibitor, or perchance the same one, is again dissatisfied, and so the changes are being rung from year to year. The best remedy for this unsatisfactory state of things is found in having a committee composed largely of subscribers who are not exhibitors, though some few of the most intelligent ones may well be members. That is the first suggestion we have to make; and the second one is always to obtain the services of good experienced men of high standing in their profession, and having them stick to them. That such an arrangement answers well with many first-class shows is evidenced when we find the same judges selected for many years in succession. Thus confidence is inspired on both sides, and the annual shows are occasions of the most pleasurable kind to exhibitors, committees, and judges, for these latter find their decisions fully respected.

What shall we do with our Pinetums.—When some years ago many new, interesting, and in some cases beautiful, Pinuses were introduced into this country, a vast number of them were planted in the most haphazard fashion. Literally without sense or suitableness, they not only burst out in the form of avenues, and other now happily obsolete garden notions, but were joined, and this was perhaps the only happy notion associated with them, into pinetums or villages of pines, where, dissociated largely from other trees and shrubs, they have formed interesting, though not in all cases, happy families. But in the course of time the peculiar beauty incidental to conifers when fairly young wears off, and the appreciation for the trees wears off also as they become aged. Presently some begin to lose their lower branches, and are disfigured, others turn a rusty hue, and perhaps have suffered from rough weather or hard frost. Some, too, being faster growers than others, have over-powered their conifera brethren, and the once happily arranged family, equally in height and dimensions, is demoralised because some members will develope twice as rapidly as others, and then it comes about that the next generation of owners and gardeners begin to look upon pinetums as nuisances, not the less perhaps that the timber in course of production is hardly as valuable as that of Larch or Scotch Fir. What then shall we do with these pinetums? is a question not a few are asking, as having them they don't like to destroy them, and yet care only to tolerate them for some useful purpose. Our suggestion is that they be made partly to surmount the growing difficulty of providing suitable burial-grounds, by converting them into grave-gardens for the members and servants of the owners' families, for the funereal aspect of the Pinuses peculiarly fits them for such a purpose. Melancholy as may be their attributes now, they could hardly be less melancholy looking if associated with the last resting places of our loved dead.

GLOXINIAS.

Among the seedling gloxinias which flower late in the summer, there are often found some good varieties that are worth propagating, and which may be successfully treated as follows:—Take the most matured leaves and cut them through the mid-rib in several places, and if the leaves are large they may be cut through the lateral-ribs as well; then place them on some clean cocoa-nut fibre in the propagating pit, sprinkling a little dry sand over the upper surface of the leaves. Leave them in this state until they have quite ripened off, and give only sufficient moisture to prevent them from shrivelling at any time. On searching the fibre after the leaves have ripened off, a number of small corms will be found, and these should be put in pans of sand and placed in a warm and not too dry position, and if the sand becomes quite dry give it a slight sprinkling of water.

In January a little more moisture should be given, and the pans be placed in a light, warm house. The corms will then soon start into growth, and as the growths appear above the surface pick the plants out and pot them. At first they should be put in as small pots as possible, and be kept in them until they have made a good growth, as if started in too large pots the soil is apt to become sour before the plants are well rooted. It is sometimes difficult to prevent the leaves from decaying prematurely, but this can generally be checked by removing any decayed part and sprinkling a little warm dry sand over the affected portion. Although gloxinias propagated in the autumn will make good flowering plants for the following summer, I prefer to propagate them earlier, if the leaves can be obtained—say early in July, as the corms made then ripen off better, and are not so liable to rot during the winter. I have flowered gloxinias very successfully in 48's, but in this size pot they require great attention in watering.

The compost which I like best is composed of about equal parts of loam, leaf-soil, and peat, with a little well-rotted stable manure and a good sprinkling of sand. As soon as the roots have got well round the pots, I begin to give them a little liquid-manure, and as the plants commence to show flowers, I give them a slight sprinkling of Clay's Fertilizer. The liquid-manure is made of cow-dung and soot, mixed in a tub and allowed to stand until it is settled down quite clear; it can then be used without staining the leaves, though it is best, as much as possible, to avoid wetting the leaves with the manure water. Keep the plants as close to the glass as possible, avoid shading them too much, and as they come into flower keep them cool, and do not allow any moisture to settle on the blossoms.—*A. H.*

With reference to the wheat crop *The Agricultural Gazette* states that there can be little doubt, in spite of many local protests to the contrary, that it is above the average, and this year, at any rate, promise can hardly fail of complete fulfilment, for a finer harvest time was never known.

GARDENING MISCELLANY.

Next week will be a busy one for horticulturists in the North and South, the centres of interest being Dundee and London.

At Dundee on Thursday, Friday, and Saturday, there will doubtless be a fine display of Fruits and Vegetables; and if past experience goes for anything, there is certain also to be a great gathering of the gardening fraternity.

On Tuesday the usual committee meetings will be held at South Kensington, when Mr. Turner of Slough will open a grand exhibition of Dahlias, which is to be continued till Saturday.

Mr. Jordan, of Isleworth, has been engaged by the First Commissioner of H.M. Office of Works, to succeed Mr. McIntyre, as Superintendent of Victoria Park.

Messrs. Fredk. Warne and Co. have published a sixth edition, considerably altered and added to, of that very useful book "The Farmer's Calendar," by Mr. J. Chalmers Morton.

Messrs. John Weeks and Co., of Chelsea, have designed, and are about to construct for the South-Eastern Railway Company, a handsome and capacious winter garden and promenade, adjoining the Pavilion Hotel at Folkestone.

The late Mr. George Toll's choice collection of Orchids will be sold on Tuesday and Wednesday next, at the sale rooms of Messrs Artingstall and Hind, 45, Princess Street, Manchester.

Mr. Tudgey, who during the last few years has been a very successful exhibitor of specimen stove and greenhouse plants, announces his intention of giving up exhibiting, and of shortly disposing of his plants by auction.

Mr. Bull has in flower at the present time, the rare and beautiful Lælia elegans Dayana; a remarkably fine new variety of Cattleya labiata, named brilliantissima; and a very fine new orange-coloured Rhododendron from Borneo.

At the meeting of the British Association, held at Montreal, on Monday last, a paper, by Mr. W. B. Hemsley, was read in the Biological Section, on the result of his investigations of Insular Floras.

Mr. A. Gillespie's collection of orchids, grown at Weybridge, will be sold next Thursday, at Steven's Rooms.

Mr. Worthington G. Smith has written, and Messrs. Macmillan have just published a small volume on "The Diseases of Field and Garden Crops."

The Marquis of Lothian's collection of orchids, grown by Mr. Priest at Newbattle Abbey, will be offered for sale in Edinburgh on the second day of the Royal Caledonian Horticultural Society's Show, September 18th.

The Scottish Seed and Nursery Trade Association offers a first prize of seven guineas and a second prize of two guineas for an essay on "The best and most economical system for the afforestation of waste and otherwise unprofitable lands in the United Kingdom." The essays must be sent before the 1st of December, to Mr. David Hunter, 29, Dundas Street, Edinburgh.

Mr. Miller, gardener to R. Loder, Esq., M.P., Whittlebury Lodge, Towcester, won the novel prize, a ten guinea life membership subscription to the Gardeners' Royal Benevolent Institution, given by Messrs. Perkins for competition at the recent exhibition of the Northamptonshire Horticultural Society.

The fine collection of orchids, formed by M. Oscar Lamarche, of Liége, is announced for sale by auction early in October, by Messrs. Protheroe and Morris.

Professor Edward Morren, of Liége, Belgium, has just published the tenth edition of his *Correspondance Botanique*, a useful Directory of botanists, and scientific and horticultural establishments throughout the world.

The "Great Horticultural Sale Week" has now become a well recognised autumn fixture, and seems to be growing in importance every year. Next week promises to be more successful than usual to both growers and buyers; and we may mention as a remarkable fact, illustrating the development of this phase of commercial horticulture, that Messrs. Protheroe and Morris have nearly 8,000 lots to dispose of between Tuesday morning and Friday night.

WINTER CUCUMBERS.

In every gardening establishment of any pretentions to completeness, Cucumbers are in demand all the year round, and to meet this demand the plants are, as a rule, raised by seeds sown or cuttings struck in early spring and again in the autumn. For yielding a supply of fruit during the winter and early spring months we find that Rollisson's Telegraph true to name is the best variety, and seeds of this should be sown at once singly in 3-inch pots, nearly three-fourths filled with soil consisting of three parts of light loam and one of leaf-soil. Cover the seeds with a little of the same compost, and then place them in heat, where, after a few days the little plants, if the seeds be good, will appear. They should then be placed on a shelf near the glass and after they have made a couple of inches of growth be top dressed, and finally be planted in their winter quarters before the pots become full of roots.

The best place to grow winter Cucumbers in, is a narrow border running east and west in the front of a lean-to house facing due south. This border should be about 2 feet 3 inches deep and 2 feet wide, with a flow and return 4-inch pipe underneath for bottom heat. Over the pipes about 3 inches thick of old brick rubble, the finest on the top should be placed for drainage; to be followed with 15 inches deep of long stable dung (including the droppings) trodden firmly together, after which the mounds, consisting of 3 parts of light loam and one of peat and leaf-soil, can be made 3 feet apart along the centre of the bed, and the plants which should be thoroughly moist at the roots before being turned out of the pots, set therein. The soil should be pressed moderately firm about the roots, and afterwards be watered with tepid water to settle the soil. Shade the plants from bright sunshine until the roots have taken to the soil, after which it should be discontinued. Syringe the plants overhead morning and afternoon on bright days to prevent the attacks of red spider, and ventilate freely during favourable weather to secure a short-jointed sturdy growth in the plants, to each of which a stick should be put for support and secured to the first wire of the trellis, which should not be nearer to the glass than 15 inches.

As the roots push through the sides of the mounds, add a couple of inches of the same compost as that in which the plants are growing, and continue to make such additions until the intervening space is filled with soil. The base of the plants and the soil within six inches should, however, be left a couple of inches higher than that between the plants to prevent the stems and the soil immediately surrounding them from becoming too damp by the lodgment of water. If this simple precautionary measure were more generally observed in the planting of Cucumbers and Melons, less would be heard of the plants being affected with canker. Should, however, this disease attack the plants, a mixture of fresh lime and soot rubbed into the affected portion of the stems will arrest its further progress, but as it is best not to await the approach of the disease before taking action to repel it, a little powdered charcoal should be placed around the collars of the plants as a preventive. This—other points such as atmospheric moisture being attended to—will have the desired effect.

If the supply of Cucumbers can for a time be kept up from other sources, such as plants in frames or houses, it will be advisable to allow the plants to reach the top wire before stopping them, and to keep all the young fruits picked off until the trellis is well covered, but not over crowded, with short-jointed shoots, which then may be allowed to bear sufficient fruit to meet the demand for the same, always remembering that the greatest strain is brought to bear on the strength of the plants from the middle of December to the middle of March. A good supply of Cucumbers may also be obtained from plants grown in 12-inch pots, by keeping the roots well supplied with tepid, diluted manure water, when the plants are in bearing, and in other respects treating them the same as those growing in borders, which, owing to their having more scope for root action, will not require water at the roots so often. But regarding this matter no hard and fast line must be drawn. The cultivator must be guided in the application of water to the roots and leaves by such circumstances as the condition of the weather, the health of the plants and condition of the soil in which they are growing, together with the drainage and the mode by which bottom heat is supplied to the roots. When, however, the condition of the soil and plants indicate dryness at the roots, let the supply of water be sufficient to thoroughly moisten the whole mass. A humid rather than an arid atmosphere will be congenial to the plants in all their stages of growth; and it should here be mentioned that overcrowding of the shoots and over cropping are evils to be strictly avoided in the cultivation of Cucumbers.

A night temperature of from 60 deg. to 65 deg. according as the weather is cold or mild should be maintained, and 70 deg. to 75 deg. during the day with fire heat, running up 10 deg. higher with sun heat and plenty of atmospheric moisture when shutting up in the afternoon. In the matter of putting on and taking off air, the cultivator should also be guided by the nature of the weather, and the stages of growth at which the plants may have arrived, but cutting winds should be guarded against as they would check the growth of the plants.

ADIANTUM PACOTTI.

ADIANTUM PACOTTI.

Under this name, an invaluable little fern for button-hole boquets, said to have been raised on the Continent, by M. Pacott, has been introduced somewhat lately into our nurseries, and is rapidly becoming a favourite. On the continent it is regarded as identical with the plant sent out by Mr. B. S. Williams, and described by Mr. Moore, some five years ago, as Adiantum mundulum. This plant Mr. Williams bought on the Continent as a seedling from A. cuneatum, and it may be that the two owe their origin to the same parentage, but for garden purposes, as we saw them in Mr. Bull's nursery the other day, they appear to be sufficiently distinct. The frond shown in the accompanying wood-cut, with a flower of Dendrobium Ainsworthii, obtained from Mr. Williams, fully illustrates its character and beauty. The plant scarcely grows more than six inches high, and the fronds seldom exceed three inches in width at the base.

PROPAGATING HARDY PLANTS.

Many of the beautiful herbaceous and alpine plants, such as Androsace, Aubretia, Arabis, Gypsophila, Pyrethrum, Saxifraga, and others of a like tufted habit of growth, are apt during the summer to grow away from their centres and become ragged, and are consequently not in a fit condition to stand the rigours of winter. At this season of the year, therefore, it is very necessary to go over all the hardy plant beds and borders, and divide up and replant all those which do not appear to be in a fit condition to go through the winter safely, and furnish stout healthy plants in spring for the next season. By going over them at once, the plants will have plenty of time to get thoroughly re-established before the winter sets in, and they will be sounder in every respect than they would have been if left undisturbed.

These pretty plants are now so extensively used, and are such general favourites, that the multiplication of desirable kinds should be an object in every garden, and as a great assistance in securing a stock of them a sheltered open border with movable pit lights over it, or a small cold frame with a bed made up in it, should be devoted to the purpose of their increase. The bed or border only wants making up with some fine loam and a little sand, and the divided plants or cuttings can at once be placed in them, at distances varying according to the size of the pieces inserted. When the cuttings are in, they should be well watered once, and, after that, be allowed to go until they are getting dry before any more water is given. Subsequently only water them sparingly until they are rooted. In a few weeks some of the strongest of them will be ready for removal to the open borders, but such as are not well rooted, or are not of robust habit, had better be kept under the protection of the frame until spring.

Another very good plan with small-growing and delicate hardy plants, such as Houstonia cœrulea, Hutchinsia alpina, &c., is, at this season of the year, to divide them up, pot them into small pots,

in loamy soil, and place them in a cold, shady pit or frame, there to remain until spring, when they may be planted out wherever they are required. Androsaces and other delicate alpines thus planted out of pots are much more certain to succeed than when lifted from beds and transplanted. Looking after the stock of herbaceous and alpine plants is one of the pleasantest duties the gardener who is fond of them has to perform, and the present time is the most favourable to see to it, although another overhaul will have to take place in spring.—*J. B.*

COVENT GARDEN MARKET.

The changes about to be wrought in this market and its surroundings, which have been undertaken by the Duke of Bedford at his own expense, without even applying for Parliamentary powers, are extensive and devastating in regard to the associations of the neighbourhood, but nevertheless destined to largely increase the capabilities of the market. In order the better to explain what the intended alterations in the surroundings are, we must reef to some of the more recent history of Covent Garden Market. Based on the original charter granted to the father of the present Duke, the "market rights" are bounded by the quadrangle round the existing building. The buildings in this quadrangle being the property of the Duke, are of course within his jurisdiction, but for market purposes his rule is limited by these, and in the surrounding streets and alleys his power, albeit they are part of his estate, is *nil*. The streets leading into the market square are deemed public thoroughfares, and are under the government of the Local Government Board, the vestry, and the police.

When, some years ago, it was found that the flower business of the market was increasing with rapidity out of proportion to the provision provided for it, and that besides its growth *per se* it was daily more crowded for space owing to the development of the vegetable and fruit trade, it became necessary to do something to free the block which arose from the little available space being daily crowded with flowers, cut and in pots, placed wherever a few feet of unoccupied space could be found. In the face of these facts it was that, in 1859, the Floral Hall, now used as an adjunct to Covent Garden Opera House, was opened for the purposes of a flower market, a scheme which was never a success. The market area of "the Garden" being still overcrowded, the Duke of Bedford erected the present flower market, running from Tavistock Lane to Wellington Street. The structure, which possesses considerable ornamental features and some merit, was from its opening a great success, all available space being rapidly applied for.

Owing to the limitations of the original charter, the flower market is not to be regarded as part of Covent Garden Market, but simply as a warehouse let out in tenements to those who there ply their trade. In conformity with this state of things, the market is not kept always open, but is closed except at such times as sales are being effected. It may here be parenthetically mentioned that, owing presumably to the recently developed so-called æsthetic taste, the flower trade has of late years increased enormously, while a large quantity of flowers is daily bought by dealers, as soon as the market opens, for the Nottingham, Birmingham, Leeds, Manchester and Liverpool markets, and despatched by the newspaper trains, it being found that flowers can be purchased in the London market at a lower price and in a greater state of perfection than, after deducting the cost of freight, is the case in those towns. At the present time it is found that the floral business of the market has again outgrown the resources of the existing building, and a short time ago it became necessary to take some measures to relieve the block which constantly occurred in the business transacted in Covent Garden.

The work of enlargement, which is already in progress, comprises the pulling down of the greater part of the north side of Tavistock Street, the demolition of the Hummums and the Bedford Hotel, with the piazza on the east side of the square, and the covering in of the north nave of the market buildings, at present open to the sky. Tavistock Street is already down; the Hummums are still standing, though their days are numbered. In the large space thus obtained an addition to, or rather a continuation of, the existing flower market is to be erected in the same style of architecture and on the same scale as that already in use. The space obtained on the east side of the market span is to be thrown into that already existing, and will afford considerable additional accommodation to the heavy traffic attending the market. In addition to the increased accommodation this scheme provides for, a great metropolitan improvement is to be effected in the widening of Tavistock Street to more than half its present width again, allowing for increased facilities of locomotion, and considerably tending to relieve Bow and Wellington Streets of the congestion of traffic with which they are at present incommoded.

No account of the proposed alteration and improvement of Covent Garden Market would be complete without some reference at least to the question of sanitary requirements, which has recently been discussed in a manner not always free from personality in more than one periodical publication. It is complained, and with good cause, that the surroundings of Covent Garden are frequently, some papers say generally, in a very unseemly and unhealthy condition; that the approaches to the market are, in the early morning at least, generally congested, and that the market, as a whole, is little short of a nuisance. The following are the main points:—The Duke has powers over the square of Covent Garden, but none over the adjacent thoroughfares. Covent Garden itself is kept clean by a contract with the best man obtainable, whose carts and men are always on the spot, and always at work, day and night. The contract, which amounts to many hundred pounds, all but equals that of cleansing the whole of the adjoining five vestry districts. As a matter of fact, bearing in mind that it is impossible to pass fruit and vegetables from hand to hand without making a litter, the market itself is well cleared. The approaches to the market are, however, in the charge of the Strand Local Board, and their contractor only undertakes to clear up once in the 24 hours.—*The Globe.*

BOUVARDIAS.

Bouvardias rank among the most useful of flowering plants, and they are the more valuable, inasmuch as that by a little management they may be had in flower throughout the year. Many growers recommend the planting-out system for obtaining cut flowers, and this treatment succeeds very well, especially in the case of the summer and autumn flowering stock. We prefer, however, to keep them in pots, more especially those intended for winter flowering. By keeping up a succession of young plants, the older ones may be discarded as soon as a crop of flowers has been cut, and these will produce a second crop of flowers if cut back and started again.

Propagating.—Plants that have been ripened off and cut back early, may be put into heat early in January, and it will not be long before the first batch of cuttings will be ready to be taken off. We prefer them when they have made about an inch of growth, cutting them off close to the old wood. The ordinary stove propagating house suits them very well. But the early batch will require some care to prevent them from damping off. This "damping off," as it is called, is caused by a very fine thread-like fungus which spreads over the surface of the pots, and which is certain to destroy the whole lot of cuttings if not taken in hand in time. We find that the best way to prevent the appearance of the fungus is to use new cocoa-nut fibre refuse for plunging in, and to be careful that no woody refuse or manure exists in the soil; and as the fungus sometimes also spreads from the labels, we mark the pots instead of using labels. The greatest care, however, will not always prevent the fungus making its appearance, but its progress may be arrested by pulling out all cuttings affected by it and shaking a little hot dry sand over the surface of the pots. By the time the cuttings are well rooted they will have made sufficient growth to require stopping, and this will give another batch of cuttings. We usually stop them once before potting them off, and pot them as soon as they begin to start into growth again.

Potting.—The compost we prefer is made up of good fibrous loam, peat, and well rotted stable manure, with a liberal allowance of sand, and where good leaf-soil can be had it may be used freely. They should not be potted too tight, and the pots should be well drained. After the plants have been put in their flowering pots and have become well rooted, a slight sprinkling of Clay's fertilizer, or a little liquid-manure will be beneficial to them.

Varieties.—Although the varieties are not numerous, a few useful additions have been made to the list during the last few years, and first among these should be mentioned the beautiful double white Alfred Neuner. The double pink President Garfield is very pretty, but not bright enough in colour for general market work. B. rosea occulata is a very pretty variety with flowers about the same size as the old longiflora, and something after the colour of the Miss Joliffe carnation. Elegans quite supersedes the older variety Hogarth as a scarlet, being brighter in colour and a larger flower. Dazzler is another good scarlet variety; and longiflora flammea, though not quite so bright in colour as the two former, is still a good useful sort. The white varieties that we grow are corymbiflora Humboldtii, Jasminoides, candidissima, and alba elegantissima, which latter is identical with The Bride and Vreelandii. Reine des Roses is a good pink variety; and the yellow flowered Jasminoides flavescens, is very pretty when it first opens, but the colour fades too quickly.

HARDY PLANTS FOR WALLS.

The present time is a good one for making a selection of hardy plants suitable for growing on walls, as many, or at least the great majority, are now in their true character and, therefore, in the best possible state for making comparisons, noting their peculiarities, their good qualities or defects, or their suitability for growing on certain aspects and in different situations. With a view to assisting those who contemplate planting during the coming autumn, and who have not opportunities of making comparisons but are desirous of growing only plants of recognised merit, we give the following list, naming in most cases the aspect upon which we have seen them do best, believing that upon this point, quite as much as soil, depends in a grea measure the success or failure of their cultivation.

Taking them in alphabetical order, the first genus we come to is Ampelopsis, of which there are three well-known species—viz., A. hederacea, A. japonica, and A. Veitchii or tricuspidata, each and all of which will grow and luxuriate in almost any soil or situation. The latter, however, is by far the best of the three, and is unquestionably one of the most handsome of our ornamental leaved climbers—the bright reddish tinge which the foliage assumes in the autumn months rendering it an attractive and conspicuous looking object indeed. Aristolochia Sipho is a very free-growing climber, and not at all fastidious as to soil or situation; its fine and handsome heart-shaped leaves ought to secure it a place in all collections of plants grown specially for covering walls. Bignonia capreolata and B. grandiflora require a south or west aspect, but seldom grow well in the northern counties. Berberis Darwinii is eminently suited for growing on low walls. Calycanthus occidentalis var. macrophyllus succeeds well on either an east or north aspect. Ceanothus azureus, floribundus, and Veitchianus are plants of great merit, but being somewhat tender in constitution, they require a south or west aspect; they are very floriferous, producing in August an abundance of beautiful bright blue flowers. Chimonanthus fragrans and its variety grandiflora require a good soil and warm situation. Of Caprifolium (climbing honeysuckle) there are several species, but amongst the best will be found the following:—C. aureum reticulatum, flavum, luteum, odoratissimum, pubescens, sempervirens, and coccineum. With the exception of C. luteum, which requires a south or west aspect, they will row well in almost any situation.

We next come to Clematis—a large family, certainly—containing many natural species and a very large number of varieties. When there are such an abundance of good sorts, it would seem almost invidious to attempt to particularise. The following, however, may be mentioned as worth growing:—Clematis Flammula (Virgin's Bower), Vitalba (Traveller's-Joy), and the undermentioned garden varieties, C. Ascotensis, Duke of Edinburgh, Edith Jackman, hybrida fulgens, Jackmanni, John Gould Veitch, Lord Derby, Lucie Lemoine (decidedly one of the best), Miss Bateman, Prince of Wales, purpurea elegans, Sensation, Sir Garnet Wolseley, Stella, and velutina purpurea. Cydonia japonica, for low walls, is sure to give satisfaction, and the same may be said of Cotoneaster microphylla. Amongst thorns, Cratægus Pyracantha is the best, and it grows well on a north or east aspect; Eriobotrya japonica (Loquat tree), where variety is required, should be grown, but it ought to be on a south wall and in good soil, with plenty of drainage. Escallonias are very pretty, and deserving of more attention than they at present receive; E. macrantha and E. montevidensis require south or west walls, and E. sanguinea will be found, as a general rule, to do well in the midland and southern counties.

Forsythia viridissima, with its beautiful yellow flowers, is very pretty when in bloom, and worth growing on low walls. Fremontia californica and Garrya elliptica are both, in their way, very pretty and desirable subjects to grow, but will not succeed unless given a warm situation. Glycine (Wistaria) sinensis is undoubtedly one of the very best climbers we have; its long and graceful racemes of purplish flowers are very pretty, and exceedingly fragrant, literally perfuming the air in its immediate vicinity with its sweet odour when in bloom early in the summer. Introduced from China so long ago as 1818, and being a free and vigorous grower, there are now in some parts of the south of England many fine specimens, especially in the suburbs of London, further north than which it does not seem to do well planted outside, except in a few isolated cases. The Ivies will be found mostly to succeed anywhere, the following being amongst the most desirable kinds to grow. Hedera algeriensis, aurea elegantissima, fructuluteo, canariensis, latifolia maculata, conglomerata, argentia, rubra, digitata, sagittæfolia, sub-marginata, elegantissima, and japonica argentia. If a warm corner well sheltered from north and east winds can be secured, Indigofera floribunda, may be expected to grow and flourish, but in severe winters it requires protection. Jasminum nudiflorum requires a south or west aspect and is very useful for furnishing cut bloom for decorative purposes, as also is its worthy congener J. officinale, but the latter is not quite so fastidious and will grow almost in any soil or situation.

In Passiflora cœrulea we have a deservedly popular hardy climber which only requires a south or west aspect to show by the enormous quantity of flowers it produces that it is quite at home, and will well repay all labour expended upon it in regard to training and tyeing—an operation the neglect of which, should at no time be allowed if the best results are desired. We must here recede for a moment in order to refer to the Magnolias, than which there is none better for growing out of doors than M. grandiflora which requires a south wall and a good soil to grow in. Punica Granatum and the two varieties, flore-pleno and flava flore-pleno are certainly worth trying to grow outside, but must have a south wall to do them justice. Vitis heterophylla, V. h. dissecta, V. h. rubricaulis and V. odoratissima will be found suitable for a west aspect; and last, though not least, in our list comes Viburnum macrocephalum, and V. plicatum, both of which possess real merit and should find a place in all collections of hardy wall plants.—*J. Horsefield, Heytesbury, Wilts.*

Mr. Cliffe, who for about forty years has been gardener at Tatton Park, the Cheshire seat of Lord Egerton, retires shortly on a pension, and will be succeeded by Mr. Atkins, formerly gardener at Lockinge Park, Berks.

INJURIOUS INSECTS.

Miss Eleanor A. Ormerod, Consulting Entomologist to the Royal Agricultural Society, recently, at a flower show held at Frome, offered three prizes for the best collection of specimens of food-plants injured by insects, accompanied by samples of the insects injuring them, by a short written account of the insect attack, and of the methods of remedy or prevention adopted. There was only one exhibitor, Mr. Herbert Haley, Feltham Cottage, Frome, to whom the first prize was awarded. At the close of the show, the collection was forwarded to the donor of the prizes, who, in a letter to the secretary, which has been published, says:—

"The object with which competition was invited was to show the common kinds of crop injury by specimens, so that all, whether previously acquainted with the subject or not, might see exactly how the attack affected, as the case might be, the root or leaf, seed or flower; together with the insects, or, if necessary, magnified drawings of them. This plan has been worked out by the exhibitor, Mr. Herbert Haley, of Feltham Cottage, Frome, in a way which meets the requirements for useful exhibition very satisfactorily, both as to giving sound information to spectators, and likewise at such small expense that the plan might be easily carried out, either for the temporary purposes needed at horticultural shows, or for successive exhibitions in course of regular instruction at agricultural or parish schools. The collection included some of the regular crop attacks—as turnip leaves, with flea beetles; cabbage, with butterfly and caterpillars; potato tubers, with wire-worm; celery leaves, with maggot miner; gooseberry and red-currant sprays, with saw-fly caterpillar, and others less destructive. These specimens were displayed on white cardboards, about 12 inches by 7 inches, the leaves or shoots, or, generally, the injured portions of the plants occupying the upper half or three-quarters of the cardboard, and the attacking maggot, or whatever it might be, being placed below in a small phial, or on cork, as requisite. The name (according to the stipulation of the donor of the prizes) was clearly written below in English. A very short account of the method of injury, and such means of prevention as the exhibitor was acquainted with, accompanied each exhibit. The plan of fixing the card, with specimens and the short note of explanation respectively, within the lid, and in the bottom of a common white cardboard box, gave a neat and uniform appearance to the exhibits, and likewise gave means of safe carriage, without difficulty or expense.

"The plan having been especially submitted to me for approbation as to the serviceableness of its details, I have no hesitation in saying that I consider it excellent—for it conveys all that is requisite in the way of information as to the nature of attack, without hampering the inquirer with more labour than just looking at the specimens; and I think that, if followed up in agricultural schools, would be unfailingly serviceable, both for the above reason, and also that by fitting a card of one kind of attack after another, according to season, or other reason, into the exhibition box, the scholars might thus see what the special injuries then going forward in the neighbourhood was caused by; and the method of life, and the method of destroying the pest, or of lessening its ravages, could be readily furnished, or procured on application."

MULCHING GARDEN CROPS.

It may be thought by many that this is a subject that has been quite threshed out, but it is only in seasons like the present that its benefits become fully apparent and the want of it felt, as where trees or crops are protected and assisted by some covering of the ground and others left, the difference between them is so great as to force itself even on the most casual observer. It need hardly be said that it does not do the same good on all soils, as there are some where the trees and crops do as well without it, but that is only in very exceptional places where the land is heavy and wet, and even then, after a spell of hot weather, it cracks, and greatly injures the roots, which become strained or exposed. Many depend on watering to keep their crops going, but artificial watering without the aid of mulching to keep it in the earth is almost worse than useless, as no sooner is it given than it is out again, for during great heat and with a little wind stirring the evaporation that goes on is something enormous. Not only does moisture escape from the soil at a rapid rate, but it is being taken up by the multitudinous feeders and passed on through the cells of the plants and the stomates of the leaves almost as quick, and if there is not a constant supply in the ground to keep up this perpetual drain the foliage flags, fruit ceases to swell, and red spider becomes rampant, as this parasite always follows on the heels of poverty, and helps life ebb away.

This being so, I would say mulch, and lose no time in doing it, as though trees have but little fruit to carry, they have their blossom buds to form and perfect, and if they are not assisted in doing this there is not much chance of a crop next year, for severe drought will cripple their energies. Before putting the mulching on, the surface of the soil should be slightly broken by just digging it up with a fork and breaking the "clots," if any, which will let in the water freely and save after cracking through the hard crust. For pyramid trees, such as pears, and small bush-apples, it is a good plan to draw the earth away around the stem, so as to form a basin-like hollow into which the water may be poured and held till it soaks down to the roots below, as then there is no loss, which there otherwise would be by draining away over the surface beyond where the plant feeds. Although it is well to make the depressions referred to, the hollows so formed should be mulched, and the mulching kept on till quite late in the autumn, up to which time several good soakings ought to be given. If the trees have fruit swelling, liquid manure will be a great help, but if strong, it should be diluted, as it is better to give it weak and often, than to apply an over-dose and thus gorge, and perhaps injure the roots.

The kind of garden crops that are more specially benefited by mulching are peas and runner beans, the former of which can only swell and become, or remain, succulent when the land is moist, and the latter set, as during a dry time the blossoms of beans fall wholesale, but when mulched and watered they stay on and lead to an abundance of pods. This I have experienced again and again, and every year now we make a practice of scattering a wide layer of dung along the sides of our rows, and the same with peas, and when we give a watering it tells, as the roots are not only kept moist, but cool, for the earth is constantly shaded. Many have a great difficulty in keeping their bedding plants in bloom, but if they would only mulch they would find it an easy matter, as it is dryness that causes the petals to drop, and watering frequently spoils them. For flower-beds, cocoa-nut fibre refuse is as good as anything, as it is neat and a capital non-conductor, but where it cannot be got readily leaf-soil answers well, and the mowings of short-grass may be utilised, and thus got rid of to advantage. —*Alpha.*

THE OLDENBURG NECTARINE.

Mr. Miller, Combe Abbey, says in the July issue of the *Florist and Pomologist*, that he has grown this splendid variety for many years, but did not succeed in fruiting it freely in his early Peach house; but a vacancy occuring in the second house, four or five years ago, he moved it there, and it has since regularly borne large crops of fine fruit. "The fruit" says Mr. Miller "is altogether different in appearance from any other Nectarine. The side exposed to the sun or light is of a beautiful delicate light rosy colour, while the contrast of the shady side is very remarkable, being almost white. In some catalogues this nectarine is described as a synonym of the Elruge. If this is the case, I am wrong with my Elruge, which with me is a very different fruit, and which I have many times exhibited in London, unchallenged as to name. But I am inclined to think the Oldenburg is quite a distinct fruit. The tree is a strong grower, and might with advantage, be introduced more freely into select collections."

THE AMATEUR'S GARDEN.

PRIMROSES AND POLYANTHUSES.—There is no royal road to the culture of these hardy plants, neither is there any stereotyped method of culture. The system which will answer well in one locality may not prove as successful in another, and although anyone literally may grow them where nature has furnished a deep soil and cool showery summers, it is anything but childs' play to get them to thrive well in hot positions, where the soil is either shallow, or if deep, burns and bakes in summer like brickclay. Like so many of the Primula family, the veris and acaulis sections are developed by means of rhizomes that, unlike those of P. Sieboldii which run laterally, really have erect or vertical growth, and it must be the aim of the cultivator to promote the development of this form of growth by providing food or soil on which the newly formed rhizomatic roots may feed. A mass of old rhizome or useless stem below the plant is a danger and generally a free cause of death. Once the new growth has made roots into the surface-soil, the old stem becomes valueless and might be well dispensed with.

In the case of old stools, or clusters of crowns, it is not possible to remove the old stem and roots except by lifting, but in propagating or increasing plants by removal and division the more cleanly the old exhausted stem is cut away the better. It is when Primroses or Polyanthuses are growing in deep cool soil beneath trees (although that position does not answer in all cases) and the falling leaves and other vegetable matter accumulates and decays about the crowns, furnishing food in the form of a surface or top dressing, that the plants thrive and do well. In other places they will also do well when given the good holding soil but neither natural shade nor surfacing, some rich food and shelter being given artificially. In some other cases good hardy border sorts will do well without the shade, indeed fully exposed to the full heat of the sun if only the surfacing be given. The cultivator will inevitably have to find out for himself what sort of culture best suits his soil and situation, and only when this is done can full success be hoped for. In the warmer portions of the Kingdom, and specially where the sun's rays provoke spider and thrip, it is simply impossible to keep alive in the open any of the choicer forms of Primroses or Polyanthuses. Northern growers may perchance smile at the assertion, because their localities are favourable, but they would find a vast difference had they to grow or attempt to grow them in hot southern districts.

The safest course, under the conditions of soil and position stated, is to lift the plants either in the autumn or spring, cut or break off the best crowns which are replanted in good soil. In this way literally new plants are obtained and a fresh lease of life is assured. If the soil be of a stiff binding nature it is best to do the replanting early in the spring, as if done in the autumn the soil may be very hard set by winter rains and thus bake fearfully in the summer. A light friable soil is in no such danger. Another plan, and one we find absolutely needful with many kinds that withstand summer droughts badly, is to lift in the autumn, divide to single crowns, and then plant up in frames for the winter. These will make fine young plants to go out in March, but if left out in the soil might from stem rot entirely disappear. All these precautions are absolutely needful in the case of specific kinds, that are either named or it is desired to perpetuate, and a frame or two is indeed well employed in the wintering of a good number of young plants of these beautiful flowers.

After all, the chief source of young strong plants should be found in raising from seed. Nothing can be easier than to obtain a large quantity from seed either by purchase or by saving our own seed from good kinds. We have now growing a large number of Primrose and Polyanthus seedlings all from the past season's seed sown under glass in June, in fact, almost as soon as ripe. Many of these will bloom next spring, but all will make fine plants and bloom most luxuriantly next winter and following spring. These of course send their roots deeply as soon as well established, and they defy the summer heat with comparative ease. The following year they will do fairly well and then they begin to decay. It is but needful, therefore, that a good number of seedlings should be raised every year to maintain a stock of the most charming and varied of garden spring flowers.

FLOWER CULTURE IN RAILWAY SIGNAL-BOXES.—Our natural love of flowers for their beauty is no doubt heightened in many cases by the desire, and almost the necessity, of having something to care for—something which we know depends on us for existence. Something of this kind no doubt inspires our industrious railway servants, and enables them to produce in so many places a number of interesting and well-grown plants, and that, too, under great difficulties. The signal-box in most places throughout the whole length and breadth of the land, contains a loved and cherished specimen or two, and at many stations a showy and well-grown collection. How the specimens are in some cases obtained was pleasantly brought before me while waiting a few weeks ago at the Kilburn-Brondesbury Station of the Metropolitan Railway. Seeing the porter on duty closely examining the line in front of the platform, I approached, and found that he had discovered a few small seedlings springing up in the hard way over which the trains passed every ten minutes. One kind looked like young oranges from pips thrown on the line, and another kind like seedling annuals. The station-master soon came to help and they were carefully removed. I suggested that the signalman should have them, as having the better accommodation, but the prompt reply was, "Oh no, Sir, he shan't have them, I'll take care of them myself." Happy the poor strays which have been lucky enough to secure the tender care which will be given them at those rough, honest hands.

The signal-box, however, is the place in which the high-class flower culture is carried out, and at it we may often see strange things producing great results. The other day, at one of the stations in the "black country," I noticed in front of the box a great blaze of tall rose-coloured flowers, and a lovely net-work of foliage and flowers hanging over the front, running to the end of the platform. I found the display was created by fine plants, in large pots, of the common Loose-strife, and the plant hanging over the front for three or four feet was the well-known Creeping Jenny, with its clear yellow blossoms. Both are weeds in some parts, but are as acceptable as the choicest exotic in some situations, generally where few things flourish without care. Another rare show on a signal-box, is to be seen on the North-British Railway. The box is covered on the North and North-East sides by a profusion of the Flame Nasturtium, such as many a wealthy Southron would give any price to see in his own garden. The Scarlet Pelargonium is the most generally distributed and perhaps the greatest favourite, and some are found at most stations. Many of them are entered in friendly competition, and proud is the owner of the best, as approved of by the guards and drivers who have the opportunity of comparing them. The interest with which the plants are watched was forcibly presented to me awhile ago by one of the men, who, in answer to my admiration of a finely trained Scarlet Pelargonium, came to the front of his box with something like the glow in his face to be seen on the countenance of the cricketer, when he walks out with his bat after scoring his three figures, and said, "Yes, he is a beauty and better than he was last year at this time, for then he only had about a hundred and thirty leaves and fourteen bunches of flowers." The fact of the man having counted the leaves and flowers proved the interest he had taken in the plants.

The Pelargonium, the Fuchsia, the Creeping Jenny, the drooping Campanula, and such like, are the principal plants grown along the line, with Balsams, Nasturtiums, and other summer plants; but wherever we go we here and there come across curious plants in the signal box, so much so, that we look out for them as an indication of our proximity to some of the great plant establishments. The thriving character of the odd things such as Ericas, Cactuses, bulbous plants, and other uncommon things which I have seen flourishing under the care of the railway men, causes me to regret that there are not facilities for placing in their hands such thiugs as the Myrtle, the Pomegranate, Vallotas, and other things easy of culture. Better hands they could not be placed in, I am sure. I have derived much pleasure from watching these men's zeal for their favourites, and I am certain the comfort and pleasure they derive from their pets cannot be over calculated.—*J.*

WINDOW GARDENING.—Ill choice of a window of proper aspect to grow a plant in often results in failure, and consequently a number of plants may dwindle miserably in a house when a little forethought as to the proper windows at which to place them, might turn them into objects of beauty. Thus it is that the chance selection of a plant suited to a particular window often causes it to be an admirable object when, if removed to the other side of the house, it would be only unsightly in a short time. The common Musk is one of our best indoor plants, and to what perfection it can be brought is amply shown by the large specimens exhibited at our cottagers' shows, but the successfully grown specimens tell nothing of the number of others which have never even fairly started in their neighbourhood by reason of their being wrongly placed. The fact is the Musk is a shade-loving plant, and, therefore, it rarely fails if placed in a window in a north or north-east aspect, and, indeed, in such a situation it will grow itself. It will also thrive tolerably well in any window which is in a shady situation, but in one on which the sun is strong it stands a poor chance. Grown in a shady window and supported by a trellis, we often see lovely specimens of it three feet high and over two feet across, even in the densely populated parts of the City of London. Ferns, too, like a shady window, and, therefore, they and the Musk should be accommodated with suitable quarters, and thus leave the sunny windows for the Cactus, Pelargonium, Fuchsia, and India-rubber plant, but even this last does not like to have the sunlight full on it in the hot weather in summer.—*J. B.*

COTTAGE CLIMBERS.

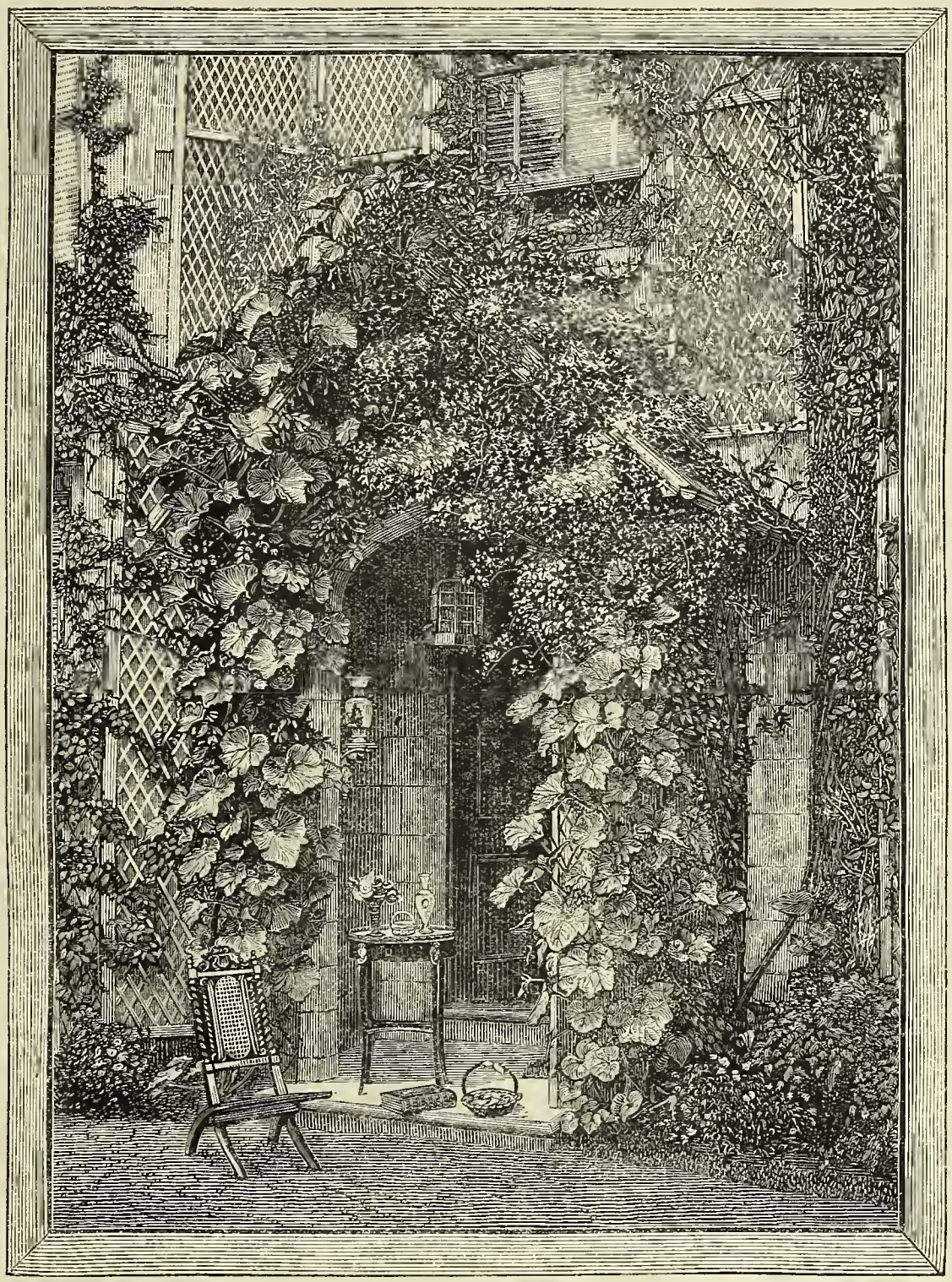
IT is no mere figure of composition to say that there is poetry in a cottage quaintly and luxuriantly covered with climbers. In our peregrinations in the rural districts where the shady lanes, the flower bedecked hedgerows, the woodlands and dells all clothed with the graceful bracken, and the meadows and uplands with verdure or waving corn —amidst all these elements of beauty and rural repose, we find after all no object which evokes more expressions of delight and satisfaction than does a picturesque cottage that is clothed with climbers, and is set in a prettily kept garden of flowers. Perhaps it is early summer and the Honeysuckle and the Wistaria are in sweet and abundant bloom; or it may be later on that Tea and various other climbing Roses cover the walls, and their beautiful flowers cluster lovingly about the eaves and windows. Perchance, too, luxuriantly blooming Clematises, yellow Canary Creepers, many hued Convolvuluses, and other charmiug flowering plants are twining themselves about the walls, or the lattices, and keep up till the end of summer literally a bower of beauty.

Such a habitation betokens prosperity, happiness, love, domestic comfort, and all those surroundings which assist to make life truly happy. The whole picture tells its own story, and it is one which a poet might well convert into a sweet song, for if there be in all the broad world no place like home, surely that home must be this beautiful cottage, the home of all that is sweet and lovely. But even yet there is in the picture thus sketched one feature that needs further mention. It is the cottage porch, the shelter to doorways, sacred to vows of youthful love here breathed into willing, yet coy,

maidenly ears. Sacred, too, is it to that Sabbath rest which all of us so much need, so much prize. Here in the settles that the porch so gently shelters from the heat of summer and from the bleak winds of winter, the wearied husbandman and the not less industrious matron love to occasionally take their well-earned ease. Nay, even to old age too is the cottage porch sacred, for here on sunny days do the decripit patriarchs of the family love to linger, gazing dreamily over the fields and scenes so familiar in life, yet looking as it were into the dim distance for an eternal future.

Clothed in its covering of Ivy that the coating may be as warm in winter as it is cool and pleasant in the summer, or perhaps embowered densely by many flowered climbers, the porch is now, and we trust will ever remain, the chief feature of beauty and of interest in our cottage scene. But if in such a flower-covered home there is love and happiness there must not less be good sense and industry, and an abundant display of the domestic virtues. The good housewife cannot be always resting in the pretty porch, nor may her maidens be ever dreaming of sweethearts and lusty bridegrooms. They must discharge the internal duties of the household in the day, just as at eventide the head of the family, home from his daily toil, and now refreshed by the pleasant evening meal, finds not unwelcome recreation even in labour in his garden. There are matters of fact aspects to cottage life, as well as sentimental ones, and these must have their seasons of regard. Beneath that richly foliaged vine, bearing as it does myriads of clusters of fruit that will presently ripen and render to the cottagers acceptable fruit, or material for the manufacture of some home-made wine, there lies hidden a rugged mass of brickwork that encloses so inelegant an essential to domestic life as an oven. Heated perhaps once or twice a week that the family may have an abundance of the staff of life, yet doth its warmth thus intermittently given tend to the production of such grapes as ordinary walls would not give. Here is the unsightly object hidden from view, and yet it positively forms in the garden scenery a pleasing feature? Even that usually ugly object the water-butt — huge receptacle as it is of heavens rain which falls upon the housetop, and must needs not be wasted, for is not the water acceptable to the family for purification, conducing to comfort and health, without which other blessings become poor indeed. This butt is hidden from view by a creeper-covered trellis, as too is that dubious adjunct to cottage homes the ash-pit, for it must be a part of the economy of any well-regulated garden that the best features of horticulture are found in their humblest efforts to beautify otherwise ugly, though necessary, objects.

How strange by contrast stands out the garish brick red or stucco cottage—or villa as perchance the owner will have it—the walls of which rude nails shall not enter nor vulgar climbers cover. The garden is laid out in severe primness, the turf is of the flattest and most closely shaven, the beds and borders are of the most gaudy and unsuitable hues of colour, the walks are of the yellowest of gravel, and kept painfully clean; the very hedgerows are kept prim and even by shearing, and the trees are equally under the blighting influence of the knife and saw. There may be here some evidence of money spent, but of comfort, of picturesqueness, of sweetness, loveliness, and beauty there is none. It is all lacquer without one particle of nature in the surroundings. Happily the pure taste for the picturesque and the beautiful, the rural, and the homely, largely predominates. Myriads whose lives perchance have been passed in scenes as far removed from rurality, yet dream of a climber covered cottage home, just as we have pictured, as a sort of earthly paradise, a spot which can they but find to end their days in, those later days shall assuredly be happy. May that love for the cottage homes of England never die out, nay rather may it increase and intensify to the end of time.



A COTTAGE PORCH. (FROM A PHOTOGRAPH BY MR. VERNON HEATH.)

FRUITS.

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Fruit Culture.—We take the following instructive remarks from a paper read last spring by Dr. Robertson, of Errol, before the Perthshire Society of Natural Science:—Having shown to what size fruit can be grown, allow me to give some of my fellow-amateurs a few hints about how to grow them. And, first, as to pruning, a good deal depends on this. Don't have too many branches on your trees, and have them as open in the centre as possible to allow sun and air to all the fruit, as this is the secret of colour and flavour. Root-pruning is also sometimes as necessary as branch or spur pruning. I know some gardeners in the Carse of Gowrie, noted for their success in fruit-growing, who lift their trees, when not too large, every third or fourth year. When they get too healthy, and grow all to leaves and branches, this checks the growth, and makes them grow fruit buds instead. For the benefit of those who may have some old trees in their gardens or orchards that are somewhat barren, let me tell you the following which will explain what root-pruning does. When but a very young lad, I recollect hearing my father, who was a keen amateur gardener like myself, talking with a working man who had a small orchard attached to his garden, which bore no fruit. This was too much for a working-man—to pay a rent for which he had no recompense. He, therefore, implored his landlord, who was a farmer, to allow him to dig them out, as potatos and cabbages would be better than no fruit; but, as the farmer was only a tenant, this leave he could not grant. Well, the man thought he would try another plan. He dug deeply round the roots of all the trees, breaking all the long bare thongs—the tent-poles, as some call them—and felt perfectly sure that, so soon as the leaves were on, the first good breeze would blow every one out. Well, what do you think was the result? Next autumn the whole trees were so laden with fruit, that all the ropes, and props, and sticks that could be had were in requisition to keep them from being split up with the weight. Now this was the result of root-pruning, although the man at the time did not know the good he was doing; neither did I when I heard the story first, but I know it now, and tell it for the benefit of others.

Manuring.—I now pass on to another part, and this, perhaps, is the most important of all—viz., manuring. In fact, this is the secret of big gooseberries, big apples, big pears, big fruit of all kinds. Let me give you a case in point. A few months ago I was passing along George Street, in this famous old city, when my attention was arrested by an enormous cauliflower in a seed-shop window, but judge of my astonishment when I read the name of the grower, a great friend of my own in the teaching profession, and that same cauliflower plant was raised from seed in the spring, got from that same shop by your humble servant. A few weeks after this I happened to call on my suburban friend when his day's work was over, and found him carrying from a barrel sunk outside his pigstye the liquid manure to his cauliflowers. "Well done," I exclaimed; "that's the secret of your big cauliflower." It is the chief secret, also, of big fruit as well. Now I think that no one need be ashamed to do what this suburban dominie was doing; he was only obeying the good old injunction to gather up the fragments that nothing be lost. But I have not yet finished with this secret of success. Let me tell you not to lose a drop of your soapsuds, as it is an excellent manure. In our washing-house at Errol the "suds" are collected in a barrel, and when cold they are carried to my trees, bushes, and vines. I have also all my dunghill drained, so that no stagnant water is present, being unhealthy; and this is collected in a barrel outside, and afterwards changed into beautiful flowers and fruit. Remember, Nature is a splendid economiser, if mankind would only study her laws and assist her. Near to a great many cottages in the country I see pigstyes and very dirty surroundings, and the good liquid manure running all to waste, which, if carefully economised, would do a world of good by growing apples as big as turnips, and cauliflower-heads that would fill a washing-pot. Is it not something worth knowing that by a little attention to a few sanitary rules, what would produce deadly and infectious diseases, may be made to produce life-sustaining food and lovely flowers. You thus see that nothing need be lost, not even the smoke of your chimneys, which is just the product of the sun's rays of past ages. You can change it back into lovely flowers and foliage, or ferns as before, for your coals are but, geologists tell us, fossilised plants, so by using your soot you can change them back into plants again. Horticulturists tell us that there is nothing better for roses than sooty water; so keep all your soot, tie it in a thin bag, and put it in a barrel of soft water; let it stand for some time, and afterwards carry it to your trees and bushes. It is said there is nothing enriches the quality and colour of roses so much as sooty water. Just fancy a beautiful white rose improved by black, sooty water! But so it is.

The Culture of Strawberries.—Those who have not already made their annual planting of strawberries, either of "forced plants" or rooted runners, should not defer the operation any longer, because the earlier in autumn the plants become established in their permanent quarters the better will be the results the following season. Of course, where "forced plants" were to be had, plantations were made in early summer, and these plants will not only have thoroughly established themselves in their allotted quarters, but in some cases they will now be ripening a crop of fruit, between which and the ground a little clean straw should be placed to prevent the fruit being injured through damp and grit. But, assuming that plants forced in February, March, April, or May, are not within the reach of everyone, we would urge that, as some of the beds should be renewed every year, the strongest rooted runners that can be had should be planted forthwith in liberally manured and well-dug ground. Let the rows be two feet apart, and the plants be put in at an equal distance asunder in the lines. In our opinion the best way to plant rooted runners is to draw the line where the plants are to be set and with a rake or draw-hoe draw the soil to the line on either side so as to form raised drills, on which the young plants can be set in patches of three at two feet apart, triangular; press the soil firmly about the roots when planting, and give water if necessary to settle the soil, subsequently treading the earth around and between the plants to make it firm and nearly level with that between the rows. Thus planted, the "crowns" are not so liable to get buried or to suffer from excessive damp during the winter and spring months as they would if otherwise planted. A surface dressing of a couple of inches thick of short dung should then be laid on and the work is completed. The only attention required between the planting and the gathering of the fruit at the end of the following June is to keep the plants free from weeds, and, as above stated, to place a little clean straw or litter about the plants as soon as the fruits commence colouring to keep them clean. Also see to the immediate removal of any runners which the plants may happen to send out during the interval from planting time to the end of October. Of varieties, Vicomtesse Héricart de Thury, Keens' Seedling, Sir Charles Napier, Sir Joseph Paxton, President, and British Queen, may be mentioned as everything that can be desired in strawberries, and by way of extending the supply of these luscious fruits as much as possible, Elton Pine, Oxonian, and the little alpine variety may be added to the list.

Peach and Nectarine leaves curling.—The leaves on the peach and nectarine trees in my Orchard house, have developed very indifferently this year, a great many of them being crumpled, and the points and edges have a singed appearance. I should be glad to know the cause. The house is a sunny one—a three-quarter span, with ventilation at the top and in front, but not at the back, which is a wall. In the spring, I mulched the borders with dung and I have given the house every attention, so that I am at a loss to understand the cause, unless it may be that the fogs which we had when the young leaves were forming injured them.—*F.*

FLOWERS.

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Bedding Plants: Autumn Propagation.—At the present time the necessity of increasing the stock of the various kinds and varieties of bedding plants that will be required for the embellishment of the flower-garden next year forces itself upon us. The first of these that demand immediate attention, are all the sections of bedding Pelargoniums, as much, perhaps, with a view to improving the appearance of the beds, by cutting the masses of plants into shape in taking off the cuttings, as to increase their numbers. For a number of years we have propagated all Pelargoniums in boxes, except the bicolor and tricolor sections, (the cuttings of which are inserted singly in 3 inch pots). To economise space, the boxes should be made of uniform size, about 2 feet 6 inches long, 9 inches wide, and 5 inches deep, with a few holes in the bottom for drainage, which should be covered with large pieces of crocks and then a layer of leaves. The boxes should then be filled with any waste potting compost that may be at hand, and be pressed firmly down with the back of the spade; then surface the whole with sand, and they will be ready for the cuttings, 40 or 50 of which (according to their size) will be sufficient for each box. Assuming that those engaged in the work of taking off the cuttings have a clear idea of the numbers required of the respective varieties before beginning the work, the cuttings as taken off the individual beds should be put down in scores, and the numbers be recorded for future reference.

Making due allowance for any mishaps that may occur during the interval from August to May, the cuttings, if spread in the sun for a few hours before being put in the boxes to consolidate their tissues, will be less liable to suffer from damp than if they are inserted in the soil when full of sap as taken from the plants. They can be inserted in the boxes just as they were taken off, as trimming of any kind is unnecessary, and time so occupied is time wasted. The boxes should then be placed in a sunny situation on strips of wood, and the cuttings be damped overhead with the syringe every bright afternoon. Those in pots can be placed in a similar position and be treated in the same way. In the event of heavy and continuous rains ensuing, it will be advisable to place some old sashes over the cuttings to prevent them suffering from excessive damp; and they should be put under the protection of pits or frames before frosts set in. Cuttings of Alternantheras, Mesembryanthemums, Lobelias, Ageratums (of which the Tom Thumb variety is the best), Verbenas, &c., should be inserted in 6 inch pots (about 30 cuttings having a couple of joints, and the lower pair of leaves removed with a sharp knife will be sufficient for each pot), and stood in a close frame, shaded from bright sunshine until rooted, when the shading should be discontinued, and the plants be gradually hardened off, and subsequently put out of the reach of frost—the Alternantheras into a warm greenhouse, or pit.

Celosia pyramidalis coccinea.—This useful and very effective winter and spring decorative plant, the scarlet plumes of which are very telling when intermixed with dwarf flowering plants of such things as Deutzia gracilis, and Browallia elata, may, like the latter plant, be had in flower all the year round by sowing a pinch of seed in January, and again in August or September, in a pan properly crocked and filled to within half-an-inch of the rim with light soil. This should be made firm by pressing it together with the hand before sowing the seeds, which should then be covered lightly with fine sandy soil, and watered through a fine rose before being placed in heat to germinate. As soon as the seedlings appear through the soil, the pan containing them should be placed forthwith on a shelf near the glass, to prevent them from being drawn and as soon as the little plants are large enough to handle, they should be pricked out in well-drained boxes or pans about 2 inches from plant to plant in soil consisting of three parts of light sandy loam and one of leaf-soil. There will afterwards lift with

nice balls of earth adhering to their roots, to be potted into 4-inch pots before they get crowded in the boxes or pans. From this time grow them on in heat near the glass until they show flower.

Browallia elata.—This beautiful old perennial, introduced so long ago as 1768, and figured in the first volume of the *Botanical Magazine*, t. 34, should be grown by everyone having a conservatory, greenhouse, or stove, to embellish during the winter and spring months. If necessary, it may indeed be had in flower throughout the year by sowing a pinch of seed in January, and again in August or September; but it is as a winter and spring flowering plant that we shall here speak of it, because it is during those months that the plants, which are of branching habit, are most appreciated for decorative purposes. The blue phlox-like flowers, which proceed freely from the tops of the side shoots, are then of the brightest hue, and contrast effectively when associated with flowering plants of Eucharis amazonica, and Poinsettias, &c. A stock of these plants can be very easily raised from seeds, a few of which should be sown at once in 4-inch pots previously crocked and filled to the rim with a light compost—say 3-parts of sandy loam and one of leaf-soil. When the seeds are sown, place the pots in a warm house or frame, first covering them with a square of glass or some moss, which must be removed as soon as the seedling plants appear above the soil. From this time the seedlings must be gradually inured to light and air to prevent them from making a weakly growth, and with this object in view the plants should be grown on shelves near the glass. Three plants in a pot will be sufficient; and the superfluous plants should be pulled out before they become crowded, and be transplanted in 3in. or 4in. pots if necessary to increase the number of plants. The latter should have a small stick about 18 inches long put to each for support, and be kept well supplied with water at the roots, and damped overhead on bright afternoons to prevent the attacks of red spider. If larger specimens are desired, a portion of the plants should be shifted into 6 or 8 inch pots, and those in the 48's, which we find are large enough for all ordinary purposes, should be top-dressed with a mixture of pulverised horse-droppings and loam when the plants attain a height of about 9 or 10 inches. This will enable them to develope finer heads of flowers than would otherwise be obtained.

Nigella damascena.—This is a beautiful old blue-flowered annual, introduced from the South of Europe many years ago. It has several common names, but two of them, Love-in-a-Mist, and Devil in a Bush, are singularly apposite, both names no doubt given owing to the flower being enveloped in a dense entanglement of finely divided bracts. Sometimes people complain of there being so few blue-flowers of a common character, but here is one that is far too much neglected. It is a common hardy annual, needing no special cultivation, sowing itself freely, and coming up each spring. When the flowers open, and for two or three days, they are of a rich bright blue; but after that they take on a paler colour. As the flowers are borne on long stems, they are very useful in a cut state, and can be employed in many ways for floral decoration. This beautiful annual must be placed among the things worth growing.

Tuberous Begonia Cuttings.—A month ago I put in a quantity of these in heat and they rotted off one after the other until I lost them all. I put them in a cutting frame in the Melon House. Last year I was almost as unlucky with those I put in a cutting frame in a cool house. Can any of your readers tell me if there is anything peculiar in the way in which the cuttings should be made, and also the best time and place to put them in?—*J. Cameron.*

Viola Chelsea Belle.—It may seem like exaggeration to say that Viola Blue Bell has been improved, so remarkably good at all points is this very popular flower; but Mr. Moore showed us recently in the Chelsea Botanic Garden a seedling from it, which is much deeper in colour and a better shaped flower.

VEGETABLES.

Culture of the Cauliflower.—The Cauliflower, the Queen of the Brassica family, is at all times, but more particularly in early summer, a favourite second-course vegetable, and its cultivation, therefore, receives due attention at the hands of all practical gardeners, whose aim it is to secure a supply of good close heads as early in the season as possible, and to maintain it uninterruptedly as long as they can, sometimes into the new year. In order to do this, no time should be lost in sowing seeds of the following well-tested varieties. Dean's Early Snowball, Early London, Walcheren, and Veitch's Autumn Giant. These, coming into use in the order in which their names appear, will yield a successional supply of this much-esteemed vegetable from the end of April to the end of August the following year, if the cultural details set forth below are attended to.

The seeds should be sown in a warm border in beds four feet wide (having an alley one foot wide between each bed), and be covered with about a ¼-inch thickness of soil from the alleys, or, if that be too stiff or heavy, with some from the waste-soil heap. This should be raked and afterwards patted with the back of the spade to compress the seeds and soil, and then all must be covered with a piece of garden netting supported by short forked sticks as a protection from the ravages of birds. In the absence of rain, the beds must be watered through a medium-sized rose every other afternoon until the seedling plants appear above the soil. These, as soon as they are large enough to handle, should be pricked out, some in pots singly, the others six or eight inches apart, under hand-glasses, or in cold pits, in soil previously surface-dressed with wood-ashes and a sprinkling of soot, which will serve to protect their roots and leaves from the attacks of grubs and slugs. Finally, they must be watered through a long-spouted watering-pot with a rose, to settle the soil about their roots. In order to promote a sturdy growth in the plants, during the interval from the time the young plants are pricked out until they are finally transplanted in the beginning or middle of February, according to the condition of the weather, they should have an abundance of air, the sashes and lights being left off during favourable weather; but whenever the appearance of the sky indicates the approach of severe weather, the sashes should be put over the plants, and in the event of frost ensuing a sufficient covering of dry fern to prevent its reaching them.

In the meantime a piece of ground should have been liberally manured and trenched, in readiness for early sowings and plantings of Peas and Cauliflowers. In this, as early in February as the weather will permit of its being done, draw drills, running north and south, three inches deep and two feet apart, some potted plants of Dean's Early Snowball and Early London should be planted with a garden trowel, disturbing the soil and roots as little as possible in turning them out. Press the soil firmly about the roots, and when this is done make a circle of soot and lime mixed around the individual plants, with a view to keeping slugs from interfering with them; then, as a protection from frosts and cutting winds, stick some spruce boughs firmly in the ground on either side of the plants. These, after an interval of a few weeks, should be removed from the west side of the plants to prevent their making a weakly growth, and, weather permitting, a couple of weeks later they can be removed altogether, and the plants be earthed up in due time.

It will be obvious to many of our readers that plants thus treated (grown in pots) are subject to little, if any, check in the process of being transplanted, and that a few plants turned out of the pots carefully, and planted about the same time at the foot of south walls, and protected from the ravages of slugs, as above directed, will yield an early supply of small, useful heads. Later plantings should be made, from the plants pricked out, in pits at intervals of a week or two; the plants being taken up carefully with as much soil adhering to the roots as possible, and be transplanted in the manner detailed above. About the middle of January a sowing of Early London, Walcheren, and Veitch's Autumn Giant, should be made in a pit containing a gentle bottom-heat and near the glass, to prevent the seedling plants from becoming drawn. These, when large enough, should be pricked out in boxes, be gradually hardened off, and in due time planted out as above described. Sowings of the same varieties should be made in the open on a warm border about the middle of April, May, June, and July, and plants resulting from these sowings, if subsequently attended to as already described, will yield a supply of Cauliflowers well into the new year.

In summer the leaves should be bent over the "flowers," with a view to keeping the latter firm, as well as retarding them by protecting them from the direct rays of the sun. In early winter the same practice should be carried out as a protection against a few degrees of frost. With the same object in view several heads, with the greater part of the stems attached, should be cut on the approach of frost and be placed on the floor of a cool house or shed, where neither frost nor damp can harm them, and the Cauliflowers will remain fresh and in good condition for two or three weeks.

Lettuces: Seed-sowing.—Where not already done, no time should now be lost in making a sowing of the following varieties of Lettuces, to be wintered in cold frames or on sunny borders for transplanting in early spring—viz., Hick's Hardy White Cos, the black-seeded Bath Cos, and Lee's Hardy Hammersmith. These should be sown on a warm border, and as soon as the plants are large enough to handle, they should be pricked out in a cold pit, from which frost can be excluded, in rows three inches apart, and at the same distance apart from plant to plant in the rows. The soil should be previously dusted over with wood-ashes and soot to keep the slugs at bay. Plants should be put out in the same way, and at the same distances apart, in a warm, dry border out of doors, where, during frosty weather, they can be protected with a sprinkling of fern, which should be removed and put on, as circumstances necessitate. In due time a paper will appear in our columns upon the culture of this much-esteemed salading plant.

Winter Spinach.—This vegetable is in demand in most gardening establishments, and in order to have a good supply of it when called for, seeds should be sown not later than the 1st. or 2nd. week in September, in shallow drills, not less than from 16 to 18 inches apart. The drills should be closed in with the feet after the seed is sown, then trodden to compress the soil, and subsequently raked with a medium-sized iron rake. The only after attention necessary to insure success with the crop is to thin out the young plants to five or six inches apart in the rows as soon as they are large enough to handle; to keep them free from weeds; and to stir the soil between the rows with a Dutch-hoe to accelerate growth. This later operation should be carried out as often as the condition of the soil will admit of the work being done during the interval from September to May. It is almost unnecessary to remark that the ground should be manured, dug, trodden, and raked previous to the drills being drawn at from one to two inches deep for the reception of the seeds.

What a Lilac Bush Did.—Two cut stones forming a part of a corner foundation of Dr. Asa Gray's residence at Cambridge, Mass., have been displaced by a lilac bush which some years since insinuated itself into a very close joint in the stone-work. The lower stone which has been misplaced is three feet long, about a foot high, and eight inches deep. Upon this rests a stone of similar shape, two feet long. These stones form one end of the wall. In the joint between the lower stone and the main body of the wall the lilac sprout established itself. The bush, now scarcely more than an inch in diameter, has forced the lower stone an inch away from the remaining wall in a horizontal direction. Moreover, the upper stone, being attached to the lower by mortar and being held down by the weight of the building, has shared equally in the displacement.—*Botanical Gazette.*

The Orchid Grower's Calendar.

In commencing a series of seasonable notes on Orchids and their culture, an introduction is not necessary, the plants, by their singular beauty and interest, and the increasing facilities offered for obtaining them, having become favoured subjects of cultivation by a large number of amateurs who are ever eager to obtain information respecting them. So extensively have they insinuated themselves into the gardening world that they are now to be found in less or greater numbers in most places where plant culture under glass is carried on; indeed, in some instances where mixed plant culture has been tried and found unsatisfactory, the houses have been cleared and filled again with Orchids. Many more plant growers there also are who would be willing to spare one or two of their houses, but that they fear they would not suit Orchids. To such it should be said that Orchids may be well grown in a house of any shape, of any reasonable height, or of any aspect, provided it is properly ventilated and shaded. One of the best tests as to the fitness of any house for Orchid culture is to note whether you feel comfortable in it yourself or not. If a sense of discomfort is experienced in it at any time in the day, and if the then existing state of things can be maintained, the Orchids will thrive if properly attended to. If, on the other hand, the house feels unpleasant to yourself, the cause of the unpleasantness should be sought, and it will be sure to be something which would militate against the plants. The great Orchid establishments of Messrs Veitch, Sander, Williams, Bull, Low, and others, as well as our large private collections, all work on this principle, mankind and plants being found to agree in liking a pure wholesome atmosphere, and consequently even the houses in which those Orchids that do not like cold are grown, are never uncomfortable. This practical overthrow of the notion that most Orchids required to be grown in hot, uncomfortable houses has tended, more perhaps than anything else, to their being so generally cultivated.

The main features necessary in a house to render it fit to contain Orchids are, first, that the ventilation be so arranged, top and bottom, that an even temperature can be secured, and the top ventilators should be in the highest part of the roof, and the bottom ones as near the level of the floor as convenient, say within a foot of the ground line. Swinging sashes for side ventilation on a level with the stages, should not be allowed in any case, and where such exist in a house intended for Orchids, they should be permanently fastened up, and ventilating traps be put near the base beneath the stage as recommended. Secondly, that a good rain-water tank be arranged in the house; and thirdly, that the house be properly fitted with thin rolling blinds, to be used from the time the sun gets power to injure in the spring until it loses it in autumn. These points attended to, and the staging arranged in a manner we will speak of later on, almost any existing plant-house will do as well for Orchid culture as a newly built one.

Next comes the question as to what it is best to grow, and this is an important matter, for many a rebuff does the amateur get by buying plants indiscriminately without considering whether they are likely to do with him or not. By far the better plan is for the beginner to commence with cold house and intermediate house varieties only, and leave those requiring heat until he is sure of his ground, unless indeed the only accommodation at liberty is for warm house kinds, in which case they should of course have the preference. But where the choice is open, it is better to begin with the easily grown cool house kinds, and as the easiest to cultivate and also the most showy when in flower, the following selection may be named, the prevailing colour of the flower in each case being given:—

Ada aurantiaca, orange.
Anguloa Clowesii, yellow.
„ virginalis, white.
Cattleya Trianæ, rose and crimson.
„ Mossiæ „
„ Mendelii „
„ citrina, yellow.
Cœlogyne cristata, white and yellow.
Cypripedium insigne, yellow and brown.
„ Sedeni, rose.
Dendrobium nobile, white and rose.
„ Wardianum „
„ chrysotoxum, yellow.
Epidendrum vitellinum, orange.
Lælia albida, white and lalac.
„ autumnalis, rose.
„ anceps, rose and crimson.
„ purpurata, white and purple.
„ Perrinii, lilac and purple.
Lycaste Skinneri, white, rose, and crimson.
„ cruenta, yellow.
„ Harrisoniæ, white and crimson.
Masdevallias, all the showy varieties.
Maxillaria grandiflora, white and yellow.
Odontoglossum Alexandriæ, white.
„ Pescatorei, white.
„ luteo-purpureum, yellow and brown.
„ vexillarium, rose.
„ any other showy sorts.
Oncidium flexuosum, yellow.
„ incurvum, white and rose.
„ prætextum, yellow and brown.
„ macranthum, yellow.
„ cucullatum, rose and crimson.
„ tigrinum, yellow.
Pleiones, all the species.
Pilumna fragrans, white.
Sophronitis grandiflora, scarlet.
Trichopilia suavis, white and rose.
Zygopetalum Mackayii, white and blue.

ONCIDIUM FLEXUOSUM.

With a little selection of this kind, which can be obtained at a very small cost, much pleasure and a certain display of beautiful flowers may be secured without the slightest chance of failure in the hands of anyone having a real interest in and liking for them. The beauty, durability, and in most cases the fragrance of Orchid flowers commend them to all, and particularly to those who have indoor and table decorations to make, as the plants can be used without much fear of injury, and the flowers when cut, last in most cases a very long time. In some instances they are indeed of almost incredible durability—now on my table is a spray of Dendrobim superbiens, which has been good for more than four weeks; D. infundibulum and Lycaste Skinneri I have found to last six weeks after being cut, and Epidendrum vitellinum and some of the Odontoglossums will keep good for a month.—*James O'Brien.*

ORCHID NOTES.

Oncidium flexuosum.—This is one of the most useful, as it is also one of the most manageable species of the genus, its light and elegant sprays of yellow flowers (see illustration) appearing as one of the most telling things in the cut-flower arrange-

ments at most of our summer flower shows. Introduced from Brazil in 1818, it was figured in Loddiges' *Botanical Cabinet* with the pure unspotted yellow flowers usually met with; but in vol. 48 t. 2203 of the *Botanical Magazine* we find it depicted with flowers profusely spotted with brown, the lip as well. The plant is very liable to become spotted in a damp house, and it often gets so spotted before going off, so that it is probable the artist was supplied with a specimen past its best. Although we have frequently found specimens which exhibit a tendency to become spotted, we have never found one naturally spotted like the figure quoted. O. flexuosum likes a rather dry, intermediate house, and prefers a clear light situation to a shady one.

Dendrobium Dearei.—This beautiful species, admitted into collections with some amount of suspicion, and for a season or two grown with but a small share of favour, is at the present time one of the most eagerly sought for among Dendrobiums, and is continually increasing in favour. As it becomes better known, more widely distributed, and greater success attends its cultivation, there can be no doubt it will become one of the most popular of Orchids, because one that will be useful in a superior degree. White flowers are always sought after, and flowers such as are produced by this species, pure white, with just a light patch of green in the centre of the lip, are such as can be used for every purpose, whether singly as button-hole flowers for gentlemen, (and if used for this purpose there is nothing that can set them off better than a nice frond of the new Adiantum Pacotti), or again in wreaths or bridal bouquets. In each and every case they are most beautiful; if mounted on wire they can be used very effectively, and if not over-crowded with other flowers may be made to stand prominently forward. At present it will not be quite safe to say whether it should flower in the spring or during the summer months; but since the blooms will remain perfectly fresh for 12 weeks, if damp is not allowed to settle upon them, it would be wise, if possible, to grow it so that it will flower in the spring, as then the blooms after enriching our houses for a good length of time can be taken off, and the plants be induced to start into growth and push rapidly on ere the summer, with its light and heat, too rapidly passes away from us. This species I find succeeds best in baskets, hung up under the roof, or if it is grown in pots, but little root-room should be allowed it. Place the plants in pots as near the size of the imported clump as possible, press some crocks or charcoal around it, with just a little peat and moss to fill in the crevices. In such a compost there is no danger of the occurrence of anything approaching stagnation; plenty of water can be given, and since it will run rapidly away, syringings overhead may also be given with safety. Being a native of the Phillipine Islands the East India house will suit it, but if a special Dendrobium house is at command, where the air is just a little drier than this division, in that house it should be grown, and if kept clear of yellow thrip will produce growths a foot and 18 inches long. It would really seem that this is one of the species that should command a high price just now if a good importation could be secured, and the clumps were received in a healthy condition. We must wait and hope for their coming.—*W. Swan, Fallowfield.*

Cœlogyne corrugata.—Although by no means equal to its allied species, C. cristata, this is well worthy of a place in every collection, being of a compact habit, and flowering with the young growths at this time, when Orchid flowers are by no means too plentiful. The flowers are white, and the lip blotched with yellow and streaked with deep orange. I find it does better in the Mexican house, than in either a warmer or cooler temperature.—*E. Dumper, The Gardens, Summerville, Limerick.*

The late M. Lüddemann's large collection of orchids will be sold at Bourg-la-Reine, near Paris, on Thursday next.

FLORICULTURE.

—o—

Choice Show Pansies.—When looking through a collection of these in flower a few days ago we made a note of the following varieties as forming a small but select group well worthy of cultivation:—

Yellow Selfs.—George Rudd, clear yellow, very large, and of the finest form, and having a dense, well-defined black blotch; this is in every respect extra fine, producing large, flat, rounded flowers of great beauty, thrown well above the foliage; good vigorous habit; Goldfinder, very deep yellow, stout, smooth, with well-defined blotch; very fine; and Golden Queen of England, pale yellow, good blotch, a taking flower, distinct in colour, but a little thin; wants good growth.

Dark Selfs.—Lady Fitzwilliam, a very fine, smooth, dark glossy purple flower of the best quality, extra good in every respect, and of good habit; and Alexander Watt, a large smooth purple self, brighter in colour than the foregoing and quite distinct; a good grower.

White Selfs.—White Perfection, large pure white, deep blue blotch, stout, good outline, medium sized, sturdy habit; and Mrs Goodall, a small, smooth, and finely formed flower of high quality, excellent habit, and most desirable.

Yellow Grounds.—Robert Pollock, pure deep golden ground, with rich shining maroon margins, large blotch well defined, really very fine and rich; good habit; Ardler, pale yellow ground, with a well-shouldered margin of rich deep purple, good blotch, stout and smooth; Amy, pale yellow ground, margined with violet purple, fine dark blotch, flowers large, stout and smooth; and William Martin, sulphur ground tinted with yellow, fine blotch, broad pale purple margin.

White Grounds.—James Grieve, pure white, with broad regular purple margin, and dense black blotch, extra fine; and Mrs. Hardman, pure ground, with an even belting of dark purple, good dark blotch, extra fine and smooth.

We wish lovers of hardy flowers would pay a little more attention to what the florists call Show Pansies as distinct from the large showy fancy varieties. They are singularly beautiful as well as very novel and distinct. If anyone wishes to commence with a choice collection it could not be a better selection than the one given above. We should prefer to have the plants at the end of September, put them in small pots, using a light rich sandy soil, pressing it firmly about the roots, and placing the pots in a cold frame, planting them out in a well-prepared bed at the end of February or early in March, when the weather is favourable, and if a few pods of seed were saved from some of the foregoing varieties and sown in the ordinary way good flowers will be certain to result. The Old Show Pansy well deserves a fresh lease of popularity.

Delphiniums.—Quite a crowd of people was seen to have gathered together at a Flower Show not long since; they were eagerly scanning an exhibit, and they were loud in praise of what they were looking upon. "How beautiful!" was heard on every hand. It turned out to be a stand of cut spikes of double and single flowered Delphiniums, and being in the main of blue tints they were very handsome indeed. They seemed to be quite a new revelation of beauty to many, and doubtless they were so. But few amateur, and but a select number of professional gardeners are aware of the great variety of Delphiniums, that can be grown in the present day. They are known as perennial Larkspurs, and they are quite hardy. Standing through the severest weather and with but very little damage. Those who make pets of them adopt the precaution of covering over the crowns during winter with some dung and leaves, the advantage being that, these decay in course of time, and form an excellent fertiliser. Delphiniums do not need much in the way of special treatment. They do well in any good garden soil, though for choice we should prefer a good deep yellow loam. But if the cultivator is to have fine spikes of flower, the ground must be made rich by the addition of manure, and then he may be sure he will have rare blossoms.

The varieties in cultivation, both single and double flowered, include all shades of blue, from a pale sky blue to the deepest indigo, many of the flowers have pure white, pale lavender, and orange centres. Even among the blue flowered varieties there is much variation of tint and character, and we may say of these perennial Larkspurs generally, that the spikes of bloom vary in length from one foot to three feet, and almost all of the varieties produce lateral spikes freely. Here is a list of pretty varieties that are not expensive, and, at the same time, well deserving a place in the garden:—Alopecuroides, rich blue, veined with bronzy red; Amadee Hans, bright shining blue; Beauty of Charonne, rich blue; Bella Donna, bright azure blue, white centre; Coronet, dark blue, purple and orange centre; Exquisite, brilliant cobalt blue, tinted with rosy lilac; Grand, light blue and purple; Madame H. Jacotot, azure blue, tinted with rosy pink; Madame Chate, porcelain blue and bronzy red; nudicaule, orange red; Spectabilis, dark reddish lilac; Splendidissimum, brilliant azure blue, with white centre; and Victor Lemoine, blue, with lighter centre. Many new varieties of Delphiniums are annually raised in Scotland, as well as on the Continent, and if an amateur were to commence with the list above-named, he would add some new varieties year after year as he might deem it expedient to do so.

Rose: William A. Richardson.—This very distinct rose has been shown on many occasions during the summer, and it always attracted much attention because of its charming buds of a rich orange colour. It is classed with the Tea Scented Roses, and is of American origin, the buds are beautiful, but as soon as they expand they become loose and lose their beauty. It is a string grower, and makes a very fine climbing and pillar rose, flowering with remarkable freedom in large clusters of blossoms. This variety is only of value as a climber, and it is as such that we venture to recommend it, but it is right it should be stated it becomes very coarse in hot weather.

Carnation: Mary Morris.—Among Carnations of recent introduction for open-air cultivation, this variety must take a leading position, for indeed it eclipses most of the older sorts. The flowers are of a beautiful rosy-pink shade, the shape being all that can be desired, and having scarcely a flower but what opens perfect, not splitting or bursting as is too often the case. It is also remarkably free-growing and very floriferous.—*E. D.*

Tuberous Begonias.—There is no class of plants in cultivation more dazzling when grouped *en masse* than a fine collection of these Begonias, but for a really chaste effect, arrange them in their different colours with choice maiden-hair ferns, not in formal lines, but intermixed the one with the other. Let it be understood a fine effect is not guaranteed unless the ferns are well grown and used in variety. For example Adiantium concinum and A. concinum latum, A. scutum Veitchi, and others that shoot up a few vigorous fronds to break the stiffness of a group, are those that would be best suited to intermix with the Begonias—the latter would hang gracefully in scarlet, moroon, pink, salmon, or white, underneath the shade of a drooping frond and at this season would give such an effect as would make one forget that dreary winter is so near at hand.

Single and Double Scarlet Dahlias among Rhododendrons.—Autumn gardening and the brightening up of evergreen masses of shrubs should be brought prominently before the gardening public before Jack Frost pays us a visit and destroys our last chance for the season of taking a lesson from the many excellent practical illustrations that are afforded us in most of the London Parks and a few private places, of noting the effect of mixed beds. In some gardens we visit, a fine effect is produced in the American garden, by planting single and double scarlet dahlias among the rhododendron beds. When they are seen from a terrace, the healthy looking shrubs renders the mixture of flowers and shrubs very agreeable.

Obituary.

The obituary record of the past month, includes we regret to say, the names of three men, each and all of whom have left their mark on some branch of Horticulture.——Mr. H. G. Bohn, the famous publisher, who died at Twickenham, at the ripe old age of 88, was one of the oldest Fellows of the Royal Horticultural Society, and some years ago was a member of the council. After he left the directing body, he became for some time, like the late Mr. Godson, a keen critic of the Society's proceedings, and was known rather for the bluntness of his observations than the soundness of the advice he tendered his former colleagues. He was very fond of his garden, and had a strong partiality for hardy deciduous shrubs and conifers. A few years ago he brought out a second edition of Gordon's *Pinetum*, to which he contributed a valuable appendix of popular names.——Mr. Charles Rylands, of Ormskirk, who died on the 20th ult., aged 73 years, was a man of a different stamp. Born in humble circumstances, by thrift and industry he gradually worked himself up in the nursery trade, and has left such a record as an exhibitor as any man might be proud of. His specialities were show and fancy Pelargoniums and Dahlias, of both of which he was a remarkably successful grower.——The death of Mr. J. H. Mangles, at Vale Wood, Haslemere, on the 24th ult., at the age of 52 years, is much to be regretted. He had been in failing health for the last two years, yet few who saw him at the Daffodil Congress could have suspected that his end was so near. He was an active member of the Council of the Royal Horticultural Society, and with his friend, Prof. Michael Foster, endeavoured by the meetings held last year in the Linnean Society's rooms, and the Daffodil Congress of the past spring (in the organisation of all of which he took a leading part), to infuse some amount of activity into a society that sadly wants a thorough waking up to a sense of its position. He was a specialist in the truest sense of the word, his favourite flower being the Rhododendron, in the hybridisation and cross-breeding of which he carried out many valuable experiments in his garden at Vale Wood; and his name will long be remembered in connection with the race of hybrid greenhouse varieties first taken in hand by Mr. Taylor, of Messrs. Veitch's Nursery, and now rapidly coming to the front. At Vale Wood every plant almost had a history, which Mr. Mangles himself well knew; but there were no labels, to them and we fear his knowledge has died with him.——Our record will not be complete without a brief allusion to the death of Mrs. Smith, the wife of the much-esteemed Curator of the Royal Gardens, Kew, which, coming so soon after the death of his only daughter, has been a sad blow to Mr. Smith, who has himself, for some time, been in delicate health.

Notices to Correspondents.

The Editor *begs to inform his readers that special attention will be paid in the columns of* The Gardening World, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and, where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

*It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "*The Editor.*"*

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's bona fides. No notice whatever will be taken of anonymous letters.

Secretaries of Horticultural Societies and Nurserymen and Seedsmen will greatly oblige The Editor *by sending him their schedules, and catalogues as soon as published.*

COVENT GARDEN MARKET.

September 3.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6– 4 0	Melons, each	0 6– 1 6
Figs, per dozen	0 6– 1 0	Pine-apples, Eng., lb.	4 0– 5 0
Grapes, per lb.	0 6– 3 0	Peaches, per dozen	1 0– 8 0
Kent Filberts & cobbs, per lb.	0 6– 0 7	Pears, French, p. doz.	1 0– 1 9
		Plums, ½-sieve	4 0– 9 0

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0– 4 0	Lettuces, Cabbage, per dozen	1 6– ...
Beans, French, lb.	0 4– ...	— Cos, each	0 2– ...
Beet, per dozen	1 0– ...	Marrows, each	0 2– ...
Cabbages, per dozen	2 0– ...	Mint, green, bunch	0 4– ...
Carrots, per bunch	0 6– ...	Mushrooms, p. basket	1 0– 2 0
Cauliflowers, English, dozen	3 0– 4 0	Onions, per bunch	0 6– ...
Celery, per bundle	1 6– 2 6	Parsley, per bunch	0 9– ...
Cucumbers, each	0 6– 0 8	Peas, English, quart.	1 6– ...
Endive, French, per dozen	2 6– 3 6	Radishes, per dozen	1 6– ...
Garlic, per lb.	0 6– ...	Small salading, per punnet	0 4– ...
Herbs, per bunch	0 2– 0 4	Spinach, per strike	2 0– ...
Horse Radish, bundle	3 0– 4 0	Tomatos, per lb.	1 0– ...
		Turnips, bunch	0 8– ...

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0– 4 0	Lavender, 12 bun.	6 0– 8 0
Asters, 12 bunches	3 0– 6 0	Margnerites, 12 bun.	3 0– 6 0
Bouvardias, per bun.	0 9– 1 0	Pelargoniums, per 12 sprays	0 6– 1 0
Calceolaria, 12 sprays	0 4– 0 6	Pinks, various, 12 bunches	... – ...
Carnations, 12 bun.	0 6– 1 0	Primula, double bun.	1 0– 1 6
Chrysanthemums, 12 bunches	3 0– 6 0	Pyrethrum, 12 bun.	2 0– 6 0
— large, 12 blooms	2 0– 6 0	Rhodanthes, 12 bun.	4 0– 6 0
Cornflower, 12 bun.	2 0– 4 0	Roses, outdoor, 12 bunches	2 0– 6 0
Dahlias, 12 bunches	3 0– 6 0	Stephanotis, 12 spr.	2 0– 4 0
Eucharis, per dozen	2 0– 5 0	Stocks, 12 bunches	3 0– 6 0
Gardenias, 12 blms.	3 0– 6 0	Sweet Peas, 12 bun.	1 6– 4 0
Gladiolus, various, 12 bunches	6 0–12 0	Sweet Sultan, 12 bun.	2 0– 4 0
Heliotropes, 12 sp.	0 6– 1 0	Tuberoses, per dozen	0 6– 1 0
Lapageria, white, 12 blooms	2 0– 3 0	White Jasmine, bun.	0 6– 1 0
— red, 12 blooms	1 0– 2 0		

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0–24 0	Foliage Plants, various, each	2 0–10 0
Asters, per dozen	3 0– 6 0	Fuschias, per dozen	3 0– 6 0
Begonias, per dozen	4 0–12 0	Heliotrope, dozen	3 0– 6 0
Bouvardias, dozen	9 0–18 0	Lilium longiflorum, per dozen	6 0–18 0
Chrysanth., dozen	4 0– 6 0	— speciosum, p. doz.	6 0–18 0
Cockscombs, dozen	2 6– 4 0	Marguerites, per doz.	8 0–12 0
Coleus, various, doz.	2 0– 4 0	Palms in variety, each	2 6–21 0
Cyperus, per dozen	4 0–12 0	Pelargoniums (show), per dozen	4 0– 9 0
Dracæna term. dozen	30 0–60 0	— scarlet, per dozen	2 0– 6 0
— viridis, per dozen	12 0–24 0	Petunias, per dozen	3 0– 6 0
Erica, various, dozen	9 0–18 0	Rhodanthes, per doz.	4 0– 6 0
Evergreens, in var., per dozen	6 0–24 0	Solanums, dozen	9 0–15 0
Ferns, in var., dozen	4 0–18 0		
Ficus elastica each	1 6– 7 0		

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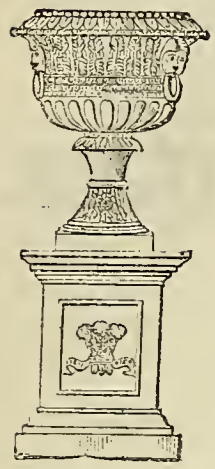

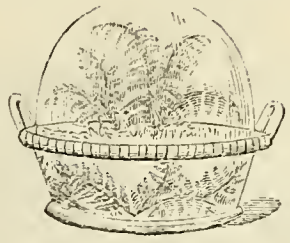

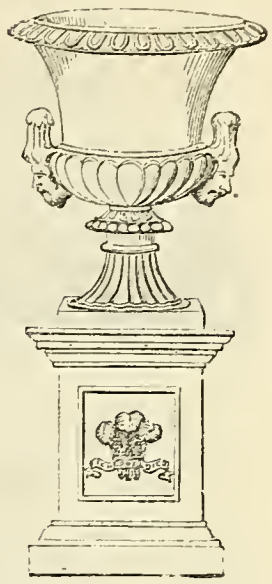

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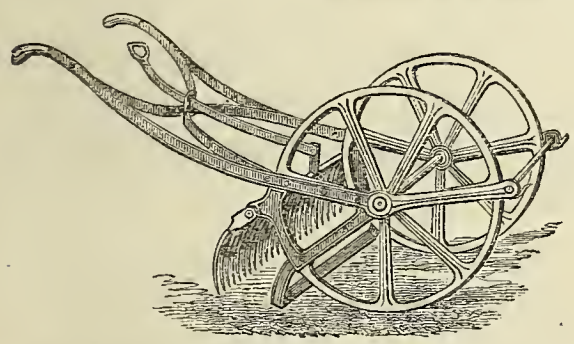

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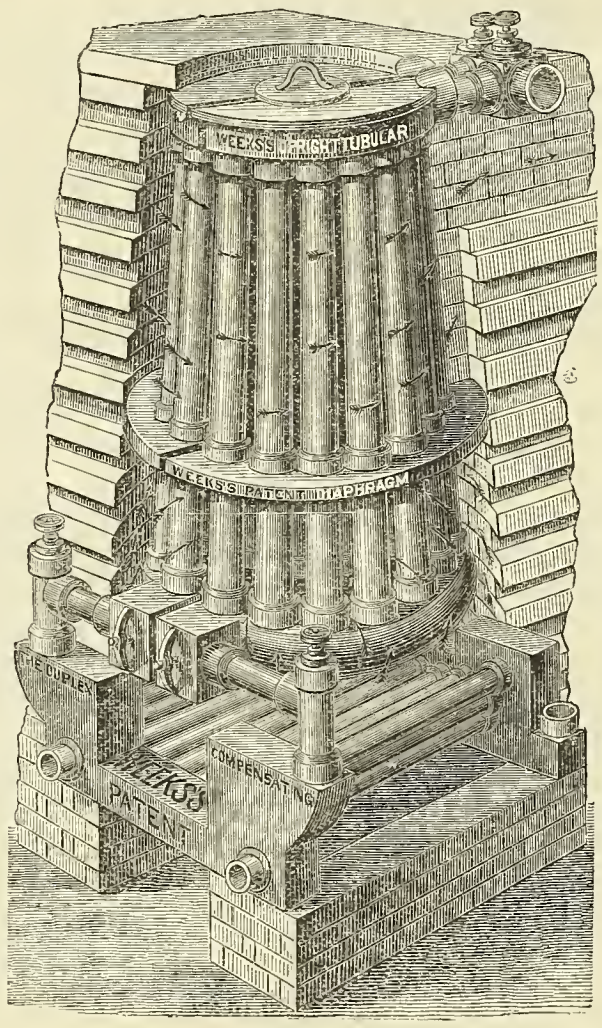

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MESSRS. PROTHEROE AND MORRIS are instructed by the Executors of the late Mr. B. Maller, to SELL by AUCTION on the Premises, The Burnt Ash Nursery, Lee, Kent, S.E, adjoining the Lee Railway Station, on TUESDAY, September 16, at 11 o'Clock precisely, 20,000 Winter-blooming HEATHS, beautifully grown, and well set with bloom-buds, and which are unsurpassed in the Trade, comprising.—

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3,000 „ gracilis	2,000 Adiantum cuneatum, gracillimum, and Pacottii
1,000 „ caffra	1,000 Cyclamen persicum
Large quantities of ventricosa, grandinosa, melanthera, and others	1,000 Ampelopsis Veitchii
Thousands of Erica hyemalis in small pots for growing on	6,000 Bouvardias, including the double white and red Alfred Nenner, and President Garfield
1,000 Epacris	2,000 Genistas
1,000 Decorative Palms	
1,000 Grevillea robusta	

Maréchal Niel and other dwarf ROSES; 600 PASSION-FLOWERS, English grown; AZALEAS and CAMELLIAS, double white PRIMULAS, extra strong; STEPHANOTIS, HOYAS, GARDENIAS, and other Stock.

May now be viewed. Catalogues may be had on the Premises, or of the Auctioneers, 67 and 68, Cheapside, London, E.C.

N.B. The Auctioneers desire to call attention to this Annual Sale. The Stock is in unusually fine condition, as in previous years, and intending purchasers are invited to inspect it.

Lea Bridge Road Nurseries, Leyton, E.

UNRESERVED SALE. EXPIRATION OF LEASE.

GREAT ANNUAL TRADE SALE of WINTER FLOWERING HEATHS and other PLANTS, by order of Mr. John Fraser.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the premises, The Lea Bridge Road Nurseries, Leyton, E., close to Hoe Street Railway Station, on WEDNESDAY, September 17, at 11 o'Clock precisely (in consequence of there being upwards of 1,100 lots) without reserve many Thousands of Winter Blooming and other HEATHS, remarkably well-grown, including hyemalis, gracilis, hybrida, candidissima, Parmenticria rosea, persoluta alba, and others; EPACRIS of the choicest kinds; 1,500 AZALEA INDICA, 2,000 CYCLAMEN PERSICUM, 1,000 GENISTA FRAGRANS, Tea Scented and Noisetta ROSES, SOLANUM CAPSICASTRUM in berry, several hundreds of well-grown CAMELLIAS well set with bloom; CLEMATIS INDIVISA LOBATA and other GREENHOUSE CLIMBERS; 1,500 early flowering CHRYSANTHEMUMS, 200 Maréchal Niel and other ROSES, from 7 to 10 feet; a large quantity of fine plants of AMPELOPSIS VEITCHII; a variety of GREENHOUSE PLANTS; fine healthy young plants of LAPAGERIA ALBA and ROSEA SUPERBA, a beautiful lot of about 300 ARAUCARIA EXCELSA, CLEMATIS JACKMANNI, a splendid lot of variegated IVIES, and other stock.

May now be viewed. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C.

Brunswick Nursery, Tottenham.

GREAT ANNUAL TRADE SALE of Winter-blooming HEATHS and other PLANTS, by order of Mr. John Maller.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises, The Brunswick Nursery, Tottenham, on THURSDAY, September 18, at 11 o'Clock precisely, many thousands of exceptionally well-grown Winter-blooming HEATHS and other PLANTS.

Full particulars of which will appear next week.

Sidcup, Kent, S.E.

GREAT TRADE SALE

Of WINTER-BLOOMING HEATHS and other PLANTS, comprising probably one of the largest Stocks ever offered in one day.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. Gregory and Evans to SELL by AUCTION on the premises. The Longland's Nursery, Sidcup (about 10 minutes walk from Pope Road Station, S.E.R.), on FRIDAY, September 19, at 11 o'Clock punctually, in consequence of there being upwards of 1,000 lots.

40,000 WINTER-BLOOMING HEATHS

which are particularly well-grown and beautifully set with flower consisting of

15,000 Erica hyemalis	4,000 Genistas
10,000 „ gracalis	2,000 Solanums, well berried
5,000 „ persoluta alba	2,000 Adiantums
5,000 „ Cavendishi	2,000 Cinerarias
5,000 „ ventricosa	1,000 Double Primulas

and other stock.

May be viewed. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C.

N.B.—Messrs. Gregory and Evans in announcing this, the first of their Annual Sales, beg to call the attention of the Trade to their unrivalled Stock of ERICA HYEMALIS, GRACILIS, ADIANTUMS, &c., as advertised above, the whole being in unusually fine condition. The Stock will be offered in extra large lots and an inspection is invited.

Preliminary Notice.

The well known collection of ORCHIDS formed by Oscar Lamarche, Esq., of Liège.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions by Oscar Lamarche, Esq., to SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C., EARLY IN OCTOBER, his entire COLLECTION of ORCHIDS, which enjoys a reputation probably unequalled on the Continent.

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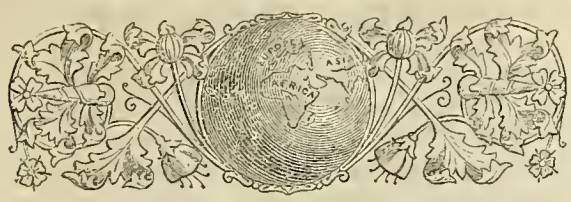

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, SEPTEMBER 13th, 1884.

Gardener's Troubles.—These, alas, are proverbial, though some gardeners, perhaps, and in spite of unlooked for troubles, not unduly merit the appellation bestowed for generations upon farmers, of being confirmed grumblers. But really gardeners have no inconsiderable cause for complaint that in the pursuit of their vocation they have more difficulties, not of their own seeking, to contend with than falls to the lot of most people. There is the present season in illustration, for who could have foreseen such a general disaster to the fruit crop which resulted from the intense cold of April last, or the remarkably dry summer which has followed. Whilst the frost rendered the fruit crop one of the most meagre kind, the drought promoted maggot in the apples to an unusual degree, hence in the autumn the quantity of sound fruit to be found is exasperatingly small. Then the heat propagated wasps enormously, and these pests have been unusually ravenous, and injurious to the fruit. Even the birds, owing also to the drought, have been unusually troublesome, and have committed great depredation. The drought brought in its train many ills, specially injuring the pea crop, and materially affecting many others, whilst rendering watering something more onerous than a labour of love. In many gardens the dry state of the soil has tended to an unusually early fall of the leaf, and thus created work of a very annoying kind, for the leaf fall season will be unduly prolonged. It has been most difficult further, to get a good stock of winter greens established, whilst many a crop that is of the first importance for winter use is small. These are but a few of the troubles which cluster round gardening, and they need not only well instructed, industrious men, but almost trained philosophers to contend with them. Happily there are some compensations, but those who make gardening a means of livelihood know only too well that the vocation is not all "beer and skittles."

Mildew on Vines.—Prior to the year 1847, mildew was unknown on vines in Britain; it first appeared at Margate, and Mr. Tucker an admirable gardener of that place, was one of the first to apply sulphur as a remedy; on that account, the mildew was named by the Rev. M. J. Berkeley, in commemoration of Mr. Tucker's name,—Oidium Tuckeri. The fungus, like the fungus of the potato disease, came to us from America and, in a bad form, at about the same time. In 1853, a second species of Oidium was observed in Britain on Mullein, and proved very destructive to Strawberries in 1854. This second mildew also turned out to be a new species. It was first noticed in Milan by an observer named Balsamo, and Dr. Montagne named the pest Oidium Balsamii in commemoration of this gentleman's name. Since 1854 the latter mildew has spread in this country with great rapidity, and has badly attacked turnips, cabbages, and sainfoin. It is without doubt one of the most offensive, pestilential, and obnoxious fungi hitherto recorded. Its growth is often so profuse that it gives the attacked plants the appearance of being thickly whitewashed. When it attacks cabbages and turnips, no one can walk in the fields without getting their boots and clothes whitened as if they had been in a flour mill. When sainfoin is harvested, the men complain of being half choked by the filthy mildew which is set free in the air. We greatly regret to see that this pest has now attacked gourds and vines at Chiswick. Mr W. G. Smith in a letter published in last week's *Gardener's Chronicle*, describes the appearances presented in two vineries at that place. It is probable that Balsamo originally saw his plant on vines in Milan, as he forwarded examples of the mildew to Europe under the name of Oidium Tuckeri. Every gardener knows only too well what havoc O. Tuckeri often makes with both in-door and out-door vines, and all will hear with regret that a still more obnoxious pest is in the country, and able to invade vines as well as gourds. O. Balsamii seems at present to attack the fruit stems rather than the foliage and the fruit. The fungus causes the stem to swell in a gouty manner, and upon these gouty places the mildew flourishes. Instead of one mildew of the vine, gardener's will probably soon have two to contend with. Sulphuring, which is so effectual in destroying O. Tuckeri should be tried with O. Balsamii.

Colour in the Garden.—Whilst during the summer heat, with its intense garish sunshine, we felt that bright colours in the garden were almost painful to gaze upon, no sooner does the change come from sunshine to cool cloudy skies than we at once find colour no matter how rich, to be most welcome. But, alas, the heavy rains have beaten to pieces the rich red and scarlet masses found hitherto in the beds of Pelargoniums, and the brilliant yellow of the Calceolarias, the deep blues of the Lobelias, and the varied colours of the Petunias, so that but for the softer hues found in the foliage and carpet beds, colour would for the rest of the autumn hardly exist in flower gardens. And yet we have seen, and constantly see, glorious masses of colour in some plants that are perhaps not acknowledged bedders, but are none the less of the very best for the production of gay autumn hues. There is the compact Tropæolum, not the fugitive forms known under the general name of King of Tom Thumb, but the true compactum forms, which bloom superbly right up to the end of October. What, for the production of a superb mass of crimson scarlet, can, after the recent heavy rains, compare with Tropæolum Lustrous, or with T. compactum aureum, for the giving of a mass of yellow? Or, again, there are the African and Dwarf French Marigolds, literally weather proof, the African orange, and golden forms especially so, and giving, even amidst the heavily falling rain, a grand mass of the most welcome colour. Late planted Asters, and especially quilled ones, are blooming superbly; so also are the rich hued Chinese Dianthus, such a kind as the crimson scarlet Brilliant, creating a glorious effect. What again, can compare in the production of a mass of pure white flowers with Anemone Japonica alba all through the autumn? Really we have a lot of grand autumn blooming plants if we did but employ them.

Show Gardens.—We fear that lovers of gardening have not much to be thankful for in the recent opening of certain parks and gardens, usually closed to the public, for political purposes. From a party point of view, no doubt the move was an excellent one, but it was unfortunate that what was meant for mankind should have been given up to party. Still farther it is to be feared, that those who visited these gardens, hardly went in a spirit to admire nature's beauties, or to appreciate the gardener's art; perhaps, in some places, there was not much of either to admire. Very different indeed from these spasmodic openings, is the annual opening to the public of such a place as Heckfield gardens, the which, through the kindness of Viscount Eversley, have been visited by several hundreds of persons during the past week, not prompted by some political or party object, but rather by a genuine love for trees, flowers, and garden beauty, and these delights may be enjoyed to the full at Heckfield. We could wish that very many of the owners of beautiful gardens would follow in Lord Eversley's footsteps in this matter, because the million are not only shut out from any participation in the joys that spring from the survey of beautiful gardens in many localities, but the owners should find in thus admitting freely their numerous though poorer neighbours to their domains, that they too have in their gardens greater pleasure and reward. More than that, we may well expect that the occasional visit to a good garden, will stimulate a taste for gardening in the locality of the place visited. To have seen certain good work or culture, as performed by my Lord's gardener, is to observant people like to the reading of a book, yet both more instructive and stimulating. Apart from these considerations, however, it is more generous, in those having wealth, to permit poorer people to share in the blessings it bestows, than to be selfish.

Exhibition Plants.—Reports often to hand of grand shows of plants in the great towns and cities of the Continent, may well cause us to enquire how it is that so great a decadence of plant exhibitions has of late taken place in the metropolis of this kingdom. So much has the culture of specimen plants fallen off of late, chiefly, we presume, through lack of encouragement given to them, that were an International Horticultural Show to be promoted in London, it is greatly to be feared that no such display of noble plants as was seen in 1866 could now be presented. It may be true that gardening in its widest sense has not suffered because fewer specimen plants are now grown, but still every lover of good plants must regret that the skill of the gardener is now so little directed to the cultivation of fine examples of our best stove and green-house denizens. It is possible that we could make a good display of palms, ferns, and some other easily grown foliage plants, because they are in suitable houses mere weeds; but when we come to the myriads of beautiful flowering plants, of which old growers know so much and too many modern gardeners know so little, it may be safely asserted that our display would be poor indeed. No doubt in some districts flowering plants are fairly well presented, but even then if we were to eliminate such easily grown things as Clerodendrons, Allamandas, Bougainvilleas, and Ericas, what would be left? The reflection is not a pleasant one, and we may hope for a revival of the taste for good old flowering plants well and largely grown, and showing in their production a degree of skill, such as is now too much wanting. It may be that the prevalent fashion of dishing up plant effects by means of groups at exhibitions, has had something to do with the decline of high-class plant culture. In any case, however, the most indifferent plant grower may, with a little taste in arranging, succeed in carrying off the leading honours.

Costermongers Plants.—A very interesting place, indeed, is one of those suburban nurseries devoted to the raising of plants for sale by costermongers. There we see Pansies in several colours, and some of the finest showy blotched forms that can be obtained, propagated by thousands. Daisies of some two or three colours; Pinks, the same, in immense numbers:

Forget-me-nots, Primroses, and Polyanthuses; Sedums in clumps; Columbines, Hollyhocks—in fact, almost any kind of hardy perennial that will increase readily, either by division or from seed, and is thoroughly hardy. In one of these nurseries we were surprised to see growing as a coster's plant a big patch of Mrs. Sinkins, double white pink, and yet but a year or two since it was offered at fancy prices. This grower had worn out a large field with a dozen years of successive flower cultivation, and was now cropping it with vegetables, having transferred the flowers to another spot, in the midst of which a well had been sunk for the purpose of supplying an abundance of water, for without that, and ample labour, the stock could not be obtained strong and plentiful enough, for the enormous winter and spring demand. Single Carnations, locally known as "Jacks," are grown in enormous quantities, perhaps some 20,000 in one locality, and even though really good double kinds are largely raised from seed and grown, yet these fail to find favour appreciably with the hawker's supply, because lacking that broad foliage which characterises any well-selected strain of singles. Fairly good seedling double Carnations, at 2s. 6d. per dozen, can disappoint no one; but singles made up with moss, and labelled with pretentious names, and sold by the hawkers as choice double kinds at 4s. to 5s. per dozen, are rank swindles. This kind of business, however, is found most profitable in remote districts, being pretty well played out near London.

Old-fashioned Orchids.—At Mr. B. S. Williams' Victoria and Paradise Nurseries, Upper Holloway, at the present time, in addition to the many rare things which are always to be seen at this establishment, a number of fine specimens of some of the earliest introduced Orchids are now in bloom, and their beauty puts many of the new comers in the shade. Very lovely are the fine specimens of Cattleya crispa, with its heavy spikes of pure white flowers with violet labellums; C. Harrisoniæ violacea, violet-tinted rose; and a splendid late flowering specimen of Lælia purpurata, with an unusually large mauve lip. In the Odontoglossum house the old O. grande has many well-flowered spikes nearly two feet in height. The lovely blending of creamy-white, yellow, and chestnut-brown, in the immense blooms of this Orchid, is indescribable.

Hollyhocks.—Is the pest of Hollyhock, the fungus with the long, and, to some, unpronounceable name, really dying out at last, or is it only resting? It seems to be a fact that it has been much less active than usual this year, although it has been such a dry season, and specially favourable in this case at least to fungus development. Hollyhocks are not only old-fashioned flowers but favourite ones, and all like them. Curiously enough too, though we have during the past twenty years developed doubles of the most perfect form, and have totally eliminated single kinds from our gardens yet no one has thought it desirable to raise a voice against them. They are pretty much in the category of Roses, Carnations, Balsams, etc., the more double the better, whilst single flowers are abominations. And so it happens that whilst many have lamented the decadence of the Hollyhock, because of the destructive attacks of the fungus, none have prayed that a race of singles may result. If, therefore, nature will permit us again to cultivate the Hollyhock in all its pristine beauty and vigour as of old we shall all rejoice, for it is one of the noblest and most beautiful of garden flowers, and is universally appreciated. It is possible that the long cultivation of specially named kinds, by cuttings and division, and in the same soil, had a weakening effect, and hence some of the collapse of a favourite flower. To remedy that, raising a batch of seedlings annually is the best thing to do, and as good kinds always reproduce their best features, why named kinds are of little moment. Collections of 6, 12, and 18 varieties of Hollyhock seed, may be purchased from good seed houses at moderate charges, and if sown now, and kept in frames through the winter, will render a fine lot of grand blooming plants next summer.

Sweeping.—We are now at a season of the year when the art of sweeping is most fully called into action. Some readers may perhaps smile at the idea of calling sweeping an art, but all good gardeners will acknowledge that it is such if skilfully performed. So, too, is mowing, hoeing,—aye, or even digging,—although arts of the lowest order. Still there is art in doing these things well, with taste, and with effect. We always find the most intelligent and best taught man, even amongst our garden labourers, to display the best taste in the execution of his work, whilst a dolt is a dolt in everything. Now, sweeping needs to be done well and lightly. Any blockhead, for instance, can, in sweeping leaves from off a walk or carriage-road, the surface of which is loose, drive one-half the loose gravel before the broom; but the true artist in sweeping drives leaves and other rubbish only, and seems to leave the gravel intact. Indeed, there is wanting evidence that the spot has been newly swept at all. Again, in dry weather, when sweeping over a road or path surface that is sandy, how common is it to see the marks of the broom running this way and that way, and in all directions but straight a-head. The dirt may be effectually removed, but it is not done neatly, the hand has been too heavy and inapt. A good sweeper would always drive the rubbish straight before him, and be careful to leave behind the impress of the broom as little as possible. No good sweeper will ever load his broom, but will ease its burden as quickly as possible; whilst many will keep on driving the rubbish before it, until a large heap is accumulated. The quickest sweeper is not always the best; whilst the best is the one whose work is done the most neatly, and leaves the least evidence of recent sweeping, except perfect cleanliness.

The Potato Disease: Chiswick Experiments.—On Monday last, September 8th, the experimental plot of potatos as grown in the garden of the Royal Horticultural Society at Chiswick, on the plan advocated by Mr. Jensen of Copenhagen and Mr. Plowright of King's Lynn, for the prevention of disease, was lifted, weighed, and a large number of the tubers carefully cut open and examined. Copious notes were taken, and the lifting, weighing, and note-taking occupied the whole of the day. The gentlemen who superintended the operations were the Rev. George Henslow, Mr. Shirley Hibberd, Dr. M. T. Masters, Mr. Chas. B. Plowright, and Mr. W. G. Smith, aided by Mr. Coleman, one of the assistants in the garden.

Hæmanthus coccineus.—This old favourite is a charming plant when well grown. When looking through the grounds at Kew a few days ago, we came across a specimen in the Heath House, grown in a large deep pan, and with a dozen flower-spikes. The inflorescence of scarlet flowers, with white tips and golden anthers, is enclosed by several large bracts of a brilliant scarlet colour, giving a very pretty effect. The chief drawback to its beauty is that the leaves are not produced till after the flowers have withered. It was introduced from the Cape of Good Hope as long ago as 1620.

GARDENING MISCELLANY.

—o—

On Thursday and Friday next, the Royal Caledonian Horticultural Society will hold its autumn show in the Waverley Market, Edinburgh.

Mr. Robert S. Dunbar has, we hear, ceased to be a member of the Thames Bank Iron Company.

Mr. James Watt, of the firm of Little and Ballantine, Carlisle, has lately received official authority to assume the designation of "Queen's Seedsman"—a distinction, we believe, that has not been conferred on anyone else for a quarter of a century.

Mr. Henry Glasscock, of Bishop Stortford, won the Veitch Memorial Prize for the best twelve Show and six Fancy Dahlias at the late Crystal Palace Show.

At the suggestion of H.R.H. the Prince of Wales, it has been decided that a special exhibition of the produce and manufactures of the Indian Empire and the Colonies will be held at South Kensington, in 1886.

One hundred and, three thousand, six hundred and nineteen bushels of raw onions were imported into this country during the week ending September 6th. During the same period the number of bushels of potatos imported was 14,145.

Messrs. Cassell & Co. announce the early completion of "Familiar Wild Flowers," by Mr. F. E. Hulme, which they have been issuing in monthly parts for some time past.

The gale of Saturday night and Sunday last inflicted much damage in the Kentish Hop-gardens. Hops that were left on the poles, including many of the best descriptions, were much knocked about and discoloured.

On Saturday night also, much glass is reported to have been broken during a hail storm which passed over some of the northern counties.

The fifth annual Cryptogamic meeting of the Essex Field Club, will be held on the 3rd and 4th of October, in Epping Forest. The first day will be devoted to the collection of specimens, and on the second an Exhibition will be held.

Mr. Roberts, of Gunnersbury, won the Railway Company's Cup for the best 12 dishes of fruit, at the late Brighton Show.

The Lambeth Amateur Chrysanthemum Society have issued a schedule of prizes for their annual Exhibition, to be held in the Hawkstone Hall, Westminster Road, S.E., on November 11th and 12th.

Mr. John Chalmers Morton, editor of *The Agricultural Gazette*, has been awarded a Bronze Medal and Honourable Mention for his "Handbook of the Farm," at the Amsterdam Exhibition.

A meeting of the creditors of Messrs. Reeves, Smith & Son, the present proprietors of the Aston Lower Grounds, Birmingham, was held on Monday, when the statement of affairs showed liabilities amounting to £9,505, and assets to £1,151. A composition of 2s. in the pound was agreed to, subject to certain conditions being fulfilled.

Mr. F. Marshall, of Eversley, is reported to have growing in a field, near Reading, a crop of American Horse-tooth Maize, from 10 feet to 12 feet high, and perfectly upright.

A labourer, who has been honest and sober, and has rendered faithful service to a Staffordshire farmer for 37 years, has lately been recommended for the award of a *Certificate* by some judges (also farmers, we presume) of a Staffordshire Agricultural Society. Such an instance of stupendous generosity deserves recording.

We are pleased to hear that Messrs. Vilmorin & Co., of Paris, contemplate the publication of an English edition of their "Kitchen Garden Plants," a work that should meet with a good sale in this country.

At the last meeting of the Syndicate of Belgian Horticulturists, certificates of merit were awarded to M. Aug. Van Geert, for Sarracenia Jollyana; to M. Edward Pynaert, for Begonia manicata aurea; to M. Adolphe d'Haene, for Croton Inimitable; and to M. F. Desbois and Co., for Begonia rubella.

The acreage of land under potato cultivation this year in Great Britain is 562,344 acres, an increase of 18,889 acres over last year.

CYPERUS LAXUS VARIEGATUS.

The merits of this most useful decorative plant were first made known in October, 1880, when it was exhibited by the defunct General Horticultural Company, before the Floral Committee, who awarded it a First-class Certificate. Since then it has been grown in thousands for table and other decorative purposes, and a most useful plant it has proved to be. It has, like many other variegated plants, the reprehensible habit of reverting to the original green type; but it is noteworthy that those which come true in the first instance, remain true to colour, and after all the percentage of "rogues" in a large collection is not of much account. For table work, we have found it the most useful when grown in 68 sized pots, as shown in our illustration, and there is scarcely any limit to the number of combinations in which it may be made to take a prominent part. It is also a very pretty window plant, and thrives well indoors, if kept clean, and is not too much exposed to the sun.

CYPERUS LAXUS VARIEGATUS.

The *Kentish Observer* estimates the average produce of hops in East Kent at 6½ cwt. per acre, Mid-Kent about 6 cwt., and the Weald at between 4 cwt. and 5 cwt. It seems to be the general opinion of the best judges that the produce of the entire plantations of this country will be equivalent to an old duty of between £190,000 and £200,000.

GARDEN PESTS.

It is only those who have to do with gardens that can have any idea of the many pests there are to contend with in the cultivation of plants, for besides numerous crawling insects that hide on the surface or beneath the earth, there are many others that take up their abode on the branches or foliage, from which they extract food in some way, and so damage or weaken the plant they infest. Not only is this so, but there are vegetable parasites as well as insect, one of the worst of which is that infesting the potato, which scourge came all at once some forty years ago, and I well remember the consternation it caused, when the tops were stricken and the tubers snatched out of the ground with view to saving them; but for all that, those affected went rotten, as they have continued to do ever since. Whether the murrain that spread broadcast over the country, at the time referred to, will ever leave us remains to be seen; but certain it is that, last season and this, it has been less prevalent, and we have had fine crops of the "noble tuber," which for so long past has been such a stay for the people. The malady from which potato's suffer is a fungus, which scientific men tell us enters into the circulation of the plant and so reaches the tuber, and that the spores may also be carried through the soil and penetrate the skins in that way, and if this is so, there can be no doubt but that dry lime scattered among the seed would do much good by destroying or arresting the vitality of the germs that is on them or in them. Any how, the lime can do no harm, and is worth trying, as it is the duty of all to do what they can in stamping out a disease that robs us of so much food, and causes such distress to poor people. Instead of doing this, however, it is much to be feared that many are careless in the matter, as it has again and again been pointed out that the tops or haulm ought to be burned or buried immediately after digging, and yet we continually see them lying about on the ground, where they are left to decay and disappear of themselves. Instead of this, how easy it would be, when green and fresh, to collect them in a heap, or heaps, made large enough to ferment and get hot, and to cover them with rubbish or soil, which by keeping the heat in would help to destroy any of the fungus spores lodging or living on leaves or stems, and so lessen the numbers and chances of their spreading about. In a more dry or advanced state of the haulm fire would do the work, as the tops might be burned and the ashes spread to be ploughed or dug in for the next crop to be planted.

Besides the potato fungus, there are other mildews to contend with, one of the most troublesome of which is that common to the Rose, which this year has been very prevalent, for look where one will there is hardly a clean plant to be seen. For the prevention or cure of this there are many remedies, but in all, sulphur must take some form or other, as it does in Gishurst, in which it is an active agent, as also in Fowler's Insecticide and Nicotine Soap. Ewing's Blight Composition is pentasulphide of calcium, a preparation of sulphur and lime, which answers well to apply on foliage, as it may be poured in and mixed readily with water, and syringed on quickly, and either left or washed off again. Good as this Blight Composition is for Roses and other outdoor plants, it does not answer for Grapes, as just recently I have seen a whole house quite spoiled by it, as the gardener had used it in the ordinary way and left it, with the result that the bunches and berries were covered with great patches of dirty white deposit, which made them look so nasty as to be quite unfit for the table. If dry sulphur had been applied, as might have been done through a distributor, it could have been washed off again without much detriment to the blooms; but the better way of stopping or killing mildew in a vinery is to paint the pipes or flues with sulphur, and then light the fires, which, by affording heat to the water or bricks, will cause fumes to be given off, and these, passing through the house in the air, will destroy any fungoid germs or keep them away. As prevention is preferable to cure, it is always advisable to be watchful, with any damp, late houses, and to have a little artificial warmth at the start, and towards the finish, and to see to the ventilation, as mildew is brought about or follows through a stagnant atmosphere, which favours the germs. If sulphur is put on the pipes, it should be borne in mind that it is not safe to do so till the berries are a fair size, as when young and small, their cuticles are tender, and sulphur fumes at that stage always causes rust, which disfigures them and stops them from swelling.

Peaches, especially the Royal George, as well as Vines, are subject to mildew, and for them the remedy is just the same, but, besides mildew, the foliage is sometimes affected with another fungus of a more serious and dangerous nature. This shows itself in pustules, like snuff, under the leaves, which it causes to fall off prematurely, and not only that, but it prevents a proper and full development of the buds, which, instead of starting and affording flowers in the spring, tumble out and come down in showers when the first swelling takes place. For years I was troubled with trees in this state, when, as a desperate resolve, I made small charcoal fires in some pots, and, after shutting up the house the Peaches and Nectarines were in, threw on each a small handful of sulphur and let it burn out, since which time the fungus has left me, and the trees are now in the most luxuriant health. I need hardly say that the fumigation was carried out in winter when the trees were naked and dormant and not only did

the sulphur destroy all fungoid germs, but it made the bark of the trees look as if polished, as it was cleared of all parasites, which were killed and came off or shrank up during winter.

Besides the peach fungus referred to, there is another, Puccinia malvacearum, which is peculiar to the Mallows and has nearly annihilated Hollyhocks, as it causes death to the foliage. We have tried year after year to combat this disease by using Gishurst, and sulphur in its many forms, but though the plants, at times, seemed benefited, the effect was not lasting, as the fungus appeared again on every new leaf that was formed. For a season or two, we were without plants, thinking to get rid of it in that way, but all to no purpose, for, though we started again with seedlings, they showed it just as bad, and died out as before.—*Alpha.*

(To be continued.)

GARDENERS IN AMERICA.

Questions are frequently asked by gardeners of those who are supposed to know, editors of horticultural newspapers among the number, respecting the position of gardening and the prospects of gardeners in the United States, and we are afraid that the answers given are not always of a very definite character, erring in fact, as a rule, on the side of caution. The truth of the matter is, there are few men, connected with the horticultural press especially, who are capable of giving any useful information on the subject, because of necessity their actual knowledge of these matters is limited, and no right minded man, without full information cares to advise another in such a momentous matter to a working man as a journey to the States or any other far off country. Under these circumstances we need make no apology for introducing into these pages the following communication on the subject, which appeared in a late number of the American *Gardeners' Monthly.* The observations made by the writer, "Semper B. Fairsquare," afford us one view of the situation, and it is such a picture as should make good men think twice, before going to America at all events :—

"When we review the different countries in which modern gardening is practised, comparing the chances and the social position of gardeners with what they have to expect here in the land of the free, the result is not altogether encouraging nor flattering. A man who indulged for a number of years, perhaps the best of his life, in the belief that gardening is the inseparable companion of civilisation and is sure to become everywhere, after the first necessities of society have been supplied, an honourable and remunerative calling, worthy of an intelligent man's devotion, may finally find out that this belief was somewhat delusive. Examining the majority of the class he is supposed to belong to, their social rank and average compensation, he will find that he has got amongst the order of "minorum gentium," and he must be a philosopher if he can take himself by the nose, and say "serves you right"; otherwise he must feel bitterly disappointed, nay miserable. Why is it, that so great a number, perhaps the majority, of 'hired' gardeners are so dissatisfied with their lot? Should the blame indeed justly be laid all to them? I think not. There are undoubtedly many who are gardeners only in name and really know, as Downing said, 'little beyond the mysteries of cultivating that excellent plant, the Solanum tuberosum.'

"But there are also employers, who are gentlemen only in name, whose gardeners in every respect, apart from money, are their equals, if not their superiors, taking their moral and intellectual qualities together. It is just this class of gardeners which has less chance here than the former. Why this is so may be found out, but it is yet a public secret. No one dares to divulge it openly and publicly; it is whispered over the fence into the ear of the discreet neighbour, who, with a significant twinkling of the eye, says that he always thought so.

"We have meters for everything, chronometers, lactometers, dynamometers, alcoholometers;—the latter invented by Tralles, a clever Frenchman, who after inventing a meter for the spirit of distillers ought to have invented a little machine, which gardeners might carry in their pocket, when going after a situation, to ascertain the true spirit of gentlemen or those who wish to pass themselves for such. A cheap little apparatus of that description might be found very useful by a good many others than gardeners who have to work for a living. For without it, whether or not the article be 'proof,' can only be found out after some experience has been gained by tasting.

"As little as a man of bone and muscle, willing to work, is therefore able to perform the higher duties of a gardener, so little is a man of property and money willing to pay for what he gets, therefore able to perform the higher duties of a gentleman. It is not he a gentleman who knows how to exact of others everything he deems due to himself, but he who never forgets what he owes to others. And this is not always money for 'value received,' but it is paying respect where respect has not yet been forfeited. By what right, for instance, do employers call the gardener by his Christian name, like a boy? It is this, an offensive familiarity, which is only permitted to relatives and special friends after a long and intimate intercourse. That planters adopted that custom with their slaves may, like many other things appertaining to slavery, have been proper and natural, but even in the land of liberty it is making a little too free.

"One who wishes to secure a respectable and intelligent man's faithful services exclusively to himself must be both able and ready to situate and treat such a man in a manner calculated to win his attachment. The chilling question 'Don't I pay you?' often addressed to gardeners, disapproving of a foolish notion to be carried out, may be excusable with a menial hired for an occasion, but it is certainly maladressed when offered to a man who is expected to manage faithfully a considerable portion of the property, and not only to administer to, but to anticipate, his employer's comforts and pleasures, which are of a more refined and superior character than those derived from a cook or coachman,—two important dignitaries on every place, whom the gardener must avoid to offend, by not cultivating their acquaintance.

"I have also read and heard a great deal, especially at meetings of horticultural societies and in periodicals, about what men should all do to make themselves desirable gardeners, but of what men should do to make themselves desirable employers, I never saw anything in print, nor ever heard it intimated in any remarks upon the 'State and Prospects of Horticulture;' 'Hints for Young Gardeners,' 'On the Improvement of Gardeners,' or 'Scarcity of Good Gardeners.' All of which have appeared in the Magazines.

"Having frequently taken especial pains to ascertain the causes of gardeners leaving places, where I supposed a good man had a fair chance, judging from the known wealth and the social position of the proprietor, I found upon close investigation, in most cases, that the original, the fundamental fault, was the employers'. Some of these had even got themselves and their places into such bad odour, that no gardener would advise another to go there, and so the place went from bad to worse. Visiting occasionally florist and nursery establishments, when looking over a space and stock, the smallness of which indicated small income, close economy, and slow progress, I find the fable of the wolf and the dog illustrated; for none of these men were ever found disposed to swap horse with any gentleman's gardener in the country. And is it not a significant fact, too, that no Americans present themselves as candidates for such situations which in many cases are only sought for by foreigners of inferior quality, or such as have, through adverse circumstances, no other choice left to them? There seems, indeed, to be something like degradation connected with the position of a 'hired' gardener, for when there is a farmer on the place his position is invariably above that of the gardener, who is generally looked upon by the domestic servants as one of themselves.

"Why gardeners should not be competent to direct here in America, as they do in other countries, both the farming and the gardening on a place, consisting of but a few hundred acres at best, I never could understand; and it must be clear to every intelligent mind that the two-headed system is no more an economical than it is a necessary one; because the places are mostly too small to actually require and to cover the expense of an extra farming force; and when the gardener is not competent to manage it economically he is certainly not a head gardener.

"How many gardeners get as much as a hundred dollars a month—the average earning of a good mechanic? As far as I know, very few. Do these gentlemen, entertaining such a high opinion of their own smartness, dignity, and knowledge of human nature, really imagine that a man, capable of performing and carrying through the various and multitudinous details of operations in any establishment, where fruit, flowers, and vegetables are required, both in and out of season, to say nothing of other affairs which he often has to take charge of, would come; and if he does, stay for the monthly pittance held out as an inducement to forsake the chances, commodities, and general agreeableness of a town and a neighbourhood, for a life of drudgery in the country, which has not even the advantage of being cheaper? And, when the man is married, as he is sometimes especially desired to be, what chances has he for his children, if he is permitted to have any? We know it to be a fact that, employers want married men, but no 'encumbrance."

JUDGING AT EXHIBITIONS.

Much has been said and written at various times on this subject, and especially on the methods which judges should adopt, in order to assist them in arriving at a right and proper decision. As far as my knowledge goes, I am not aware of any rule having been propounded, which has become general in application, or universally practised. Judges, therefore, still continue to exercise their own discretion, and adopt their own methods of coming to a conclusion. Some censors arrive at a decision by a broad view of the condition and general appearance of the subjects under review; while others, in the first instance, discard from account all inferior exhibits, and then bring the rest into competition by means of comparison; and some, again, take into consideration the merits of every dish or exhibit, and employ points to determine the issue, giving a maximum number to the best productions, and less to those of an inferior description. To my mind, this plan is the most simple and best calculated to lead to a fair and just decision.

For many years I have been an enthusiastic cultivator and exhibitor of both fruits and vegetables, and during this period it has many times fallen to my lot to be called upon to adjudicate upon these particular subjects. My experience has been the means of convincing me that when officiating in this important office no plan surpasses that of making a computation of merit by points. It seems to me so simple in calculation, and certainly it is a safe course to take, to arrive at a just and equitable decision, besides producing a state of satisfaction in oneself. As regards the number of points to be given, I believe in the motto, "the fewer the better," as being less liable to bring about complication in reckoning. I take three as a maximum, and two and one respectively: and give three to a first-rate exhibit, and less to others of inferior merit. I also apply the same rule to the general appearance, to quality, and to any other characteristic which an exhibit may possess, if worthy of consideration.

In conjunction with some of our ablest judges of fruit and vegetables at the metropolitan shows, I have put this simple plan into practice, and have always found it an easy matter to arrive at a decision that is at once fair and equitable. This circumstance it is which has induced me to commend this plan, more especially to the notice and consideration of those who in the future will be called upon to undertake the responsible duties of

censors at our shows, and for whom these remarks are especially intended.—*G. T. Miles, Wycombe Abbey.*

EXHIBITION POTATOS.

The near approach of the International Potato Show at the Crystal Palace, which promises this year to eclipse all former efforts of its promoters, leads one inevitably to the conclusion that in spite of all the preachings and denunciations that have been from time to time flung against the practice of exhibiting Potatos for prizes, the fashion still holds throughout the country almost universal sway; and it is perhaps true that jibes and flouts have rather helped to popularise the tuber as an exhibitors' subject than to promote a contrary result. The fact is, that having once tasted the exciting sweets of show competitions, Britons are not easily induced to forego them; so far from that being the case, it is now the rule to offer every possible encouragement to exhibiting, and we do not find that the Potato croakers are very much distressed when roses, fruits, ordinary kinds of vegetables, and plants generally are shown. It is the Potato chiefly, almost only, in fact, that comes in for animadversion, and then almost only from those who are not growers themselves. Perhaps, if readers of these pessimist growls were to recall the old fable of the fox and the grapes, they would find a product that was not far wide of the mark. Why, indeed, may not Potatos be as fittingly exhibited as anything else, for they are varied in form and in colour, and many are hardly less than beautiful. Their cultivation is always full of interest, nearly always full of profit, and there is this peculiar merit attached to the production of show samples, that when of no farther service on the exhibition table they may be eaten. That is more than can be said of roses and many other exhibits. The common carping against show Potatos, as of very inferior quality, is made to veil a somewhat prejudiced view of Potato exhibiting in the abstract. The point is a valueless one, and has little or no force. Really there is little hope that we shall ever produce kinds that will satisfy the critics. When it is with them a dogma of faith that only rough-skinned and anything but handsome kinds can be good eaters, those who are of that faith will have no improvements but what are of their making. Had Potatos waited for their help, we might just now have hardly a decent kind for our use.

After all it is, as Mr. Toots would remark, not of the slightest consequence what these critics may say. The Potato has become one of the most popular of exhibition subjects, and its popularity is fast increasing, indeed, there is perchance hardly an exhibition of any representative character in the kingdom where the popular esculent may not be seen in great force upon its tables. At all cottager's shows, the Potato is the premier product, the one to which most interest attaches, and at such shows, assuming always that the judges know their business, form, evenness, and beauty, always win. Why, indeed, should not the handsomest of Potatos win, as with other things, for the old notion that mere size is the chief element in Potato merits, is nearly a thing of the past. It is not necessary to urge here the marvellous popularity to which the Potato has attained, whether as an article of trade and commerce, or of diet. When the British people give up their beef and mutton, and that is a far distant time, potatos will still be as widely consumed as now, perhaps more so. At all events we may rest assured that as long as good Potatos are grown so long will the public consume them. Now last winter saw not a few new kinds of Potatos put into commerce for the first time, and of these many growers know little or nothing. There are indeed so many that we cannot describe all, as even our own knowledge of them is limited.

Below is given a selection of 48 sorts, in sections of one dozen of each. That is a larger number than, perhaps, anyone would care to grow; but any wishing to show in a class for 24 sorts can hardly grow less than from 36 to 40, so as to ensure enough of variety when the moment of trial comes. The best, or assumed best, kinds in each section are placed on the top of the list, and smaller selections may be made by simply taking them in the order placed. We have done our best to eliminate from the list all kinds of inferior table quality, and have only taken in any such, where otherwise it would not be possible to complete the list.

White Kidneys take first place, and are always the most numerous class. Of these, Cosmopolitan, now becoming widely known as a second-early, heavy cropping kind, producing large, handsome samples of excellent quality. Woodstock Kidney, now so well known as to need no description, but remarkably handsome, and of first-rate quality. Recorder, is a fine flattish, true kidney-shaped kind, distinct and handsome, second-early, a great cropper, and of capital quality. Beauty of Eydon, a roundish kidney, handsome in form, fine in quality, a great cropper, and altogether good. Chancellor, a robust, late kind, heavy cropper, tubers not unlike those of King of Potatos, one of its parents, but are whiter and far superior in quality; a capital main crop variety. Edgcote Seedling, a Lapstone tuber with a dark-leaved top, quite distinct, produces flattish and very handsome samples; it is of capital quality. Snowdrop gives longish flat tubers, smooth and handsome, they nearly resemble those of Snowflake; a great cropper and of excellent quality. Welford Park, is a very handsome, flattish, long kidney, smooth, and very prepossessing; this is a capital cropper, and of good quality. Sanday's Seedling, hails as a recently new kind, but comes very near to Lapstone, so much so that we hesitate to put both into the list. It deserves all that can be said in favour of the Lapstone. Midsummer Kidney is one of the most recent novelties, and will prove a great acquisition for first early showing, as the kind is as early as the Ash-leaf, and is much larger and handsomer. It is of capital quality. The tubers are long and roundish, and after a few days' exposure will purple like those of the Lapstone. Snowflake is the only American kind put into this section, but it is one of the best, and always makes a good dish. Lastly comes the popular Magnum Bonum, not as a rule handsome, but very often none the less giving a capital sample for a back row dish.

White Rounds are hardly so numerous a section when the inferior kinds are excluded. It is, however, a fast increasing section, and in a year or two we shall be able to name first-class sorts only. Here the first place must be given to the old Schoolmaster, one of our heaviest cropping and handsomest of Potatos. First and Best is an improved Porter's Excelsior, though the tubers exactly resemble those of that kind in appearance. It gives some of the handsomest samples we have. Prime Minister is new, and a very robust grower and heavy cropper. The tubers are large and flattish, and for the size very handsome. The quality is first-rate. White Emperor, is an old kind that is fairly early, and gives singularly beautiful smooth tubers that are rarely too large; its quality is excellent. Bedfont Prolific, has smooth, handsome, Regent-shaped tubers, very white and good in quality. The round form of this sort makes it distinct and valuable. Fifty-fold, produces long flattish tubers in great abundance, and generally very handsome; the quality is capital. The same may be said of Early Regent, as the tubers of this kind are also flattish, rather than round. Rather too many of our so-called round kinds are of that intermediate shape. Clyffe Hall produces very smooth, handsome, round tubers, that have just a touch of carmine in the eyes, but not enough to take the kind out of this section; it is of capital quality, so also is Lord Mayor, another new sort; the tubers large, flattish, and produced early, and generally handsome. Early Border produces handsome, longish tubers, so also does Sunrise, both early and very prolific. Premier is the last selection, and, though of home designation, seems to be of the Climax breed; it is early, prolific, and generally good.

Coloured Kidneys leave room yet for considerable improvement, but several exceedingly good new kinds have lately been added, best amongst which come Edgcote Purple, which bring remarkably smooth handsome tubers, of an even rich purple colour, and capital quality. Cardinal, also new, has tubers of a deep red hue, and are large, flattish, and handsome. It is a fairly early kind, and very prolific; quality, first-rate. Lifeguard is very distinct — the tubers are long, flattish, slightly curved, and of a pale red hue, with deep red blotches about the larger ends of the tubers. It is very prolific and good for table. Prizetaker is of a dullish red hue, but is of handsome form and first-class quality. American Purple has hitherto been the best purple-hued kidney we have had. It has a tendency to rust in some soils, but otherwise it is excellent, and a first-rate cropper. Wiltshire Giant, also new, produces large, handsome even-shaped tubers of a deep red colour. It is a great cropper, and quality excellent. Beauty of Hebron is at all points one of the best of the Americans, and its handsome form and delicate pink skin renders it a favourite. Progress resembles Prizetaker, though having a distinct top; its quality is capital. Mr. Bresee still remains the finest and handsomest-coloured kidney we have, but its quality might be better; it cannot be well dispensed with just yet. Defiance has purplish mottled tubers that are often very handsome; and Early Rose and Trophy are both well known. The latter brings fine red tubers, but the quality is open to grave objection, and therefore it is little grown.

Coloured Rounds, also a fast-improving class, give us not a few kinds of great excellence and beauty. First may well come that popular kind, Reading Russet, with its rich red skin and smooth, pebble-shaped form. Its quality is of the best, and it is a large cropper. Certainly next must come that also popular kind, the Vicar of Laleham, one of the best known Potatos of the day. That kind, however, will find in its seedling, The Dean, a formidable competitor for popular favour, as not only does it excel the Vicar in quality, but also in colour, which is of a violet hue. Radstock Beauty, too, with its smooth skin, handsome form, and carmine blotches, is one of the best; and good, also, is Grampian, a fine red blotched kind of capital quality. The American Matchless, or Holborn Favourite, with its pale-coloured skin, is of excellent quality and a good cropper; it is very handsome. Scotch Blue is an old and generally handsome kind. Lady Truscott has a tan-coloured skin, and seems more at home in this section than amongst the whites. It is handsome, and of first-rate quality. Adirondack and Queen of the Valley rank amongst the handsomest of American pale-red rounds. Both are great croppers. Purple King is of pale purple hue, very prolific, and good quality, flattish round, and fairly handsome; and Harlequin, a purple flaked sport from the Rector of Woodstock, deserves recognition for its distinctness in the list.

The Studley Carrot.—This is a very fine selection from the Long Red Surrey—a long, handsome, deep orange red carrot, that comes very fine indeed in a good light sandy soil. It originated in the village of Studley, in Wiltshire, which lies between Calne and Chippenham; and if any one passes through the village, they will see large patches of carrots in nearly every cottage garden, where they are grown for seed. Just as some parts of Bedfordshire are famous for growing onions—at Biggleswade and Sandy, for instance—so carrots are grown at Studley and round about. If it was ever quite distinct from the Long Red Surrey Carrot, it has ceased to be so; but in all probability an extra good stock of the Surrey would be sent by the wholesale seedsmen for the Studley when it is asked for. The Studley or Surrey Carrot should always be sown in a deep soil, into which the long roots can run deeply.

Ixora macrothyrsa.—This species, which is perhaps unsurpassed in the genus for the size of the panicle, is now flowering finely in the Victoria House at Kew. The leaves are oblong in shape, dull green, and 10 to 12 inches long. The panicle is 8 to 10 inches in diameter, depressed-globose, and the flowers, which are very numerous, of a most intense fiery scarlet. It is a native of Sumatra, and is sometimes known as I. Duffii, though the above is the original, and consequently correct, name. It will doubtless prove a valuable acquisition, especially for large stoves.

THE AMATEURS' GARDEN.

Ivy-Leaved Pelargoniums.—Few plants have been so much improved of late years as the Ivy-leaved Pelargonium, and especially the double-flowered varieties. Yet they do not seem to be so generally grown by amateurs as one might expect. Although double flowers are not quite the fashion just now, I think a few of the best sorts deserve a place in every garden where there is a greenhouse. The following are the best double varieties that I am acquainted with. Gloire de Orleans, Madame Crousse, Comtesse Horace de Choiseul, Comte H. de Choiseul, Madlle. Jeannie Wonters, Sarah Bernhardt, Albert Crousse, Mont Blanc, A. F. Barron, Anna Pfitzer, Faustin Helie, and Lucie Lemoine. The present is a good time to look to the stock, and to propagate any of the sorts that it is desirable to increase. Cuttings strike very readily in a cold-frame, or any place where they can be kept dry. I like to select the cuttings from short-jointed growths as far as possible, as these make the best plants. They may be kept through the winter in the cutting-pots, but should be placed in a light, airy position in a cold house, and only be watered very sparingly. Old plants keep best if they are partially dried off in the autumn, any straggling shoots may be trimmed off before storing them for the winter, but they should not be cut back too close.

I like to start them as early in the year as convenience will allow. Old plants will require shaking out and re-potting, and the young ones potting off singly. They may then be placed in a warm growing temperature where they will require very little water at the root until they are well started into growth, but a slight syringing occasionally will help them, and this may be done more frequently as the weather gets brighter; as soon as they are sufficiently established they may be potted on into their flowering pots. To flower them well it is essential that they should be grown fully exposed to the sun, and they require regular attention in keeping them tied out to avoid the young shoots getting drawn and weakly.

As the plants begin to show flower, they may be watered liberally with manure-water, say twice a week; and after this stage the plants should never be allowed to get quite dry. They are subject to green-fly and red-spider, and the former must be kept down by fumigation, and the latter by the constant use of the syringe.—*H.*

Parochetus communis (Shamrock Pea).—For planting on rockeries or in nooks in suburban gardens, few plants are more lovely than this is in summer, when its pretty clover-like foliage is partly hidden by a profusion of light blue pea-shaped flowers. Planted close to a wall, it becomes a climber, and it is, therefore, a very desirable plant for covering the openings between the taller wall climbers. As a basket plant for hanging in town areas, in the manner in which we now so often see plants arranged, it is very pretty, and in the same capacity it may be used in unheated or cool conservatories. There are so few good free-growing blue flowers of this habit, that P. communis should be more generally grown.—*J.*

Adiantum Capillus-Veneris (British Maidenhair).—This is one of the best and most beautiful of Ferns for window gardening, and is, moreover, one of the easiest to manage provided it is not disturbed when once it is well established. It likes the dry air of the dwelling house, and as a window plant it gives large handsome fronds equal in beauty to any of the smaller exotic Maiden-hairs. The chief points in its culture are never to let it get dry, and to avoid re-potting it even for three or four years, unless it has actually outgrown the pot in which it is.—*J.*

Standard Gooseberry Trees.—Dr. Robertson, of Errol, in the Carse of Gowrie, in a paper on "Fruit Culture" read at a meeting of the Perthshire Society of Natural Science, said:—"For those who have small gardens like myself, let me tell you how to economise space. If you grow your bushes in the usual way, in a clump from four to five feet apart, and the same distance between the rows, you can grow a standard gooseberry or currant between every bush in your rows, and in that way you could plant them double thick, as a gardener would say, and still have sufficient room for sun and air. Only a little more manure is required, there being more roots to feed. Now, I am sorry to say, that such a thing as a standard gooseberry is not to be had from the nursery. You can't get them to buy, but you can raise them for yourselves, and grow them to much advantage, as they bear the finest fruit. In the spring select from the kinds you wish to raise a piece of last year's growth—the white wood—the longest you can get; pick out all the buds, except two or three at the top; put it five or six inches in the ground, and let it grow straight up, and when it is as tall as you wish—say from four to five feet—take off all the branches the following spring except three or four, which allow to grow into a head. Another plan is by grafting one gooseberry stock upon another, till you get the required height. I have them growing in my own garden, raised in both ways, and they do remarkably well. You can have red and white currants in the same way, and they are really beautiful objects in the garden, not to speak of their usefulness. Even in a lawn or grass border they are as ornamental as the finest standard roses; and, when the fruit is hanging in red and white clusters under the green leaves, you would call them ringlets formed by nature, fit for an empress or a queen."

The Turnip Rooted Egyptian Beet.—Let me recommend amateurs to grow this very useful Beet. It is handsome, of good colour, and very early, which is one of its best recommendations. It can be made very useful for collections of vegetables early in the season, as it turns in earlier than any one of the long varieties. I am not at all certain as to the origin of the Turnip Rooted Beet, but as the common form is said to be found in a wild state along the Egyptian and Mediterranean coasts, the Turnip rooted type may be but a shoot from the ordinary red beet, and it originated in all probability on the Continent. We were at a country show a few days ago, where vegetables are largely shown by cottagers, and we found there very fine examples of this Beet from Cottage Gardens. A little prejudice, no doubt, exists against its use, but that will be conquered bye and bye.—*R.*

BRITISH FERNS.

Ferns constitute perhaps the most beautiful portion of the vegetation of our globe. The eye never seems to weary in surveying their exquisite forms and colours, both of which are extremely variable. Few groups of plants are more widely cultivated,—and deservedly so, for the conditions under which many of them thrive are of the simplest kind; so simple, indeed, that they come within reach of everyone. A considerable number of species are so hardy that little is required beyond a suitable situation and a sufficient supply of water, both of which may readily be provided for in the construction of a hardy Fernery.

Our Native Ferns, with their varieties, invariably constitute the bulk of the outdoor Fernery, and although greater variety is attained by the addition of a number of hardy exotic species; still it is possible to arrange a very effective group with British species alone, some of which—as the Lady-fern and Hart's-tongue—have numerous and very beautiful varieties.

A complete collection of British Ferns, however, is very difficult of attainment, and for several reasons. Some of the species are very rare, and in consequence difficult to obtain. Others are very impatient of removal, and difficult to establish, even when the greatest care is taken in moving them; as Botrychium Lunaria, Ophioglossum vulgatum, Ceterach officinarum, Asplenium septentrionale, A. viride, A. Ruta-muraria and one or two others. A few others, although British, are only found in very sheltered situations in the warmer parts of our coasts, and require protection when removed to other localities; as Adiantum Capillus-veneris, Asplenium marinum, Trichomanes radicans, Hymenophyllum tunbridgense, H. Wilsoni and one or two others in some localities. But many of these difficulties may be surmounted with a little effort, for which the pleasure of seeing the species establish themselves is ample reward.

The number of British species is variously estimated from thirty-seven to fifty by various authors, according to their ideas of what constitutes a species. Babington in the seventh edition of his manual of "British Botany" enumerates forty-six, two of which can only claim a place in our Flora on the ground that they occur in the Channel Islands. In the following enumeration a brief reference to the habitat is given, with such other notes as may seem of importance under each species. The classification is from Babington's *Manual*, with some of the better known synonyms given in brackets.

Cryptogramme crispa. Rock Brakes, or Parsley Fern. *(Allosorus crispus).*—An elegant species, occurring amongst loose stones on mountains, in Scotland, northern and western England, and Ireland. It thrives well in moist, shady situations, with a liberal addition of broken sandstone amongst the soil, as it is very impatient of stagnant water about its roots.

Polypodium vulgare. Common Polypody.—Abundant on shady banks, walls, and old trees, in many localities throughout the three kingdoms. Several beautiful varieties of this hardy, evergreen species are known, all of which thrive in most situations on the hardy fernery.

P. Phegopteris. Beech Fern.—In moist situations, in hilly districts, in northern and western England, Scotland, and Ireland. A very beautiful deciduous species, thriving in moist crevices in the open rock-work.

P. Dryopteris. Oak Fern.—An elegant deciduous species, occurring in shady, mountainous places in northern, central, and western England, Scotland, and Ireland. It thrives almost anywhere on the open rock-work, a loose soil best suiting its slender creeping rhizomes.

P. Robertianum. Limestone Polypody. *(P. calcareum).*—A slightly stronger species than the last, of which Bentham classes it as a variety, though its appearance and habitat are very distinct. It is found in limestone districts in several parts of England, and is recorded from one locality in Scotland. It prefers a more exposed situation than the Oak Fern, and to grow it well a considerable quantity of roughly broken limestone should be added to the soil.

P. alpestre. Alpine Polypody.—A very pretty species, found in high mountain valleys in Scotland, and much resembling small forms of the Lady Fern A moist, well-drained, and shady situation, with plenty of air, is best adapted for the growth of this plant.

P. flexile. Slender Alpine Polypody.—Perhaps with Bentham we may better consider this as a slender variety of the last, differing chiefly in its less branched frond. It is found in Glen Prosen, Forfarshire, and requires a very shady, airy situation to develop its beauties.

Woodsia ilvensis. Oblong Woodsia.—A pretty species, found in the mountains of Scotland, northern England, and North Wales. To cultivate this species well, a northern aspect protected from sunshine should be chosen; good drainage is most essential, and a plentiful supply of water during the growing season. The soil should be good fibrous peat with the addition of a little loam, silver sand, and broken sandstone.

Woodsia hyperborea. Alpine Woodsia. *(W. alpina).*—A smaller species than the last and more difficult to cultivate, though it requires similar treatment. It is found on exposed alpine rocks on Ben Lawers, Perthshire, and Clogwyn y Garnedd, Snowdon.

Lastrea Thelypteris. Marsh Fern.—This species occurs in marshy and boggy places throughout the three kingdoms, though usually very local. It is a distinct and beautiful deciduous species and should find a place in every Fernery, as it grows freely in any moist situation.

L. Oreopteris. Sweet Mountain Fern. *(L. montana).*—A beautiful and distinct species, somewhat

resembling *L. Filix-mas* in habit, occurring in mountain, heathy districts, and moist, open woods, generally distributed over Britain, but more especially in Scotland, northern and western England, and in Ireland. There are one or two beautiful varieties, which, like the species, will succeed almost anywhere.

L. Filix-mas. Male Fern.—Common throughout the three kingdoms in woods, moist, shady hedge-banks, and similar situations. The numerous and beautiful varieties of this widely-spread species occupy a considerable space in most hardy Ferneries.

L. remota. Remote Buckler Fern.—A handsome deciduous species, only found in this country in marshy places at Windermere, Westmoreland. Bentham does not recognise it as a species, though for horticultural purposes it is sufficiently distinct.

L. rigida. Rigid Buckler Fern.—A rare and beautiful species, found in rocky situations in lime-stone districts. In this country it chiefly occurs in northern England, at Ingleborough, Arnside Knot, and near Settle. A very desirable species for the hardy Fernery.

L. cristata. Crested Buckler Fern.—A very local species, found in England in boggy situations in Norfolk, Suffolk, Nottinghamshire, and Cheshire, and in North Wales. A desirable species for the hardy Fernery, as is also the variety *uliginosa*.

L. spinulosa. Narrow Prickly-toothed Buckler Fern.—A common species throughout the three kingdoms, occurring in marshy places and wet woods. A moist, shady situation suits this species, as the tall fronds are liable to be broken by the wind.

L. dilatata. Broad Prickly-toothed Buckler Fern.—A tall and handsome species, widely diffused throughout the three kingdoms, occurring in moist woods and shady banks. Bentham unites it with the last as a variable species, though it is very easily distinguished from it. The tall, curved, dark green fronds are very effective, and there are several beautiful varieties, all very easily cultivated.

L. æmula. Hay-scented Buckler Fern. (*L. recurva, L. Fœnisecii*).—A beautiful species, found in rocky, shady places in several localities in England, and one or two in Scotland, and very common in Ireland. A very neat and compact species, fond of shade, good drainage, and abundant watering, and very easy of cultivation. Bentham does not regard it as distinct. Dried specimens for some time emit a grateful odour.

Polystichum Lonchitis. Holly Fern.—A handsome evergreen species, found in the clefts of rocks in the mountainous districts of Scotland, northern England, North Wales, and Ireland. It is very impatient of removal, and difficult to establish unless great care is taken not to damage the roots. If planted between flakes of sandstone, in a well-drained northern aspect, it will generally grow well.

P. aculeatum. Common Prickly Shield Fern.—A noble evergreen species, found in hedge-banks and shady woods throughout the three kingdoms. It will succeed anywhere on the hardy Fernery. There are one or two distinct and beautiful varieties of this species.

P. angulare. Soft Prickly Shield Fern.—Easily distinguished from the last, though some consider it as only a variety. The range of the species is very similar to that of the preceding one. There are about twenty varieties, some of them quite diminutive when compared with the species, and all very desirable for the hardy Fernery.

Cystopteris fragilis. Brittle Bladder Fern.—An elegant deciduous species, widely diffused through the three kingdoms, especially in the hilly districts. It will succeed almost anywhere in stony soil on the Fernery. The variety *Dickeana* is a most elegant variety, and occurs in a damp cave by the sea near Aberdeen. There are also one or two other pretty varieties.—*X.*

(To be continued.)

TOMATOS AT CHISWICK.

There has been no formal trial of Tomatos at Chiswick this year, but Mr. Barron has had several varieties under cultivation that came to the front last year, with the result that previous experience of their good qualities respectively, has been amply confirmed. The one variety that has taken our fancy most among the novelties is the Chiswick Red, of which we to-day publish an illustration. This was raised at Chiswick, and so much pleased the Fruit Committee last year, that it was awarded a First-class Certificate, and in due time the stock became the property of Messrs. Sutton and Sons, who have grown it extensively this year, with the intention of soon placing it before the public. The shape of the fruit and its free bearing character is well shown in our illustration, prepared from a sketch taken at Chiswick, butul we shod add, as regards its fruitfulness, that as many as thirteen and fourteen fruits have been borne in a bunch. Its colour is a rich crimson red, and its flavour first-rate. It seems to set its fruits most freely, whether grown in heat or in a cool house, and on this account should become popular with amateurs, who know something of the difficulty of getting some sorts to set, under the cultural conditions that they can afford.

THE NEW TOMATO, CHISWICK RED.

The variety named Evolution, and sent out by the Messrs. Bliss, of New York, yields fine, handsome fruits, large, smooth in outline, of a fine crimson shade of colour, and is most distinct from other sorts in its silvery blueish-grey stems and leaves. Sutton's Reading Perfection, proves to be an acquisition, as regards size and shape, for exhibition purposes, but is not an over free cropper. The handsome Hackwood Park Prolific, which was also Certificated last year, is, on the other hand, a very good cropper, and in shape, freedom of bearing, and general style of growth, bears some resemblance to Hathaway's Excelsior. Dedham Favourite, which belongs to the Acme type, is also a very free setter, and good all round in other qualities. Approaching the Chiswick Red in shape, but if anything inclining to be rounder, is a variety named King Humbert, received last autumn from Messrs. Damann & Co., of Portici, near Naples, but it is not in our opinion the equal of the former sort.

FRUITS.

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Classification of Peaches.—The floral characters of the tree have long been used in the classification of Peaches and Nectarines, but the result was not always satisfactory, for as, pointed out by M. Carrière in the *Revue Horticole*, in an article we here give in a condensed form, what would be small-flowered for one person would be medium-sized for another, or *vice versa*, and the medium-sized of one would be large-flowered of another. All this he proposes to remedy by making use of other characters in the flowers not hitherto employed. He then goes on to say:—When one examines the flowers of the Peach it is at once seen that they present two general forms; in the one form the flowers are long and attenuate at the base, and, in general, but slightly expanded at the tip, which rather gives them the shape of a little bell—whence the term *campanulaceus;* these are the "small flowers" of horticulturists. In the other group the flowers are spread out, and have a relatively short base, the broadly aboval, sometimes broadly subelliptical, petals meet or overlap by their edges in such a manner that the whole almost exactly recalls a small single-flowered rose—whence the term *rosaceous;* in this class also the stamens are more spread out, and much more rumpled or confused; this class corresponded to those called "large flowers." There is still another intermediate group with medium-sized flowers, but these do not form a section properly so called, but by their general characters fall into the campanulaceous division; in these the petals are *always* distant and acute, and at their extreme expansion form a sort of star; while the stamens have the filaments straighter, and form a sort of brush in the centre of the flower.

Although it may not be possible to establish absolute limits between these groups, one can, after a few practical comparisons, distinguish the two large groups: *campanulaceous* and *rosaceous*, including the intermediate forms, which by their general characters, attach themselves to the campanulaceous group. We do not claim that this classification is perfect, but experience has pointed out to us, that the difficulties are infinitely less than by all other systems employed up to the present. If one adds to these characters taken from the flowers those derived from the leaves, it will be easy, even for a person completely ignorant of botany, to class the varieties of Peaches. To distinguish the latter from one another is rather more difficult, since for that it would be necessary to make use of a third series of characters derived from the fruits.

The characters to be applied in a complete classification, then, form three series, the study of which cannot be simultaneous—first, that of the *flowers*, then that of the *leaves*, and, finally, that of the *fruits*. In the spring, when the Peaches are in flower, each tree must be examined, and marked with a number; then its flowers must be noted exactly —the *form* or *shape* first; then, as secondary characters, the relative dimensions, which will serve later on to distinguish the varieties from each other. These notes ought to be entered into a book, so that none may be mislaid. During the summer, when the leaves are well developed, an examination of these latter in the way already explained should be made, analogous to that of the flowers; and later on will come the study of the fruits. The study will thus be relatively complete, a whole whose judicious application will lead on easily from the general classification of Peaches to the distinguishing features of the several varieties. —*Florist and Pomologist.*

Peach Leaves Curling.—A correspondent, at p. 10, complains about the leaves of his Peach and Nectarine trees curling, and suggests that it might have been caused by the fogs, when the leaves were forming in the spring. In an unheated orchard house this might happen, if the atmosphere was very damp, and the ventilators not open sufficiently; but even in an unheated house the leaves would not be injured by any fogs if the trees were in good health, and the atmosphere, as it ought to be in cold foggy weather, was kept comparatively dry. The usual reason of the leaves curling is, that they are attacked by the Peach aphis. It will cause them to curl badly, and if allowed to have its way will destroy the leaves near the points of the growing shoots altogether. It is best to fumigate the trees just before the flowers open, and this will perhaps rid them of the pest for the season. If there are only a few trees attacked, dipping the shoots in soft, soapy water will kill the insects.—*J. Douglas.*

Transplanting and Renovating Fruit Trees. —Autumn is again upon us, and with it comes the season of fruit tree planting, which work cannot now be taken in hand too soon, nor that of starting to renovate any that are weakly or decrepid, which may, if the proper course were taken, be often brought round, instead of which, in the majority of cases, they are grubbed up and destroyed. The first preliminary towards the re-establishment of health in trees that are sickly, is to open up the ground immediately around them in such a way as to lay bare the principal roots, which should be examined, and, if found cankered or diseased, cut towards their extreme ends that they may be lifted and laid in afresh in new soil. If this is done at once, while there are plenty of green leaves on the plants, feeders will quickly form, and these will get good hold of the soil before winter sets in. The best soil for very old trees, and the same for the planting of young ones, is virgin loam, such as may be dug from old pastures, or obtained from waste places by the roadside, choice being made of that which is yellow and full of fibre, and if it is inclined to be stiff the more suitable will it be for all except stone fruits, which like a little grit and chalk or other calcareous matter, In preparing the loam it should be well chopped up and mixed, the rough with the fine, and in that state used for laying in the roots, which ought to be spread regularly out, at different levels, according to the part they emanate from, and their inclination in pointing. This done, and the roots well covered with the fresh stuff, the surface may be finished off with the old soil, when it should at once be mulched by having a thin layer of half-rotten dung, which will keep all uniform as to moisture and warmth, and greatly aid the plant in making new fibres. In starting with young trees, too much care cannot be exercised in picking them out, as it is useless planting any with bad stems, which only give disappointment, as, instead of swelling as they ought, and feeding, or allowing the top to be fed, they send up suckers, the very name of which bespeaks the great harm they do. To be healthy, and for the tree to grow satisfactorily, the stock must be free from these robbers, and where there are many trees to be planted it pays well in the end to go and select one's own, which I now make a practice of doing. With the trees home, a point that should be strictly attended to is not to let them be out of the ground any longer than can be helped, as they suffer great harm if there is any drying or shrinkage of the bark, the contraction of which closes the sap vessels and leads to the starvation of the buds up the shoots. This being so, the thing is to have all ready by getting the holes dug and the fresh loam placed in to stand the plants on, with sufficient lying by, or close at hand, for covering the roots and finishing off each before they are left. It is not long ago since gardeners used to head back their young trees, but it is to be hoped that, like bleeding and cupping, the days for such mutilation and barbarity have gone by, for it was equally hurtful, and yet operators were slow in learning the lesson that ought to have been plain to the most casual observer of nature. Instead of cutting back, every branch should be laid in, if they are not misplaced, and there is room for the same; for it ought to be borne in mind that the more top and leaf, the more root will a plant make, and the quicker a wall or trellis be covered, the sooner will a full crop of fruit be had from the tree, which the load will not harm, as the tree will be strong and fully established. As to breaking and furnishing, any healthy plant will do that, and none require the shortening to make them, if they are well cared for and properly planted. This I have proved again and again, and I have now Peaches and Nectarines, two years from the bud, that fill a large surface of wall; and the same with plums, many having made shoots five feet in length.—*Alpha.*

FLOWERS.

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Lagerstrœmia indica.—I have often wondered why this handsome greenhouse shrub is not more generally grown than it is, especially in gardens, where there are large conservatories to be kept furnished. For such a purpose it is invaluable, its graceful panicles of rose-coloured flowers being always admired, particularly when the plants have attained to a large size. Indeed, I have not seen it very satisfactory in a small state; which may account for its being so seldom seen. Where room can be found for it in the stove, it will do better than in a greenhouse, causing it to show out its beauty to the fullest extent. I have successfully grown it by starting it in an early vinery, and, before the house became too densely shaded, removed it into a greenhouse, giving it as sunny a position as possible, which I find absolutely necessary to do it well. A plant treated in this way is now in full beauty here. If grown in a stove, it will flower in June. After the flowers have died away, I remove the plants to a sheltered, sunny spot out of doors, to thoroughly ripen the wood, and take them indoors again before frost comes. During the winter it will require but little water, only just enough to keep the wood from shrivelling. For the benefit of any who may not know the plant, I may state that it is deciduous, and should be pruned close soon after its leaves have fallen. I grow it in three parts of loam and one of peat, and do not pot oftener than every two or three years, excepting in the case of small plants. I have heard it can be grown out of doors in the West of England.—*E. Dumper, Summerville, Limerick.*

Tuberous Begonias.—In reply to Mr. Cameron, p. 11, allow me to say that Turberous Begonias may be propagated from cuttings any time through the season that the cuttings can best be obtained, but it is not always easy to get good cuttings, especially from the strong-growing sorts. It is quite necessary that they should be taken from shoots that have not flowered, and the shorter the cuttings are the better. I cut them off just below a joint and do not remove any leaves, and only put them in the pots far enough to keep them firm, or where the cuttings are a little top-heavy a stick is necessary to keep them up. They strike most readily where there is a little bottom-heat, but should not be kept too close and only be watered very sparingly.—*H.*

Tuberous Begonia Cuttings.—Mr. J. Cameron's failure (p. 11) with these, most likely, arises from putting his cuttings into close cutting cases. It may also in a measure be due to his cuttings not being sufficiently ripened by letting the sun in on the plants from which they were taken. From this cause, cuttings taken out of a shady conservatory rarely strike. I am very successful with these plants, and I keep putting in the cuttings all through the season whenever I can get them, my last batch being put in this week. These will just have time to bulb, and will then be put away on a greenhouse shelf with the others, and left in their pots until starting-time next spring. I take the cuttings off with two or three leaves as I can get them, and put them in round the edges of 60 and 48 size pots in sandy loam, and simply stand them in some quiet nook in the greenhouse, without the protection of either cutting case or bell glasses; and I find they always strike freely and bulb well. —*A. McLeod.*

Bedding Violas.—In your first number of the Gardening World, you notice a new Viola raised at the Chelsea Botanic Garden and named "Chelsea Belle," and describe it as an improved Blue Bell. We long since obtained that desideratum for although Blue Bell is a valuable variety for masses, it was wanting in *blue* colour, and Dean's True Blue, raised by myself, has superseded it. It is a very early and continuous bloomer, of compact robust habit, and a very free bloomer. We have cut our plants up for stock, but I enclose you a few poor blooms and growth from the ground to give you an idea what it is. Will you please to tell us through your colums if Chelsea Belle is different

and better. [True Blue is the darkest, Ed.] Whilst on the subject of Violas, let me recommend two whites, Mrs. Gray, very pure white, but has a tendency to be tinged and striped with lilac in hot weather. Still it is a grand variety and very fragrant, but rather a strong grower. In the Countess of Hopetoun we have a dwarf, robust growing kind, of close compact habit, but not so snowy-white in colour as Mrs. Gray, though in every respect a very fine bedding variety.—*William Dean, Florist, Walsall.*

Colchicums and Autumnal Crocuses.—The following species are flowering at Kew at the present time:—Colchicum byzantinum: The flowers of this fine species are a little paler than those of C. autumnale, and the perianth segments are much broader. It is a native of the Levant.—C. crociflorum: The flowers of this are smaller than those of the previous species, and somewhat darker in colour. It is a native of Turkestan.—C. autumnale: In the collection this well-known species is finely in flower, but in the wild garden, near the Cumberland Gate entrance, is a large patch planted among the grass, and the effect is simply charming. A green background is a great improvement to these lovely plants. The leaves should be allowed to die away naturally in the spring, and the grass should be kept short before the flowers appear. A native of Europe, including Britain.—C. autumnale var. tesselatum differs from the species in the colour of the flowers, which are beautifully marbled with a paler tint. Native of Asia Minor.—Crocus vallicola has pure white flowers, with a few dark lines in the throat. It is a very pretty species, native of Armenia and the Caucasus.—C. Scharojani is a most beautiful species with a barbarous name. The flowers are deep orange-yellow, consequently the species is a great acquisition amongst autumnal-flowering plants.

Convolvulus mauritanicus.—A plant of this beautiful species, growing in a pot in a greenhouse, over a small aquarium, is daily an object of great beauty. It is so placed as that the branches shall fall down over the aquarium, and shaded from the sun. The plant is thoroughly pot-bound, and it flowers freely in consequence. The water given to the plant passes through the soil, and falls into the tank.—*R. D.*

New Plants Certificated.—At the meeting of the Floral Committee, held on Tuesday, First-class Certificates were awarded to Messrs. James Veitch and Sons for Amasonia punicea, a striking plant, with terminal racemes of creamy-yellow flowers, supported by large red bracts, which have a rich effect in combination, and as the bracts retain their colour on the plant for at least three months, it may be regarded as a useful as well as a beautiful decorative plant; to Messrs. Veitch & Sons also for Nephrolepis Bausei, a very handsome new fern raised by Mr. F. Bause. To Mr. B. S. Williams for Amaryllis, Mrs. William Lee, a gardener's plant of the first water, belonging to the A. reticulata type, and bearing from three to five flowers on a stem, pure white, with bands and lines of rose; a very pretty Amaryllis, and a really perpetual flowering one. To Messrs. Cannell & Sons, for a fine double white Begonia, named Octavie; and to the same firm, and Mr. W. Bealby, for a very large and showy double Begonia, named Madame Crousse, a flower of great breadth, good shape, and reddish-orange colour. To Messrs. Keynes, Williams, & Co., for Dahlia General Gordon, a yellow ground fancy; Dahlia Mrs. Langtry, lemon ground, tipped with crimson, very fine; and Dahlia Fashion, a very pretty orange scarlet Pompon. To Messrs. J. Cheal & Sons, Crawley, for Dahlia Formosa, a single variety, with fine, beautifully-shaped and bright orange scarlet coloured flowers. To Messrs. Kelway & Son, for Gladiolus Sir F. Bolton, rich orange scarlet, with purplish pencilling in the throat; and Gladiolus William Kelway, a dark scarlet-ground coloured flower, mottled with crimson, and very pretty.

VEGETABLES.

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Culture of Tomatos.—The demand for Tomatos has increased amazingly during the last dozen years. From fifteen to twenty years ago the love-apple was only to be met with in a comparatively few large gardening establishments, and those principally in which French cooks reigned supreme in the kitchen. Now, however, so rapidly has the acquired taste for Tomatos spread that they are grown not only in every garden of any pretensions to the name, but also in most amateurs' and cottagers' gardens. And this can scarcely be wondered at, seeing that the plant is of comparatively easy culture, and its fruit most wholesome and appetising. This season, owing to the long spell of tropical weather, the Tomato crop outside is a most bountiful one, the fruits being large, full of juice, and well-coloured, and if the plants are kept well supplied with water at the roots when necessary, and the fruits are well exposed to the influence of the sun by keeping the shoots and leaves well thinned and stopped, they will continue to swell and ripen a liberal supply of fruit until nipped by frost. Upon the approach of the latter, however, all fruits which have commenced colouring should be cut with a portion of the stems adhering, and be put into a cool vinery or peach-house, where they will ripen gradually, and so considerably prolong the supply.

So highly is the Tomato appreciated in some places that a supply is required all the year round, and to meet this demand small span-roofed or lean-to houses, the latter if facing due south being the more suitable one for winter work—have been specially erected. In such houses the plant, growing in narrow, shallow, and well-drained borders of sandy loam over the front hot-water pipes, will by this time be nicely established over the wire trellis to which they are, or should be, not too closely trained. They will also have set a nice crop of fruit, which, in due time will, as already stated, supplement the supply hitherto obtained from plants trained somewhat thinly against sunny walls out of doors. We find from experience that Tomatos yeild better results, when they are not allowed too much scope for root-action. The necessary amount of nutriment in the shape of weak liquid manure and guano water, can easily be applied to the roots at the proper time, but if unnecessary root-space be allowed, the plants make an over luxuriant growth, with the result that difficulty is frequently experienced in getting a good "set" of fruit. Experience also goes to show that the best possible results can be obtained from plants grown in 14-inch pots, if kept well supplied with water at the roots when necessary, and treated as above recommended.

In gardens where there is no special accommodation provided for forcing Tomatos—and they are not a few—but in which nevertheless a supply of ripe fruit is expected from the middle or end of April until they can be gathered out of doors, the present will be a good time to make a sowing of some well proved variety, such as Hathaway's Excelsior. In order to avoid the plants being subjected to a check, in the process of being re-potted off in the seedling state, it is better to sow a few seeds in the centre of each 3 inch pot, which should have been previously crocked and filled to within an inch of the rim with sandy loam, covered lightly with fine soil. Water through a fine rose, cover the soil with a piece of glass, and place the pots on a shelf near the glass in any warm house or pit, where, when the seedlings, only one of which should be left in each pot, appear through the soil, they can have plenty of air during favourable weather, to promote a sturdy growth. The plants should be shifted into suitable sized pots (6-inch, 9-inch, and 14-inch respectively), as they require more room at the roots. During the interval from October to February, a night temperature of from 45° to 55°, according as the weather is cold or mild, with a rather dry atmosphere, will be congenial to their requirements; and about the middle of February they should be ready for shifting into the 14-inch pots, which should be amply drained by placing a large piece of crock over the hole in the bottom, then a couple of inches deep of smaller sized ones, filling in the chinks on the top with the smallest, and over them a layer of half-rotten leaves. Thus drained, there need be no fear of the pots getting water-logged, or the plants, when established, suffering from being over-watered. The plants should be thoroughly watered the evening before being shifted into the larger pots, after which they will not require moisture until the roots have pushed into the new soil. The latter should on this occasion consist of three parts of good fibrous loam and lime rubble (about one-third of the latter), and one of horse-droppings.

The shoots, as already stated, should be trained thinly to a wire trellis under the roof; or if this mode of training is not convenient, the plants should be trained singly to stiff sticks, between 5 and 6 feet long, one to each plant, and placed in the best position that can be given them near the glass. All lateral growths should be pinched back to within one joint of the main stem. When the plants are in flower, a drier and more airy atmosphere should be maintained, and, with a view to securing a good set, the individual flowers should be touched over about midday with a camel's-hair brush, to distribute the pollen. No stimulants should be given at the roots until the plants have set their fruit, when they may have liberal supplies; and if large fruit be desired, the clusters should be thinned out, leaving, of course, all the best shaped and most even-sized fruit. Let the night temperature from this stage of the plant's growth range from 55° to 60°, and by day 65° to 70°, running up to 85° with sun heat, and plenty of atmospheric moisture at closing time.

For outdoor culture, a pinch of seed of the Trophy variety should be sown about the first week in March, in the manner already described, and the plants resulting therefrom, having been gradually hardened off in the meantime, be planted at the foot of south and west walls and secured thereto about the middle of May, and protected by spruce boughs from late frosts and cutting winds for a week or two, when they should be removed. The chief points to be observed in Tomato-culture, to be successful out-of-doors as well as under glass, is to avoid *over-crowding* of the shoots and leaves, and to keep the roots supplied with water when necessary.

Planting Cabbage Plants.—During the present month the great bulk of the cabbage crop for spring use will be planted, and I know of nothing more annoying, after picking all the best plants for a favourite border of this useful vegetable, than to find one half of them eaten by that great enemy, the slug. The usual plan is to dust the plants over with lime, and the first shower makes it useless. My method of dealing with the pests is as follows: The land here alotted for spring cabbage is that which was engaged with spring onions; and here, I may remark that, when pulling up the onions, I at the same time hoe the land and rake it. When the onions are harvested and stored, the preparation is complete. Setting the line at one side of the quarter, we make holes with the crowbar, drop the plant in, and give it a good watering to wash the soil in round the roots. We then get some sifted coal-ashes, and surround each plant with the same. I admit that this takes some time to do, but it is an effectual protection to the plant from the slug. By doing this, every plant is like its neighbour, and all are ready to cut about the same day. Where £ s. d. is a consideration, this is the principle.—*R. Gilbert, Burghley.*

Tomato Juice as an Insecticide.—A correspondent of the *Fruit Recorder* says he has boiled leaves and stems of tomato plants until the juice is all extracted, and finds the liquor deadly to caterpillars, and many other enemies of vegetation. It does not injure the growth of plants, and its odour remains for a long time to disgust insect marauders. Will some of our readers try the recipe, and report the result for the benefit of others.

Mr. Bethell, for several years gardener to Sir Richard Wallace at Sudbourn Hall, Wickham Market, has succeeded Mr. J. Austen, as gardener to Sir Greville Smythe, at Ashton Court, Bristol; and Mr. Austen, by the death of Mr. George Westland, has become gardener at Witley Court.

The Orchid Grower's Calendar.

Temperatures for Orchids.—The proper regulation of the temperature of Orchid houses, plays a most important part in the culture of the plants—so important is it, indeed, that unless it be carefully attended to, all good management in other directions is only thrown away. And yet, too often the heating is arranged by rule of thumb, and no proper scale is fixed; or, where a sort of plan is set up, in many cases thermometers are not in the houses to test it, and the cultivator trusts merely to his owu impression as to whether the temperatures are right or not. Although, by experience, most Orchid growers can tell pretty accurately whether there is anything particularly wrong, either in the ventilation or the heating, immediately on entering an Orchid house, yet at best it is but guess work. A good thermometer, therefore, should be placed in each house, in order to deuote accurately the correct temperature at all times.

It is now well kuown that Orchids, even from the hottest parts of the tropics, do not require, aud could not withstand under cultivation iu glass structures, the high temperature which they get in their uative habitats; indeed, in their own homes, although the hottest season finds them prepared for it, and in the proper condition to suffer it best, large numbers of them are often killed or rendered almost leafless by the heat. The reason, therefore, that we grow and flower many Orchids better than they are to be found iu their own countries is, that while we bear in mind their times of growth, rest, &c., we place them iu temperatures which will neither over stimulate nor exhaust them, and in which their annual round of growth, flowering and rest, shall just be accomplished in the year, and the result is that on this plan even amateurs of but short experience with Orchids, grow them successfully and get a great deal of pleasure out of them.

For the arrangement of the general plan of the temperatures for the Orchid houses for the whole year, it is best that it should follow our seasons in its rise and fall, making the warmest seasou in the height of summer, and the coldest in winter, because the greater part of the plants grow iu spring aud summer, aud at those seasons the better light and purer air renders it desirable that they should do so. It is, therefore, one of the objects of the grower to get as many things as possible to finish up their growth before the dull weather sets in; hence it is necessary that in winter low temperatures should rule in Orchid houses, so that the plants which would otherwise push out premature growth which could only be weak ou account of the dull weather, may be kept back until spring comes. A high temperature in Orchid houses in winter is always doubly injurious by reason of the few opportunities for admitting air freely at that season, and which alone can partially save Orchids from the ill effects of over-heating at any time.

Another important matter connected with this subject, and one which is now generally admitted, is the necessity of having the temperatures at least 5° lower at night than the lowest temperature by day; naturally, it is so all over the world, aud in some parts the night temperature is very much lower than that of the day. Under cultivation, however, 5° or 10° lower is sufficient, but woe betide the plants which are treated to a higher night temperature than is given them by day; their course will be short, and their end miserable. Unless a proper check be kept this is often likely to be the case, particularly in autumn, when the fires are kept banked down all day, and are got up in the evening in order to prepare them to go through the night. This matter should be carefully looked to, as nothing is more injurious to Orchids than an excessive night temperature.

The table given below is a scale of temperatures for the year, based on the presumption that there are three houses, or three divisions, capable of being regulated to different degrees. With such kept as near as possible according to the scale given, the amateur, by carefully arranging his plants in the proper compartments, and by moving them from one to the other as their condition of growth may require it, may successfully grow Orchids of all kinds. Of course, in excessively hot weather the heat outside will force a higher temperature than that advised, but with proper ventilation and damping down that will not cause the least injury.

In the temperatures given the plants will be found to thrive well and make good, stout, flowering growth; and at the same time they will not be infested with the troublesome and destructive insects, which always attack them when they are grown in excessive heat, and indeed are generally the outcome of such treatment.

In order to ensure the proper regulation of the temperatures, it is essential that too many houses should not be connected with one boiler, and that valves should be fixed in every house at conveuient points for checking and regulating the flow in the hot-water pipes, or otherwise all will depend on the boiler aud the fire, which are very liable to suddenly increase or decrease in power at any time. For the purpose of heating Orchid houses, 4-in. hot-water pipes are by far the best, as the flow in them is steadier than in smaller ones, and the heat given off more gentle and regular. During the middle of the summer the heating apparatus may rest on all the houses in favourable seasons, and in the intermediate house in the middle of every summer, be it hot or changeable, while the cold Odontoglossum house should always be kept without artificial heat in weather warm enough to keep up the required temperature without it.—*James O'Brien.*

Table of Temperatures for Orchid Houses.

Months.	Warm House. East Indian.		Cattleya, or Intermediate House.		Cool, or Odontoglossum House.	
	Day.	Night.	Day.	Night.	Day.	Night.
January	65° — 70°	60°	60° — 65°	55°	50° — 55°	45°
February	65° — 70°	60°	60° — 65°	55°	50° — 55°	45°
March	65° — 70°	60°	60° — 65°	55°	55° — 60°	50°
April	65° — 70°	60°	60° — 65°	55°	55° — 60°	50°
May	70° — 75°	65°	65° — 70°	60°	60° — 65°	55°
June	75° — 80°	70°	70° — 75°	65°	60° — 65°	55°
July	75° — 85°	70°	70° — 80°	65°	60° — 70°	55°
August	75° — 85°	70°	70° — 80°	65°	60° — 70°	55°
September	75° — 80°	70°	70° — 75°	65°	60° — 65°	55°
October	70° — 75°	65°	65° — 70°	60°	60° — 65°	55°
November	65° — 70°	60°	60° — 65°	55°	55° — 60°	50°
December	65° — 70°	60°	60° — 65°	55°	50° — 55°	45°

Degrees Fahrenheit. The higher day temperature to be attained by Sun heat when possible.

ORCHID NOTES.

The Demerara Form of Cattleya superba.—The fallacy of growing this in great heat is gradually fading away like so many of the unfortunate plants thus treated. I have had great success with a batch of thirty imported plants placed in the Cattleya-house, of an ordinary heat, with C. Mossiæ, C. Trianæ and numerous others, including C. Warneri. They have made far better growth two years in succession than any I ever saw grown in the usual East Indian heat to which they are subjected. Some of the stronger plants make two bulbs iu each year, and prodnce three or four flowers on each. Surely no more success than this could with ordinary mortals be wished for. I put my plants in pans or baskets, and hang them near the glass, dipping them liberally during growth, but sparingly when at rest. Blooming, as it does in the dull days of the Orchid season, with its gorgeous purple flowers of great substance, which last four weeks, it should be grown more than it is, but when buyers get it, obtain strong plants, and do not be afraid.—*De B. Crawshay.*

Lælia Dayana.—This is a choice orchid, flowering now in the Mexican house; the sepals and petals being dark rose, while the lip is rich purple, margined with lilac and white. It is a small growing species, flowering from the young growths. I find the flowers are larger and of better substance when grown iu baskets, than those growu on blocks, but in either position it flowers very freely and must not receive so much water as some species.—*E. Dumper, The Gardens, Summerville, Limerick.*

Orchids for Beginners.—In Mr. O'Brien's list of orchids for a beginner, at p. 12, I think Cattleya Gaskelliana, Cypripedium barbatum, and C. villosum ought to have a place, as they are such easy growers, and the former for its time of bloom alone is valuable, as it prolongs the summer season to the autumn. One commencing in Lælia crispa, which also I think ought to be placed therein, for it is almost as lovely as Cattleya exoniensis when you get a good "superba" variety as I happen to have. I may speak on the subject of orchid culture, as of late (comparatively speaking) date I was a beginner and to all who now commence I say "have confidence and patience," and a great deal of the latter, coupled with enquiry and care, will ensure success, at least I have found it so.—*De B. Crawshay.*

Ærides Lawrencianæ.—This remarkably fine new species was exhibited in flower, on Tuesday, at South Kensington, by Mr Ballantyne, gardener to Baron Schröder, The Dell, Egham. The plant bore a good spike with 8 flowers open, and was much admired for its fine size and distinct appearance.

FLORICULTURE.

Dahlias at the Crystal Palace.—Lovers of this flower had a great treat at the Crystal Palace, Sydenham, on Saturday last. The genus Dahlia could be seen represented iu strong force in all its divisions—Show, Fancy, Pompon, aud Single. If the Dahlia does uot command the high prices it formerly did, it appears to be very popular still, and nurserymen say they can sell all the plants they propagate. At one time Seedling Dahlias of decided value used to fetch large prices when they were sold to some nurserymen to propagate and send out. A variety named Beauty of Telfont was the first that commanded a high price. This variety was raised by the Rev. T. B. Ward, of Telfont, and was purchased by the Messrs. Brown, the then well-known nurserymen of Slough, for the sum of £60. Then followed Yellow Defiance, purchased by the same firm for £200—certainly the highest amount ever given for a Dahlia. It was sent out in 1840. Essex Triumph, raised in 1841, was bought iu 1843 for £60; Marchioness of Ormond fetched £105; Shylock, Beeswiug, Alice, and Cleopatra commanded £100 each; Lady Sale, £70; Nonpareil, Sir J. Richardson, Duke of Wellingtou, Bob, Sir R. Whittington, and British Queen, cost £50 each. There were many other varieties that would have brought large sums of money in their day had they not been sent out by their raisers, such as the Hon. Mrs. Harris, raised in 1834; Unique, Beauty of the Plain, Mr. Seldon, Sir T. Bathurst, and Princess Radziwill. In those days it did uot always follow as a matter of course that the higher the price the better was the flower. This was regulated, in a great measure, by what the flower had done when exhibited as a seedliug, its popularity, novelty, and improved form. When a flower had made a name because of its intrinsic merits, a large sale followed, and the probabilities of this sale had something to do with the price paid for it. In 1852 the sum of £105 was paid by Mr. C. Turner for a variety named Queen Victoria. It was sent out iu 1853; but though it had been showu iu a very fine form previously, it could not be produced after it was sent out iu anything like exhibition form, and soon ceased to be cultivated.

With the purchase of that variety there may be said to have come to a close the practice of paying very high prices for Dahlias. On the other hand, some very fine and popular Dahlias in the past sold for very small sums of money.

Among the fine show flowers exhibited at the Crystal Palace on Saturday last, were the following:—Mrs. Gladstone, a lovely new light flower of great beauty and delicacy; Lord Chelmsford, Lady Wimborne, Lady Gladys' Herbert, Acme of Perfection, Alexander Cramond, Imperial, Julia Wyatt, John Ashby, George Rawlings, Sunbeam, J. B. Service, Cardinal, Henry Bond, Hope, Mrs. Harris, Ethel Britton, Herbert Turner, Clara, Enchantress, Mrs. P. Wyndham, Hugh Austin, Mrs. Foreman, Condor, Delight, Miss Connell, Henry Walton, and John Neville Keynes. Now the best forty-eight Show Dahlias came from Mr. Charles Turner, Royal Nursery, Slough; and the second best from Messrs. Keynes, Williams, & Co., Salisbury; and the varieties just named were the very best in the two stands. They make up an excellent selection of twenty-nine fine varieties. Add to these the following seven sorts, viz.—Burgundy, Constancy, James Cocker, Joseph Green, Mrs. Stancombe, Rev. J. Goodday, and Thomas Goodwin, and there is obtained a group of thirty-six varieties that may be taken as forming the nucleus of a most useful collection.

FANCY DAHLIAS.

The Fancy Dahlias are always very attractive, and it is no wonder that people looking upon the show and fancy flowers, are found asking what is the difference between them? Let us try to throw a little light upon this knotty subject, but it may be stated at the outset that some of the exhibitors of Fancy Dahlias on Saturday last, appeared to have adopted the practice of exhibiting, as fancies, flowers that sorely puzzled the judges. Now, there are self-coloured, shaded, and tipped, or edged, flowers among what are known as Show Dahlias. But it may be asked, are not tipped dahlias fancy varieties? Yes, there are tipped Dahlias among the fancies; there are tipped Show, and tipped Fancy Dahlias also. We will try and make the distinction as clear as we can, but before doing so it may be stated that so little is the distinction between Show and Fancy Dahlias understood, that at some country shows it is usual to exhibit all tipped dahlias as fancy flowers. Now let me try to make clear—as clearly as it can be set forth—what, in the opinion of the florist, constitutes a Fancy Dahlia.

"To the composition of a Fancy Dahlia, two (or more) distinct colours are essential, if the variegation is in the form of stripes or flakes, as in the Carnation. This arrangement of colours, whether the light or the dark preponderate, is in itself sufficient to constitute the sub-division distinguished as striped Fancy Dahlias; but if the variegation consists in the edges or tops of the florets differing from the general or ground colour, then the *relative position* of the colours determines whether the individual is a Fancy flower or otherwise. Thus, a white, yellow, or any pale variety, edged, tipped, or laced with a dark colour, after the manner of the Picotee, is denominated simply an edged, tipped, or laced Dahlia; but when this disposition of colours is reversed—*i.e.*, when the florets of a dark flower are tipped, etc., with a light colour, the variety so marked is termed a *tipped Fancy* Dahlia." This is the best definition I am able to give, I hope it may prove intelligible to the readers of these remarks. The difficulty of setting up a well-defined line of division increases year by year.

Visitors to Dahlia Shows always appear to be much attracted by the pretty and eccentric Fancy Dahlias; the flowers are livelier in colour than the more sober looking show varieties. The best 24 blooms were shown by Messrs. Keynes & Co., Salisbury, and the following in their collection were particularly good:—Rebecca, Chorister, General Gordon (new), Mons. Chauviere, Fanny Sturt, Mrs. N. Halls, Frederick Smith, Miss A. Melsome, yellow, tipped with white, a lovely flower when in good character; Maid of Athens, James O'Brien, and the Rev. J. B. M. Camm. Mr. Turner was 2nd with fine blooms of Peacock, Florence Stark, Miss Browning, W. G. Head (new), Annie Pritchard, and Mr. Saunders. Add to these, George Barnes, Henry Glasscock, John Forbes, Lady Antrobus, Miss Lily Large, Professor Fawcett, Queen Mab, and Sam Bartlett, and there is placed before our readers as good a collection of varieties in this section as they could desire. Sometimes the Fancy varieties will sport to self-coloured flowers, and then they can be shown among the self-coloured flowers in the Show Section. They are often very handsome in the self-form. As some fine new Dahlias were shown on this occasion, they must be mentioned in this relation. First-class Certificates of merit were awarded to the following:—Mrs. Langtry, buff ground, the centre pale yellow, florets edged with bright red and maroon; a very fine variety, with a high centre, fine pip and outline, and quite distinct. This comes into the show class. The following Fancy Varieties were also honoured:—Romeo, buff yellow ground, colour suffused with dark cinnamon, and striped with crimson, good petal, centre and outline very fine; and General Gordon, deep yellow, heavily flaked with orange-red, fine form, good petal and outline. The foregoing were shown by Messrs. Keynes, Williams, & Co., of Salisbury. There were a few other new varieties, but they were wanting in the high quality of those above named.

Then it fell to the lot of the judges to select the Premier Show and the Premier Fancy Dahlias, and they had a wide field before them, for they had to be selected from the whole show. But there was little doubt about the former. A truly magnificent bloom of Mrs. Gladstone, shown by Mr. Henry Glasscock, of Bishop's Stortford, had attracted general attention; a lovely delicate soft pink flower with a creamy centre; simply perfect because so clear, symmetrical, and well formed. This is a new variety sent out last spring by Mr. C. Turner, of Slough. There was a run between a fine bloom of Flora Wyatt, shown by Mr. J. Tranter, of Upper Assenden, Henley-on-Thames, and a glorious bloom of General Gordon, shown by Messrs. Keynes & Co. in their first prize, twenty-four blooms; ultimately the high distinction of premier honours went to the latter, and it was well deserved.

SINGLE DAHLIAS.

Of Single Dahlias, there was an enormous quantity of all sorts and sizes. They made a pretty display, being shown in bunches of ten blooms. Really, this is too many, for it crowds the bunches too much; six or seven blooms would make far prettier floral morsels. One firm, Messrs. J. Lamont & Co., of Edinburgh, showed a dozen or fifteen flowers in a bunch, and were disqualified. Now, the Single Dahlias are becoming far too large, many of the flowers shown at the Crystal Palace were ungainly; as a matter of course there is a natural tendency on the part of Seedling Dahlias to increase in size. A reaction will soon set in against them, if it has not already commenced. I hear of many who are tiring of them, who say that they are fleeting in character, and monotonous in appearance. As a matter of course, our leading nurserymen made a great display, and in the class for twelve bunches, Mr. C. Turner was first with fine examples of Ellen Terry, soft mauve; Paragon, with its rich maroon petals, feathered with purple crimson; W. G. Head; Alba, white; Harlequin, deep rose, striped with purple; Evening Star, bright crimson; Duchess of Westminster, pure white; and Queen of Singles, rich magenta, suffused with rose. Messrs. Keynes, Williams, & Co., were placed second. They had excellent blooms of Acquisition, crimson with scarlet bars; Beauty of Cambridge, fiery crimson; Fire King, rich crimson; Mauve Queen Improved, very fine; Negress, dark velvety maroon; Rosy Circle, bright rose; and the fine old Paragon. The very best bunch of Single Dahlias in the show was Paragon, in the stand of Messrs. J. Lamont & Co., and we never before saw this fine old variety to such great advantage. When it is remembered that it was in cultivation some time before 1830, one wonders how it was it reappeared, and by whom it was preserved, to make a greater noise fifty years afterwards, than it did when cultivated by our forefathers as a Show flower. It will never be improved upon,—it is the *beau ideal* of a Single Dahlia for all time.

A word of high praise is due to Mr. T. S. Ware, for his stand of what he calls "Stellate" Dahlias. They are all small-flowered varieties, pretty little floral darlings, that are just the size for floral decorations of all kinds. Let Mr. Ware stick to these, and he will drive all the overgrown single forms out of the field. Among them was the pretty pink-coloured Galbraith, quite distinct, and utterly unlike anything else in the show. And there was also what is known as Dahlia Zimparii (*Bidens atrosanguinea*), with its sub-maroon flowers, with their dark centres, looking far more like a rich coloured single Zinnea. I never before saw it finer than Mr. Ware had it on this occasion. But it is not every one who can grow it. It needs to be treated as a half-hardy annual, and raised from seed every year. It is very difficult indeed to get propagated plants to grow. If it puzzles Mr. Ware to do so, how can the rank and file of amateur gardeners hope to succeed in a matter that appears too much for one of their leading floral strategists?

BOUQUET DAHLIAS.

The Pompon Dahlias—Bouquet Dahlias, as they are frequently called—were delightful, but, like the single forms, they are becoming too large. But one may rely upon it, popular opinion is coming round, gradually and surely, to a recognition of the Bouquet Dahlias as more valuable than the single forms for cutting purposes. I am quite prepared to be put into the pillory as a floral heretic, but I hold that opinion. We got the cream of the varieties in the two stands set up by Messrs. C. Turner and Keynes & Co., in the class for 24 varieties. But here also ten flowers made an ungainly instead of an elegant bunch. Slough triumphed over Salisbury in this class also, but it was a good fight. In Mr. Turner's stand were Gem, rich scarlet; Lady Blanche, white; Favourite, dark maroon; E. F. Jungker, amber, distinct, and very pretty; Hedwig Pollwiz, orange scarlet, tipped with white; Cupid, white and rose; Little Bobby, rich crimson; Comtesse Von Sternberg, yellow and white, very pretty; Mabel, lilac; White Aster, a charming white variety; Fair Helen, white, slightly fringed with lilac, very pretty; Nymph, yellow tipped with red; Prince of Lilliputians, very dark maroon; and Titania, yellow, with bronze tip. In Messrs. Keynes & Co's collection were White Button; Nemesis, maroon, sometimes tipped with white; Dora, yellow and white; Sappho, dark crimson; Royalty, Golden Gem, Little Princess, white tipped with rose; Darkness, deep maroon; and Brunette, rich shaded crimson.

Let me gratefully acknowledge that many other exhibitors, nurserymen, and amateurs showed finely in the classes, but space will not allow of my entering into the usual monotonous details. And I must not omit to record that the Veitch Memorial Prize for Twelve Show and Six Fancy Dahlias was awarded to Mr. Henry Glasscock, of Bishop's Stortford, than whom there does not exist a more painstaking and enthusiastic amateur cultivator of the Dahlia. No one grudged him his well-merited honour. As he stated, it was a series of daily attentions, given without stint, from the time the plants were placed in the open ground till the flowers were placed on the exhibition table, that gained him the victory on which he had set his heart.—*R. D.*

THE IMPERIAL LEMON.—The August number of the *Florist and Pomologist* contains a beautiful coloured portrait of this fruit, accompanied by the following remarks from the pen of Mr. T. Francis Rivers, of Sawbridgeworth:—"The Imperial Lemon is a very large and highly-perfumed variety of Citrus Limonum. Risso and Poiteaux cite five varieties, but I do not find one answering to the description of the 'Imperial,' and it is possible that it may have been introduced since the time of these writers. The plant is very robust, and near Torquay it has been cultivated on a wall for some years, bearing abundant crops of fine fruit. In this part of England glass is, of course, necessary, but a winter heat of 40 Fah. at the lowest point is sufficient. As a trained tree, with care and good cultivation, large crops may be obtained. The fine flavour and perfume of the fruit renders its cultivation a source of great pleasure, if not of profit."

HORTICULTURAL SOCIETIES.

THE FRUIT SHOW AT DUNDEE.

(*By Telegraph.*)

The International Horticultural Exhibition, held under the auspices of the Dundee Horticultural Society, was opened this morning by the Earl of Strathmore. The weather though dull, was fair, and there is a large attendance of visitors. One thousand pounds were offered as prizes, and this had the effect of drawing one of the largest competitions ever seen in Scotland. Fruit formed a brilliant feature, being exhibited in great abundance, and the quality generally is excellent. The prizes for the collection of sixteen sorts brought out four exhibits of remarkably even quality. After careful examination, the judges awarded the first prize to Mr. McIndoe, Hutton Hall, Yorkshire, who was very closely followed by the well-known fruit grower, Mr. Johnstone, of Glamis. Grapes in the first prize collection were rather indifferent; but the Pines and other fruits were superior to those in the other collections. Mr. Johnstone's Grapes, however, were decidedly the best, and showed his undoubted skill in bringing them to perfection. The collection of 12 sorts brought out three competitors, and Mr. Dickson, St. Andrew's, was placed first with a very fine lot. His grapes formed a prominent feature, and the small fruits also were very good. The second prize went to Mr. McKelvie, Broxmouth Park, for a good average lot. With a collection of eight sorts, there were four competitors, all showing fruit of great excellence. The first prize went to Mr. Day, Galloway House, for a collection above the average. Grapes of high quality were again exhibited. Mr. Fairgrieve, Dunkeld, was second, with a remarkably even lot, losing only by one point. Pine Apples were rather a poor show, and scarcely worthy of the awards made. Grapes are a very good display, Mr. Murray, Culzean, Ayrshire, being first for eight notable bunches; Mr. Dickson, St. Andrew's, first for six bunches; and Mr. Boyd, Callendar House, Falkirk, first for four bunches, and taking also the Veitch Memorial Medal for the best two bunches in the show, with wonderfully fine examples of Muscat Hamburgh. Hardy fruits are exhibited in great abundance, and for general high quality do not appear to have suffered from the climatic influences that have made apples scarce in some parts of the country. The principal prize-takers are Mr. Hunter, Lambton Castle; Mr. Mackenzie, Linton, Maidstone; Mr. Fairgrieve, Dunkeld; Mr. Henderson, Newburgh; Mr. Goodfellow, Jedburgh; and Mr. Johnstone, St. Fort. Plants are well shown, the leading prizes being taken by Mr. Hammond, Brayton, Carlisle; and Messrs. Ireland & Thomson, Edinburgh. The Veitch Memorial prizes for the best stove or greenhouse plants, and best specimen orchids, went to Mr. Edward Boyes, Burn Park, Uddington. Of vegetables there is an extraordinary display. The leading prize for a collection of fifteen sorts has been awarded to Mr. James Brown, Abercairney, Perthshire. Other principal awards were won by Mr. Stewart, St. Fort; Mr. Morrison, Inchmartin; and Mr. Reid, Ballindean.

Royal Horticultural.—The first of the September meetings, held on Tuesday, was one of the most enjoyable of the season, the special feature of the day being Dahlias—Show, Fancy, Pompon, and Single, in all their manifold forms and colours. Mr. Turner, of Slough, was, of course, the most extensive exhibitor, his display being intended to make a show in the Conservatory till the end of the week. The weather of Saturday and Sunday last was most trying to the growers, but they seem to have got through it without suffering much damage, for it would seem hardly possible to bring flowers to a greater state of perfection than the grand lot staged by Mr. Turner, Messrs. Keynes, Williams, & Co., Messrs. Cannell & Sons, Mr. T. S. Ware, Messrs. Cheal & Sons, Messrs. Rawlings Bros., and Mr. John Henshaw of Harpenden. Messrs. William Paul & Son, Waltham Cross, sent ten boxes of cut blooms of roses, and which, with several others of various showy herbaceous plants, made a group that was deservedly admired. Messrs. Paul & Son, The Old Nurseries, Cheshunt, also had pretty cut blooms of the two dark-coloured Roses, Grandeur à Merveille and Souvenir de Therese Levet. Messrs. Kelway & Son also staged another of their fine groups of Gladioli.

The Fruit Committee at their last meeting on Tuesday, had before them some fine collections of apples from the Nurseries of Messrs. Paul & Son, Cheshunt, and Messrs. Cheal & Sons, Crawley. Messrs. G. Bunyard & Co., Maidstone, exhibited a beautiful sample of a Kent raised apple named Jacob's Strawberry, of above medium size, pale green, but very handsomely marked with crimson on the sunny side, and having a most pleasant aroma. It is said to be a good cropper, and should take high rank as an early dessert variety. The Committee awarded it a First-class Certificate. Mr. Burnett, The Deepdene Gardens, Dorking, also exhibited some fruits of a variety named James Dewdney, obtained from Lincolnshire, which was thought by some to be identical with Yorkshire Beauty, an opinion not generally shared in. Andrew's Barnack Pride, a good local sort round Stamford, came from Mr. Gilbert, of Burghley, who also sent a fine specimen of the Zamcha Melon weighing 11½ lbs., oval in shape, not much ribbed, golden yellow in colour, with a green band between the sections.

Obituary.

We regret to record the death of the venerable botanist, Mr. George Bentham, F.R.S., at the age of 83. Mr. Bentham has been all along a busy worker in botany, having had occasion in connection with his various works and memoirs to study nearly the entire vegetable kingdom; his botanical collections were added to those of Kew 36 years ago. Bentham and Hooker's "Genera Plantarum," which was begun in 1862, and only completed last year, may be said to summarise our present knowledge of botany, and in connection therewith, Mr. Bentham's name will be permanently known in science.

FORESTRY EXHIBITION AWARDS.

The awards of the Jurors of the International Forestry Exhibition were published on Wednesday evening. The only gold medal of the first class awarded to Nurserymen, has been gained by Messrs. James Veitch & Sons, of Chelsea, for their splendid collection of growing specimens of rare and ornamental trees and shrubs. Gold Medals of the second class are awarded to the Lawson Seed and Nursery Company, Edinburgh, for collection of trees and shrubs; to Messrs. James Dickson & Sons, Newton Nurseries, Chester, for collection of trees, shrubs, &c.; and to Messrs. Thomas Methuen & Sons, Edinburgh, for collection of trees, shrubs &c. The list of the firms to whom silver medals have been awarded, includes the following:—Messrs. James Veitch & Sons, Royal Exotic Nurseries, King's Road, Chelsea, for group of growing specimens of rare and ornamental trees and shrubs; Messrs. Little and Ballantyne, nurserymen, Carlisle, for collection of coniferous and deciduous trees; Mr. D. F. Mackenzie, factor, Morton Hall, for dendrometer; Mr. Robert Baxter, forester, Dalkeith Park, Dalkeith, for sections of woods, oak veneers, &c.; Mr. A. Brotherston, Kelso, for collection of dried specimens of British and foreign willows; Dr. Croumbie Brown, Haddington, for collection of his books on forestry; Messrs. Cunningham, Fraser, & Co., nurserymen, Edinburgh, for collection of hollies, &c.; Mr. Henry Inman, per Thomas Forty, 108, Broughton Lane, Manchester, for collection of rustic summer-houses, seats, vases, &c.; Messrs. Ireland and Thomson, Craigleith Nursery, Edinburgh, for collection of trees and shrubs; Messrs. Mackenzie and Moncur, Upper Grove Place, Edinburgh, for wood conservatory, &c.; Mr. William M'Corquodale, forester, Scone Palace, Perth, for collection of specimens of woods, gates, &c.; Mr. John M'Laren, forester, Hopetoun, for growing trees, specimens of woods, &c.; Messrs. Ben Reid & Co., nurserymen, Guild Street, Aberdeen, for collection of trees and shrubs, &c.; Mr. A. D. Richardson, Royal Botanic Garden, Edinburgh, for microscopic sections of stems, &c.; Hon. Mark Rolle, per James Barrie Stevenson, Torrington, for collection of woods, seeds, cones, &c.; Mr. Thomas Wilkie, forester, Tyninghame, for sections of woods, dried leaves, &c.; and the Willesden Paper and Canvas Company, Willesden Junction, London, for pavilion of paper wood, &c.

LONDON SEED TRADE.

September 10.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a brisk demand for Trifolium at slightly advanced rates, supplies being almost exhausted. Mustard and Rape sell freely at full rates. There is an improved demand for winter Tares at a slight advance in values. Rye is very scarce. Fine samples of new Clovers, Alsike, White, and Trefoil are now arriving, and meet a slow sale at very moderate prices. New Red Clover, English and Foreign, is also offered, but prices are above the views of buyers. Blue Peas continue firm; Canary unchanged; Hemp seed realises extreme prices on the spot, but new seed is now offering cheaper to come forward.

COVENT GARDEN MARKET.

September 11th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6– 4 0	Melons, each	0 6– 1 6
Figs, per dozen	0 6– 0 9	Pine-apples, Eng., lb.	4 0– 5 0
Grapes, per lb.	0 6– 2 6	Peaches, per dozen	1 0– 8 0
Kent Filberts & cobbs, per 100 lbs.	55 0–60 0	Pears, French, p. doz.	1 0– 1 9
		Plums, ½-sieve	4 0– 9 0

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0– 4 0	Lettuces, Cabbage, per dozen	1 6– ...
Beans, French, lb.	0 4– ...	— Cos, each	0 2– ...
Beet, per dozen	2 0– 3 0	Marrows, each	0 2– ...
Cabbages, per dozen	2 0– ...	Mint, green, bunch	0 4– ...
Carrots, per bunch	0 6– ...	Mushrooms, p. basket	1 0– 2 0
Cauliflowers, English, dozen	3 0– 4 0	Onions, per bunch	0 6– ...
Celery, per bundle	1 6– 2 6	Parsley, per bunch	0 8– ...
Cucumbers, each	0 6– 0 8	Peas, English, quart.	1 6– ...
Endive, French, per dozen	2 6– 3 6	Radishes, per dozen	1 6– ...
Garlic, per lb.	0 6– ...	Small salading, per punnet	0 4– ...
Herbs, per bunch	0 2– 0 4	Spinach, per strike	2 0– ...
Horse Radish, bundle	3 0– 4 0	Tomatos, per lb.	0 9– ...
		Turnips, bunch	0 8– ...

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0– 4 0	Lavender, 12 bun.	6 0– 8 0
Asters, 12 bunches	3 0– 6 0	Marguerites, 12 bun.	3 0– 6 0
Bourvardias, per bun.	0 9– 1 0	Pelargoniums, per 12 sprays	0 6– 1 0
Calceolaria, 12 sprays	0 4– 0 6	Pinks, various, 12 bunches	... – ...
Carnations, 12 bun.	0 6– 1 0	Primula, double bun.	1 0– 1 6
Chrysanthemums, 12 bunches	3 0– 6 0	Pyrethrum, 12 bun.	2 0– 6 0
— large, 12 blooms	2 0– 6 0	Rhodanthes, 12 bun.	4 0– 6 0
Cornflower, 12 bun.	2 0– 4 0	Roses, outdoor, 12 bunches	2 0– 6 0
Dahlias, 12 bunches	3 0– 6 0	Stephanotis, 12 spr.	4 0– 6 0
Eucharis, per dozen	4 0– 8 0	Stocks, 12 bunches	3 0– 6 0
Gardenias, 12 blms.	3 0– 6 0	Sweet Peas, 12 bun.	1 6– 4 0
Gladiolus, various, 12 bunches	6 0–12 0	Sweet Sultan, 12 bun.	2 0– 4 0
Heliotropes, 12 sp.	0 6– 1 0	Tuberoses, per dozen	0 6– 1 0
Lapageria, white. 12 blooms	2 0– 3 0	White Jasmine, bun.	0 6– 1 0
— red, 12 blooms	1 0– 2 0		

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0–24 0	Foliage Plants, various, each	2 0–10 0
Asters, per dozen	3 0– 6 0	Fuschias, per dozen	3 0– 6 0
Begonias, per dozen	4 0–12 0	Heliotrope, dozen	3 0– 6 0
Bouvardias, dozen	9 0–18 0	Lilium longiflorum, per dozen	6 0–18 0
Chrysanth., dozen	4 0– 6 0	— speciosum, p. doz.	6 0–18 0
Cockscombs, dozen	2 6– 4 0	Marguerites, per doz.	8 0–12 0
Coleus, various, doz.	2 0– 4 0	Palms in variety, each	2 6–21 0
Cyperus, per dozen	4 0–12 0	Pelargoniums, scarlet per dozen	2 0– 6 0
Dracæna term. dozen	30 0–60 0	Petunias, per dozen	3 0– 6 0
— viridis, per dozen	12 0–24 0	Rhodanthes, per doz.	4 0– 6 0
Evergreens, in var., per dozen	6 0–24 0	Solanums, dozen	9 0–15 0
Ferns, in var., dozen	4 0–18 0		
Ficus elastica each	1 6– 7 0		

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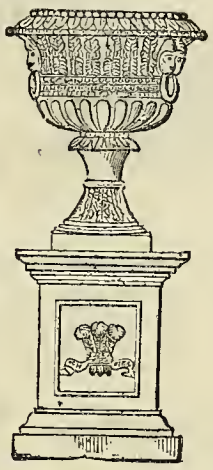

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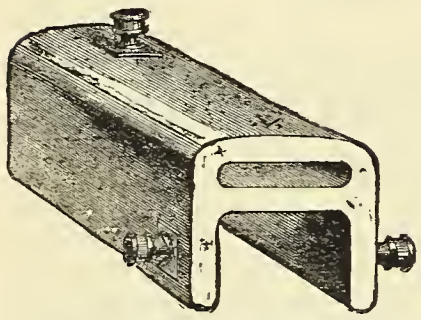

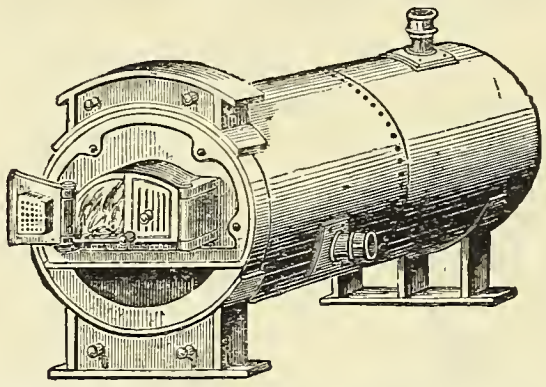

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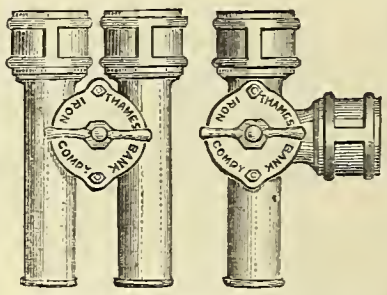

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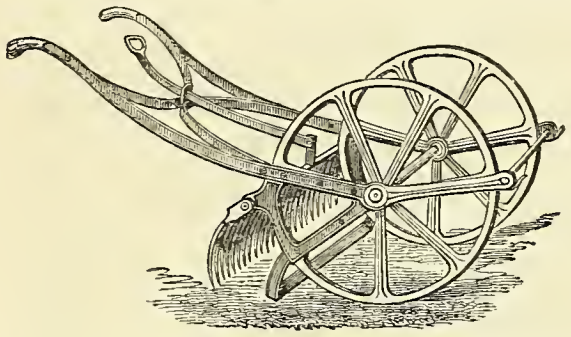

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ADVERTISEMENTS for publication in THE GARDENING WORLD will be received at the rate of 8*d* per line, body type, of about 10 words. Head-lines will be charged as two. Single column, £4 10*s.*; half page, £7 10*s.*; page, £12 12*s.* Special terms will be quoted for a series.

GARDENERS and others wanting situations:—26 words, 2*s.*, and 6*d.* for every additional line of about 10 words. These Advertisements must all be prepaid.

ADVERTISEMENTS for the current week's issue must reach the Office not later than the first post on Thursday morning. "Stop" orders cannot be received after the same time.

POSTAL AND MONEY ORDERS should be made payable to B. WYNNE, at the Post-Office, Drury Lane, London, W.C.

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ALL COMMUNICATIONS respecting Advertisements should be addressed to the Manager, B. WYNNE, at the Office, 17, Catherine Street, Covent Garden, W.C.

THE ELEVENTH GRAND INTERNATIONAL POTATO EXHIBITION will be held at the CRYSTAL PALACE, Sydenham, S.E., on the 8th, 9th, and 10th October, when upwards of ONE HUNDRED AND FIFTY POUNDS will be awarded in prizes. Entries close on September 29th. For particulars apply to
P. M'KINLAY, CROYDON ROAD, ANERLEY, S.E.

Special Notice.

HARDY FLORISTS FLOWERS: Their Culture and Management. By JAMES DOUGLAS. Price 3*s.* 6*d.*, post free.—Address, Mr. James Douglas, Great Gearies, Ilford.

OPINIONS OF THE PRESS.

"We have in 'Hardy Florists Flowers' not only a trustworthy, but a tasteful and presentable little volume."—*Gardeners' Chronicle.*

"Mr. Douglas may be said to have presented in 'Hardy Florists Flowers' a series of complete treatises—short, pithy, and to the point."—*The Garden.*

"The book opens with a portrait of the veteran Charles Turner, of Slough, and closes with a capital index; while between the two will be found a directory for the florist, which he may follow without fear through every step and stage of work and criticism."—*Gardeners' Magazine.*

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EARLY FLOWERING BULBS.

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Have fine Stocks of the following, and are prepared to make Special Offers on application:—

Hyacinths, Early White Roman (new arrival, fine).
Hyacinths, Early Italian.
Lilium candidum. **Anemone fulgens.**

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NEW HARDY SWEET SCENTED WHITE PASSION FLOWER,
"CONSTANCE ELIOTT."
1st Class Certificate, R.H.S., 1884.

LUCOMBE, PINCE & Co., The Exeter Nursery, Exeter, will be prepared to send out this novelty in the Spring of 1885. They have purchased the whole stock from the raisers, Messrs. FULLER & SON, of Newton Abbott.

Price 5s. each.
A few extra-sized Plants, 10s. 6d. each.
Terms to the Trade on Application.

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CHARLES TURNER'S
CATALOGUE IS NOW READY.
The First Consignments are to Hand in Excellent Condition.

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FERNS AND SELAGINELLAS,
Carriage Paid, embracing many of the most lovely and desirable in Cultivation.—ABRIDGED CATALOGUE of over 1000 Species and Varieties free on application.—LARGE CATALOGUE (Price 1s.), containing 75 Illustrations of Ferns and Selaginellas, valuable "Hints on Fern Culture," and other useful and interesting information.

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PANSIES.—Both Fancy and Show Varieties by name, 2*s.* to 4*s.* per dozen.
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POLYANTHUS.—Dean's very fine White, Yellow, and dark mixed Hybrids, strong plants, 2*s.* per dozen.
VERY CHOICE PANSY SEED, 1*s.* PER PACKET.

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WALSALL, STAFFORDSHIRE.

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AZALIA INDICA, Camellias, Azalia Mollis, Hardy Ghent Azaleas, Rhododendrons, Palms, Orchids, &c., &c. Extra fine plants, best varieties, at lowest prices. Ch. Vuylsteke, Nurseryman, Loochristi, Ghent, Belgium. Catalogues free on application to Messrs. R. SILBERRAD SON, 25, Savage Gardens, Crutched Friars, London, E.C.

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C. G. VAN TUBERGEN, Jun., Haarlem, Holland.—Wholesale CATALOGUE now ready, and may be had free on application to Messrs. R. SILBERRAD SON, 25, Savage Gardens, Crutched Friars, London, E.C.

FLORIST'S FLOWERS.—I beg to intimate that my Grand Collection of PANSIES, PHLOXES, PENTSTEMONS, ANTIRRHINUMS, DAHLIAS, Single and Double, are now in fine flower at the Nursery, Beech Hill, near Edinburgh. Inspection invited.—JOHN DOWNIE, Nurseryman, 144, Princes Street, Edinburgh.

80,000 CLEMATIS IN POTS of all the finest double and single varieties (some of the flowers of which become 10 in. across, and are of every shade, from pure white to the darkest purple) for climbing and bedding, from 12*s.* to 24*s.* per dozen, strong plants; descriptive list on application.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

PANSY CUTTINGS. PANSY CUTTINGS. From our splendid Collection. Purchasers own Selection 2*s.* 6*d.* per dozen pairs, free. Seed 1*s.* per packet. Pentstemon Cuttings, 1*s.* per dozen, named.—WM. SANDERS, The Gardens, Leek, Staffs.

ROSE TREES, very vigorous and healthy, Standards, 18*s.* per dozen; Dwarfs, 10*s.* per dozen. Catalogues on application.—KEYNES, WILLIAMS & CO., The Nurseries, Salisbury.

FIFTY THOUSAND AZALEA MOLLIS. Good plants, showing from 15 to 20 buds, £2 10*s.* per 100; 10 to 15 buds, £1 15*s.* per 100; 8 to 12 buds, £1 10*s.* per 100. Plants ready for forcing in a year's growing, very best stuff, 20*s.* per 100; smaller ones, 14*s.* per 100. Planted-out Seedlings of the very best growth, £3 10*s.* per 1000, 7*s.* 6*d.* per 100. Samples sent free to London till September 15, 1884.
OVE. BURVENICH-DE WINNE, The Rose and Palm Nursery, Gentbrugge, near Ghent, Belgium.

PANSY CUTTINGS.—Show and Fancy.—Finest Scotch Varieties of 1884, 6*s.* per dozen; best Older Varieties, 2*s.* to 4*s.* per dozen; 12 named sorts, mixed, 1*s.* 3*d.* per dozen, post free. Cash with order. Catalogues free on application.—GEORGE WHITE, Carriagehill Nursery, Paisley.

75,000 MRS. SINKINS WHITE CLOVE PINK, largest, hardiest, sweetest, and best of all for cutting from May to November. Plants, 3*s.*, 4*s.* and 5*s.* per dozen. Cuttings, 5*s.* per 100, or in exchange for other good sorts.—W. WEALE, Carnation Gardens, Cliveden Road, Taplow, Bucks.

GARDEN FRAMES AND LIGHTS, from 20*s.* GREENHOUSES, 10 ft. by 5 ft. from £6. FRAMES OR LIGHTS TO ORDER, any size or shape.—ALBERT HARRIS, Wavendon, Woburn, Beds.

GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 oz. to the gallon of soft water, 4 to 16 oz. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*

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SALES BY AUCTION.

Clapham, S.W.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Rose Nursery, 30, High Street, Clapham, S.W., near the Clapham Road Railway Station, on TUESDAY, September 23, at 12 o'clock precisely, by order of Mr. G. B. Fischer, the Surplus Stock of STOVE and GREENHOUSE PLANTS, the whole of which are remarkably well grown, and in the best health and condition, including Aspidistras, Hoyas, Stephanotis, Dracænas, Ficus, Gardenias, Camellias, Azaleas, a fine assortment of Palms and Ferns, two nearly new Conical Boilers, &c.

May be viewed. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.

Ealing, W.

ABSOLUTE SALE of the whole of the STOCK in TRADE, Horses, Van, and effects, without the slightest reserve.

IMPORTANT TO THE TRADE.

MESSRS. PROTHEROE AND MORRIS having sold the Nursery are now instructed to SELL by AUCTION on the Premises, the Haven Green Nursery, Ealing, W., about ten minutes' walk from the Ealing Railway Stations, on WEDNESDAY, September 24, at 12 o'clock precisely, the whole of the well-grown GREENHOUSE PLANTS, including about 20,000 Maiden-hair Ferns in No. 24, 32, 48, and 60 pots; Bouvardias, 1,000 Lomaria gibba, 2,300 Cyperus, 2,000 Marguerites, 800 Azaleas, 4,000 Geraniums, Palms, Pinks, Carnation, Chrysanthemums, Evergreen and Deciduous Shrubs, two HORSES, VAN, UTENSILS in TRADE, and numerous effects.

May be viewed two days prior to the Sale. Catalogues may be had on the Premises; of Messrs. M. and H. TURNER, Solicitors, 22, Sackville Street, W.; and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.

Brighton.—Preliminary Notice.

By order of the Executors of the late Mr. Thomas Killick.

IMPORTANT CLEARANCE SALE.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the Premises, The Nursery, Dyke Road, Brighton, on WEDNESDAY and THURSDAY, October 8 and 9, the whole of the remarkably well-grown NURSERY STOCK, 15,000 Dwarf Roses, AGRICULTURAL IMPLEMENTS, HORTICULTURAL REQUISITES, three HORSES, and the HOUSEHOLD FURNITURE and effects.

Further particulars will appear.

N.B.—The valuable FREEHOLD BUILDING ESTATE BE SOLD. Particulars of the Auctioneers.

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Five Minutes' walk from Loughborough Junction Station, and only 2½ miles from the City or West End.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. E. Dowling to SELL by AUCTION, on the Premises, the Swiss Nursery, Angel Road, Brixton, on THURSDAY, September 25, at 12 o'clock precisely, the beneficial INTEREST in the LEASE of the NURSERY, comprising Half-an-Acre of Ground with 7 Greenhouses, held for an unexpired term of nearly Forty Years, at a quit-rent of only 1s. per annum. Also the Interest in the Agreement for Lease of piece of GARDEN GROUND, situate in Alington Place, with 3 Greenhouses. Immediately after the Sale of the Leases will be offered in suitable lots the whole of the GREENHOUSE PLANTS, large Camelias and Azaleas, Shrubs, UTENSILS in TRADE, the remaining HOUSEHOLD FURNITURE, and other items.

May be viewed. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C.

Wimbledon, S.W.—Preliminary Notice.

GREAT CLEARANCE SALE of unusually well-grown NURSERY STOCK, in consequence of the expiration of the Lease of a portion of the Home Nursery.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. D. S. Thomson to SELL by AUCTION, on the Premises, The Nursery, Wimbledon, on MONDAY, October 20, and three following days, about 10 Acres of remarkably well-grown Nursery Stock.

Further particulars of which will be Advertised.

Flowering Orchids.—Special Sale.

MESSRS. PROTHEROE AND MORRIS beg to announce that their NEXT SPECIAL SALE of ORCHIDS in Flower will take place on TUESDAY, September 30, and they will be glad to receive an intimation from Gentlemen desirous of including Lots on or before the 20th inst.

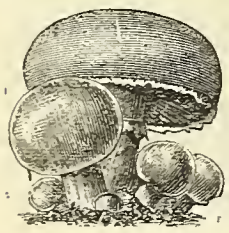
Sale 217.

HIGHLY IMPORTANT UNRESERVED SALE of the well-known COLLECTION of ESTABLISHED ORCHIDS, formed by Oscar Lamarche, Esq., of Liège, and enjoying a reputation probably unequalled on the Continent.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL the above Collection by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, October 7, at half-past 12 o'clock precisely. Many grand things will be included, amongst others may be mentioned:—

Vanda Lowi, an unique specimen with thirty-two leaves	Cattleya Gaskelliana, white variety
Dendrobium Shrœderi	,, Trianæ alba
,, Gimberti	Anguloa Ruckeriana
Cypripedium Haynaldianum	Cœlogyne Massangeana vera
,, Stonei	Oncidium tetracopis
,, Dominianum	Vandas in variety, a grand lot
Masdevallia troglodytes	Lælia Perrini
Lælia superbiens	

Catalogues may now be had on application at 67 and 68, Cheapside, E.C.



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IMPROVED MUSHROOM SPAWN, per bushel of fourteen cakes . . s. 5 d. 0

The best in the market: never fails.

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COCOA-NUT FIBRE REFUSE.

4d. per bushel; 100 for 25s.; truck (loose, about 2 tons), 40s.; 4-bushel bags, 4d. each.

LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks for 25s.; sacks, 4d. each.

BLACK FIBROUS PEAT, 5s. per sack; 5 sacks, 22s.; sacks, 4d. each.

COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton; in 2-bushel bags, 4d. each.

YELLOW FIBROUS LOAM, PEAT MOULD, and LEAF MOULD, 1s. per bushel, SPHAGNUM MOSS, 8s. 6d. per sack.

MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c.

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THE

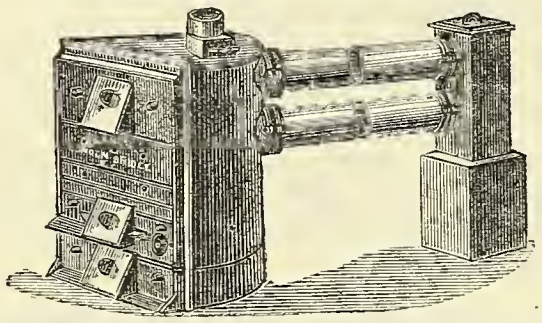
LOUGHBOROUGH GREENHOUSE HOT-WATER APPARATUS

Can be seen in action Tuesdays, Thursdays, and Saturdays in

DEANE & CO.'S "GEM" CONSERVATORY,

Close to the Panorama in the grounds of the

CRYSTAL PALACE.



Price, as engraving, with Boiler, open feed syphon, 12 ft. of 4-inch hot-water pipe, and patent joints complete, £4. 4s. Delivered free to any Station. Discount for cash.

This is the simplest, cheapest, and most powerful apparatus made. It requires no brick setting, no stokehole, and no hot-water fitter for fixing. The Boiler stands in the Greenhouse, the front only being outside and flush with the outer wall, so that the whole of the heat from the boiler itself is utilized.

It burns over 12 hours without attention at a nominal cost.

"Loughborough" Boilers to heat up to 650 ft. of 4-in. pipe, with hot-water pipe, joints, &c. &c., always in stock.

COST OF APPARATUS FOR HOUSES OF ANY SIZE ON APPLICATION.

The measurement of Greenhouse being given, every apparatus is delivered with pipes cut and fitted ready for fixing.

Illustrated List, with full particulars, post free.

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Horticultural Builders and Hot-Water Engineers,

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HYACINTHS, TULIPS, &c.

QUALITY AND QUANTITY.

WM. CUTBUSH & SON

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WHO IMPORT NONE BUT FIRST-CLASS BULBS,

HAVE RECEIVED THEIR

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COLLECTIONS OF BULBS,

Either for in or out-door culture, are made up to suit all classes of buyers, at moderate prices, from

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These are bargains of best quality, and cheaper if good results are needed.

HIGHGATE NURSERIES, LONDON, N.

BULBS.

B. S. WILLIAMS

Begs to acquaint his numerous Customers that the

ONLY GOLD MEDAL

For Bulbs this year was awarded to a Collection exhibited by him at South Kensington last Spring.

COLLECTIONS OF BULBS,

For In-door and Out-door Culture
At 60s., 30s. and 15s. each.

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At 30s., 15s. and 10s. each.

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At 40s., 20s. and 10s. each.

For further particulars see General Bulb Catalogue, which will be forwarded free on application.

VICTORIA AND PARADISE NURSERIES,
UPPER HOLLOWAY, LONDON, N.

FLOWERING PLANTS

FOR AUTUMN AND WINTER.

STRONG, HEALTHY, AND FULL OF BLOOM.

Acacias, 18s. to 30s. per doz.
Azalea indica, 18s. to 60s. per doz.
Bouvardias, distinct singles and doubles, 18s. per doz.
Camellias, 30s. to 60s. per doz.
Cyclamen persicum (Smith's superb strain), full of buds, 5-inch pots, 18s. per doz.
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Ericas hyemalis, Willmoreana, caffra, gracilis, autumnalis, &c., 6-inch pots, 18s. to 30s. per doz.
Gardenias, 18s. to 30s. per doz.
Lapageria alba, 7s. 6d. to 42s. each.
Lapageria rosea, 2s. 6d. each.
Libonia Penrhosiana, 12s. to 18s. per doz.
Pimeleas, very fine, 30s. per doz.
Primulas, best doubles, named, 30s. to 42s. per doz.
Primulas, double white and purple, 18s. per doz.
Tree Carnations, 5-inch pots, 24s. to 30s. per doz.

Grevillea robusta, 5-inch pots, 12s. to 18s. per doz.
Ferns, Maiden-hair, &c., in great variety; also

STOVE AND GREENHOUSE PLANTS.

DESCRIPTIVE LIST FREE.

Selections from above may be made at dozen prices. The plants are remarkably fine and cheap.

RICHARD SMITH & Co.,

NURSERYMEN AND SEED MERCHANTS,
WORCESTER.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, SEPTEMBER 20, 1884.

THE INTERNATIONAL POTATO SHOW.—We learn that the presence of the Lord Mayor of London and Sheriffs in State, is considered to be certain at the forthcoming Exhibition of Potatos to be held at the Crystal Palace on the 8th of October, and two following days. Exhibitors will note that the Show is this year one day longer than it has been in any previous year, adding perhaps a little to the expenses and detracting a little more from the after exhibition value of their tubers, yet it is hoped that a third day may prove to those growers who come a long distance, not absolutely wasted time. The city patronage, thanks to the earnest labours of the Hon. Secretary, Mr. P. McKinlay, has always been freely bestowed upon the International Potato Show, and it has not been given in vain. As the Lord Mayor will preside over the luncheon and ladies will be present, it is expected that this element of the gathering—and which is always the best of its kind during the year—will be unusually brilliant. It is to be hoped that the civic cortege will keep good time, and thus enable the luncheon to take place ere hunger has become painful to endure. The toast list on the festive occasion usually includes exhibitors, but we believe it has never yet been instrumental in doing honour to "The Raisers." Perhaps on this occasion, even if the proposing of it should render the omission of something formal necessary, room may be found for a toast to the raisers, who deserve so well of their country, and without whose labours the exhibitors and growers of all kinds would make but a poor show indeed.

ALLOTMENT GARDENS.—We are interested to notice that this important topic is cropping up again, and trust that it may continue to crop up until a considerable area of land in many parts of the kingdom is devoted to garden plots for the benefit of our industrial population. There is too much reason to fear that in gardening circles horticulture for the poor, especially in the particular form to which we are now adverting, is held in light esteem, in fact, is placed rather amongst social subjects than horticultural ones. We hold strongly that gardening is as essential to the welfare, pleasure, and happiness of the poorest as of the richest, though there can be no doubt that to the poor it comes more in the form of comfort than of pleasure. For that very reason it is our duty to help in every way to promote the demand for garden plots for working people wheresoever they can be obtained, because in so doing we feel that the solution of a great social problem is being worked out. It is an interesting fact in relation to Allotment Gardening, to know that under scarcely any other conditions of culture and cropping, is ground to be made more useful or productive. Could a faithful record of the produce obtained in any one year be kept, say from 10 acres of land devoted to Allotment Gardening, where the culture was fairly good; and be compared with the produce of the same extent of land under ordinary field culture, we are sure the difference in favour of the allotments would be a surprise. The great need of the day is not only to tie the people to the soil but to find far greater numbers of them engaged in its culture. Large Farms have driven labour from the soil, and only the division of it into small Garden Farms and Allotments can bring the people back again. The subject is hardly ripe for treatment, but whenever it is we shall see this view of the case warmly supported.

THE LATE MR. BENTHAM.—We noticed last week the death of the veteran Botanist, Mr. George Bentham, F.R.S., at the mature age of 83. His writings were chiefly interesting to the Botanist, but there is one paper which may be said to be even more so to the Horticulturist, and at the present time it may not seem inappropriate to call attention to it. It is entitled "Report on some of the more remarkable hardy ornamental plants raised in the Horticultural Society's Garden from seeds received from Mr. David Douglas, in the years 1831, 1832 and 1833." The plants described are the following:—Ribes glutinosum, R. malvaceum, Leptosiphon androsaceus, L. densiflorus, Gilia tricolor, Phacelia tanacetifolia, Nemophila insignis, Collinsia bicolor, and Chelone centranthifolia. Some of these North American plants it will be noticed are still amongst our popular favourites.

CHRYSANTHEMUMS.—With the decline of summer comes special interest in our queen of autumn flowers, the Chrysanthemum, and speculations are rife as to the probable condition of the plants for the production of show-blooms. Last year a general tendency towards earliness proved disastrous to not a few growers, and some of the finest blooms, especially of the Japan kinds, were over before the annual exhibitions opened. This season the plants generally show no undue precocity, though the summer has been so hot. Really the tendency of the weather has been rather to solidify the growth than to unduly force it, hence just now there is promise of a fine bloom in good season. Naturally plants have suffered where watering has been neglected, and the foliage has fallen. Such plants will produce but mediocre blooms. Still no really good grower has been so inattentive, and therefore the shows will not suffer on that account. It will be interesting to note how far the heat in thus early hardening the wood has tended to affect the size of the blooms, and if the result should be that these are less loose in many cases where closeness is customary, and all are more dense and compact, there will be great gain, for of large, loose, sprawling flowers we have too many, and can well afford to dispense with them altogether. Happily the awards of judges tend to favour form, denseness, and quality in blooms even of the Japanese, in preference to mere size, and thus growers are being educated to grow the best sorts. We shall hope to see the plants in bloom shown in decorative groups rather more compact than usual, though not less floriferous, unless any grower of these should have made the mistake of standing his plants in shade rather than in the full force of sunshine.

TOMATOS.—A very interesting question comes from an intelligent reader: "Can you tell me which is the best Tomato?" This is not only an interesting query, but it is a very difficult one to answer satisfactorily, unless we get out of a difficulty by saying that in their way all Tomatos are good, though we must even then add that some are better. Now, much depends upon the special purpose for which Tomatos are required, but as a rule for all general purposes the large, rich-coloured red kinds are the best, and smooth fruits are most preferred. From the time of the introduction of Hathaway's Excelsior—one of the most prolific and pretty of kinds—we have had numerous duplicates of it put into commerce, but in some cases there is found greater size, though hardly more prolificacy. Thus Trophy, Stamfordian, Hackwood Park, Phillips' Perfection, Dedham Favourite, Lord Wolseley, and some others, are all reproductions of Excelsior, but showing in some cases greater size, and in others slight divergencies. Any one of these—especially of the latter four kinds—are first-class, in fact, just about as good as red Tomatos well can be, and they always furnish a handsome exhibition sample. To ensure prolificacy, no doubt crosses between Excelsior and some one of the old free-bearing, sutured kinds give excellent results, but as a rule these sutured forms are less appreciated in the market than are smooth forms. After all, productiveness depends very much upon culture, and if gardeners could continue their stocks by means of cuttings they would find the plants much more productive than seedlings are. Of the smaller pear or plum-shaped kinds, the Chiswick Red is the best. Colour is good and flavour fair, whilst the crop is immense relatively. Of the yellow kinds the finest and deepest coloured is the large Golden Queen. The market culture of Tomatos is spreading rapidly, and seems to be a profitable occupation, for happily the taste for this wholesome fruit is spreading also.

ANEMONE JAPONICA.—Suffering for some time because of the heat and drought of the past summer these beautiful cool-air and moisture-loving plants have, since the recent rains, wonderously revived, and are now blooming with exceeding beauty and abundance. But even as regards this charming flower there is a fly in our pot of ointment, and that is seen in the exceedingly fragile or transitory nature of its flowers when out. It is all very well to rush into glowing eulogiums over its beauty, and specially to describe the white form as a hardy Eucharis, and that sort of thing; but it is neither so elegant as the Eucharis nor one-half so enduring, and it is with the latter defect that we are most concerned. As a flower for cutting, more especially to mix with Dahlias, Asters, early-blooming Chrysanthemums, &c., it would be invaluable were its blooms of a more enduring nature. To secure that desideratum, there seems no other course but to endeavour to increase the number of petals in the blooms—in fact, to convert the flowers into double ones. It is hoped that no agonized shriek of horror will arise over this suggestion, because those who prefer single blooms may have them in exceeding abundance. We are rather thinking of the needs and requirements of that large number of gardeners and tradespeople who have to furnish cut flowers, and who must have enduring ones. We are by no means disposed to think, however, that the Japan anemone would be spoiled because its blooms were doubled, and indeed imagine that a pure white form resembling miniature Pæonies would be hailed with universal delight. Will some of our growers of this plant set themselves to the work of selecting semi-double forms that may develop in time all we desire, or perhaps some lucky hit in crossing may succeed in securing the desired novelty?

SINGLE DAHLIAS.—We revert again to these popular flowers, because, having in mind the singularly beautiful, and indeed almost perfect, forms which have recently been exhibited both at the Crystal Palace and at South Kensington, it may be worth while to caution small raisers of these Dahlias from seed how they set too high an estimate on their best forms. So good in form and so rich and varied in colouring have these

flowers become, that we fear few can raise seedlings in an ordinary way that will compare with the best in the hands of our trade growers. There is, too, in the Single Dahlia not only a free habit of seeding, but also of reproducing itself, and rarely can distinct breaks in colour be obtained except by careful crossing. We notice that nearly all the leading growers have superb scarlets under diverse names, though almost identical in form and hue. That arises from the fact that scarlet is a brilliant hue, and as such is widely favoured; but the infusion into some good scarlet of a rosy or magenta shading might be productive of striking results. We strongly advise small growers of Single Dahlias to secure plants of the most perfect kinds in commerce, and thus not only see what good flowers really are, but to employ those to produce choice seed through intercrossing. We must remember, however, that whilst Single Dahlias are so beautiful and attractive when set up on the show table in bunches, their chief purpose is to decorate our gardens, and to that end we need dwarf habited free bloomers and effective colours. Now that Single-flowered Dahlias are deservedly getting such attention from gardeners the early notes respecting them are very interesting, showing that they must either have lain hidden somewhere for a great many years, or that they were entirely lost after their introduction, and the loss being made good in recent years by importation and by cross fertilization. In the first volume of *The Botanical Register*, 1815, we find a fine plate of as good a crimson-scarlet single variety as we have now, figured under the name of Dahlia superflua, together with an account of it, which states that it was introduced by Lady Bute in the year 1789 from Mexico by the way of Spain. The varieties D. frustranea (scarlet), D. f. lutea (sulphur), D. f. crocea (saffron), and D. f. aurantia (orange), all introduced in 1802, are also spoken highly of. Thus we see that nearly one hundred years ago the gardener had in his hands good material for raising all those wonderful parti-coloured and gorgeous varieties which we now see, and that for the greater part of a century the opportunity was neglected. In view of these facts, few things can give a better testimonial to the advanced state of gardening and the love for flowers in our time than those lovely stands of Single Dahlias of all shades and hues which Turner of Slough, Ware, Keynes, Cannell, and others have staged at our shows this season.

English Apples in Normandy.—At the end of this month, Dr. Bull, of Hereford, Dr. Hogg, and Mr. Piper, as a deputation from the Woolhope Club, leave England for the great Apple Congress at Rouen, in order to compare the Herefordshire with the Normandy Apples. The Hereford Club will exhibit about two hundred varieties of Apples and Pears with Cider and Perry in bottles, and will besides exhibit some actual Apple Trees of the best Herefordshire varieties. It is proposed to bring back about half-a-dozen trees of the best Normandy kinds, which will be carefully cultivated in the Herefordshire orchards under the name of "Club Normans." The report of the deputation will be incorporated in the last Part now nearly ready, of the "Herefordshire Pomona."

Mildew.—Mr. Dumper, writing from Summerville Gardens, Limerick, informs us that the dry and comparatively sunless weather has favoured the rapid spread of this dreaded fungus in that locality. Sulphur was applied to Peas, Roses, Clematises, &c., both when the foliage was dry and again in the early morning while damp, but without much success until he made a decoction of sulphur and soft soap, with which the plants were syringed, and which had the desired effect.

Gardening Miscellany.

The Fruit and Vegetable Show to be held at South Kensington next Tuesday and Wednesday, in connection with the Health Exhibition, promises to bring out a more than usually brisk competition. The display of Grapes alone is expected to be the finest that will be seen in London this season.

The Neill Prize, which is of the value of £40, was on Wednesday afternoon awarded by the Council of the Royal Caledonian Horticultural Society to the Assistant-Secretary of the Society, Mr. Young, for his long and untiring exertions in the cause of horticulture. We congratulate Mr. Young on his receipt of a compliment so well deserved.

At the Royal Caledonian Horticultural Society's Show in Edinburgh on Wednesday, Mr. M'Indoe, Hutton Hall, Guisboro', won the first prize for a collection of twelve dishes of Fruit, Mr. Johnstone, of Glamis Castle, being second. The best eight dishes were shown by Mr. M'Conochie, Cameron House, Alexandria; and Mr. Fairgrieve, Dunkeld, was first with hardy Fruits. The show of fruits and plants was a very good one.

Mr. Sam Mendel, whose name a few years ago was a household word among gardeners, died on Wednesday at Chislehurst. Mr. Mendel, who was one of the best known of Manchester merchants, began business in a small way some years ago, but ultimately became head of a great shipping and mercantile house, and realized an immense fortune. He had very extensive dealings with India, China, and America. Suffering some reverses, but still well off, he retired ten years ago, and sold his famous Manley Hall collection of pictures, china, and plants.

On the 10th inst., the coming of age of Mr. John Baring, was celebrated at Membland Hall, Devon, and among the valuable presents made to him, we note a pair of Antique Silver Salvers, presented by Mr. George Baker, the gardener, on behalf of the *employés* and cottagers.

The rare Cattleya Whitei is now in flower with Holbrook Gaskell, Esq., Woolton Wood, Liverpool. The plant is believed to be unique.

The number of bushels of Onions imported during the week ending September 13th, was 115,536. During the same period the Potato imports amounted to 16,039 cwts.

On Wednesday, Mr. T. S. Ware, of Tottenham, and Messrs. Kelway & Son, of Langport, exhibited collections of Herbaceous plants and Gladioli at South Kensington.

On Saturday last, the Mayor of Bradford opened the New Bradford Union Recreation Grounds, an estate consisting of about 48 acres, purchased by the Corporation at a cost of £10,000, and laid out as a pleasure garden at a further cost of about £8,000.

Instead of felling a tree at Mar Lodge, while on a visit last week to the Earl of Fife, the Prime Minister planted one before his departure to commemorate his visit.

On the 10th inst. Miss Alice Fortune, daughter of the late Mr. Robert Fortune, was married to Mr. J. Durie, Barneymains, Haddington.

A society is in course of formation for the preservation of foot and bridle paths, all rights of way by land and water, village greens, &c. Those who desire to support such a society should communicate with Mr. Allnutt, 3, Holland Road, Kensington.

At Peckforton Castle, Cheshire, on Tuesday, Lord Tollemache of Helmingham inaugurated an important experiment by filling a silo specially constructed with maize grown on an acre and a half of land. The growth of this heavy cropping food has already been adequately demonstrated, as the maize cut a magnificent crop, some of the stalks growing to a height of 8 ft. The maize was cut, tied into bundles of about 25 lb. each, and carted to a shed adjacent to the silo, where it was put through a Chandler's chaffcutter and transferred to the silo, a quarter of a pound of salt being mixed with each hundredweight of chopped maize—not for preserving purposes, but to make it sweeter for the stock.

DOUBLE-FLOWERED CLEMATISES.

The large rosette-like flowers of these charming double forms are great favourites, especially for cool conservatory decoration or pot culture, and we have known them do well in the open-air when planted on a sunny south wall in a suitable soil. If a little protection can be afforded them from possibility of harm from spring frosts, which in warm positions are likely to be injurious, it is well to apply it, not so much because these Double Clematises are tender, but because being in a position where the sun's rays in early spring could shine directly upon them, they become excited into early growth, and their tender shoots take harm from early frosts. It may be further remarked that these Double-flowered Clematises belong to what is known as the Florida type, this being a slender climbing Japanese species which under favourable climatic conditions grows to a considerable height and assumes an ornamental character.

The first of the group of Double-flowered Clematises was C. Fortunei, which was introduced from Japan by the late Mr. Robert Fortune, after whom it was named. It has sweet-scented, creamy-white, rosette-like flowers. C. monstrosa, also introduced from Japan, has semi-double flowers, but is inferior to the foregoing, and at the present time is but very little cultivated. C. John Gould Veitch is another of Mr. Fortune's introductions from Japan, and it first came to this country in 1862; it has handsome full rosette-formed flowers of a pleasing lavender-blue colour. C. Lucie Lemoine is of French origin, and is said to have been obtained from C. Fortunei; the flowers resemble in form those of John Gould Veitch, but are more fully double and symmetrical, and white, with pale yellow antlers. Messrs. George Jackman & Co., of the Woking Nurseries, so well known as the raisers of many fine varieties of Clematis, have produced three very fine double forms, viz., Belle of Woking, silvery-grey, large, fully double, and very pleasing; Countess of Lovelace, a fine variety with large symmetrical flowers, bluish-lilac in colour, very pleasing; and Duchess of Edinburgh, pure white, deliciously scented, fine shape, very full, and the best of the white varieties. There yet remains one other, viz., Mrs. G. Innes, pale lavender-blue, and very handsome.

One caution is necessary. Unlike the strong-growing varieties of the summer-blooming Jackmanni type, these double varieties are of a more slender and less robust growth, flowering from the old or ripened wood of the previous year. Such pruning as they require should be confined to cutting away any decayed wood, and that only. None of the young growths of the summer should be cut away by any means, as they will produce the flowers of the following spring. They should have a deep rich soil in which to grow—a good yellow loam, rotten dung, and leaf soil. If carefully attended to they can scarcely fail to do well and give great satisfaction.—*R. D.*

Ivy-leaf Pelargoniums.—An esteemed correspondent writes:—"I am pleased to find at p. 24 a note drawing attention to these singularly beautiful decorative plants. During the summer, when in a friend's garden, I was delighted with the beauty found in a pair of vases, filled each with one or two old plants of the lovely rosy magenta-hued Glorie d'Orleans, blooming marvellously, and producing an effect such as I have never before seen obtained out of vase plants. How much I wish that some one of our gardeners, who have vases in prominent places to fill, would secure some half-dozen of the best double kinds and fill the vases with them in distinct colours. I am sure the result would delight beyond measure. The habit of growth renders the Ivy-leaf Pelargoniums the beau-ideal of vase plants. Still farther, those who want an abundance of cut flowers will find the blooms of the double forms to be most valuable."

Costus igneus.—This is a beautiful addition to our stoves, and is now in flower. The leaves are lanceolate-oblong, 4 in. long, and the orange flowers one inch in diameter. It belongs to the family Scitamineæ and was figured in *The Illustration Horticole*, new series, t. 511. Native of Brazil.

TUBEROUS BEGONIAS.

That the fashionable tuberous-rooted Begonias are eminently suited for the adornment of our flower-beds in the summer months, and that they are destined at no distant day to gain almost unprecedented popularity as "bedding-out" plants, there cannot, I think, be much room for doubt—at least, in the minds of those who have had practical experience of their utility and unsurpassed beauty. By many it is said that, in course of time, they will supersede the Pelargoniums as bedding-plants, but whether this will be so or not I will not at present attempt to say; I may, however, go to the length of stating this much, that, for giving a maximum of pleasure with a minimum of trouble, the latter are in no way comparable to the former, neither will they pass through the ordeal of continuous wet weather or afford the great variety of colour that Begonias will.

In the flower garden here two large circular beds of mixed Begonias with a groundwork of Mesembryanthemum cordifolium variegatum have gained a host of admirers this season, and this is not to be wondered at when we consider the great diversity of colour produced in a mixed bed, and the immense size of the individual blooms, some of the latter measuring from 4in. to 5 in. in diameter, and of remarkable substance, enabling them, as it were, to bid defiance to wind and rain. Were I to attempt to describe the various hues and tints of colour I should miserably fail; suffice it to say that I have amongst them bright scarlet, white, yellow, salmon, pink, crimson, vermilion, and many others, altogether a sufficiency to satisfy the most exacting of individuals and to make us feel that we owe Messrs. John Laing & Co. a deep debt of gratitude for supplying us with such an admirable selection, and of being the means of our making a first acquaintance with the bedding varieties.

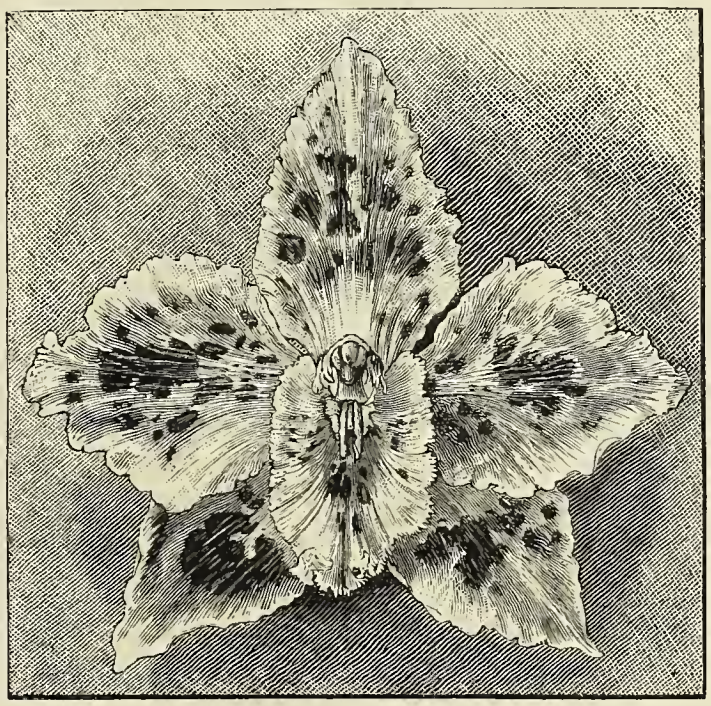
Cultured details are of the simplest, and need not be entered into at length. The roots or tubers will be found, if left to themselves, to show signs of growing early in March. They may then be potted up singly, or what will do equally well, be put into boxes about 4 in. deep, with drainage at the bottom, using a compost of loam, leaf-soil, and sand in about equal proportions. At this time they should be put into a gentle heat—say a dung-frame, or in an early vinery or peach-house—and be watered very sparingly until they are growing away with some freedom. Towards the end of April or beginning of May they must be transferred to cold frames to harden them off previous to planting them out early in June. As the plants are worth, and will well repay for, any liberal treatment bestowed upon them, the beds should have two or three barrow-loads of compost mixed with the natural soil, which may consist of that recommended above with the addition of a little well-decayed stable manure. After the first frost in autumn, which is generally about the first or second week in October, they may be lifted up, and the bulbs be stored away in cocoa-nut fibre refuse in a cool greenhouse, or anywhere else where they will be safe from frost, there to remain till growth commences again in March.

Begonias may also be raised from seed, sown in a brisk heat about the middle or end of January. The propagation of named varieties is affected by division and by cuttings. The latter method, however, is often disappointing to the uninitiated, owing to the extreme liability of the cuttings to damp off. Great care is required, and the earlier in the summer they are put in, the greater are the chances of success.—*J. Horsefield, Heytesbury.*

Tecoma Radicans.—This fine Bignoniacious plant is very suitable for a pillar in the greenhouse, in which position it may be seen in the Heath-house at Kew. The flowers are 2½ in. to 3 in. long and of a deep brick-red, with a few lines of a darker colour in the throat, and an ochreous-yellow calyx. The pinnate leaves are bright green.

ODONTOGLOSSUM CRISPUM VEITCHIANUM.

This most strikingly beautiful of all true "crispums," a charming variety, took even the most enthusiastic Orchid growers by surprise when it was exhibited under the provisional name of O. Alexandræ var. mirabile by Messrs. Veitch & Son, of Chelsea, at the Royal Botanic Society's Gardens, on June 18th. It was the centre of attraction, and, it is needless to say, obtained a Botanical Certificate. In due course it passed into Baron Shröder's hands, and he, struck by the resemblance in its markings (*see* illustration) to that other wonder, O. Pescatorei Veitchianum, which he had obtained from Messrs. Veitch previously, considered it desirable that the new comer should receive a similar name, hence he exhibited it at the Royal Horticultural Society's meeting on June 24th under its recognized name, O. crispum Veitchianum, and was awarded a First Class Certificate by an unanimous vote of the Committee. Prof. H. G. Reichenbach has also adopted the name, and therefore there will be no confusion caused by the change. O. crispum Veitchianum is certainly the very finest variety yet flowered, it is just one of those things which by their variety gives such a zest to the pursuit of the Orchid grower. Who knows where its fellow may next turn up? Any amateur with a lot of unbloomed importations may look for it, but the chances are that it will be a long time before such a treasure again presents itself.



ODONTOGLOSSUM CRISPUM VEITCHIANUM.

GARDEN PESTS.

(*Continued from p. 22.*)

Turning now to insects, it may be affirmed that the most difficult to deal with is the mealy bug, which is a tender exotic, and, fortunately, will only live or thrive in a stove, or where there is warmth in the winter, for were it not so, gardeners would have a hard, up-hill battle to fight. Why this bug puts us so much at defiance as it does, is in having a fine downy coating, something like cotton wool, under, and among which, the young are protected. The great thing in warring with them is to break up this web, which may be done by simple means, and with safety to the plants the insects are on. The plan I have been most successful with is to lay the plants on their sides, on a stage made for the purpose, where the bug may be assailed by water driven at it by the garden engine, which, if well directed, will soon wash it off. This way of cleaning will be found far better than using insecticides, which, to be strong enough for killing the bug, is sure to harm the tender young foliage, as is also sponging or hand cleaning, for, however careful the operator may be, the delicate leaves just issuing always get bruised more or less. With clean water applied with moderate force there is no danger of this, and the plants may be got at back and front by just turning them over or moving the engine. Although this cold-water cure is so effectual, it wants following up, as it is useless if only fallen back on now and then, and flown to by fits and starts, as the mealy bug breeds at a great rate, and to get rid of them no quarter must be allowed, and there is nothing for it but to keep on pegging away, by doing which the young never get to the age to hatch others. Unfortunately, the mealy bug will not only live on plants, but it will thrive almost anywhere, as it may be seen about the stakes or supports in the bark of Vines or Figs, as well as on the rafters or woodwork of houses infested. When things have come to that pass, half measures are useless, and the only way to think of eradicating the pest is to take off all the lights, which should be scrubbed with very hot water and soft soap, as also the rafters and all woodwork, ready for painting.

Before this is done the walls ought to be whitewashed, and the floors scraped or swept well out and scalded, when all will be ready for treating the Vines. These, of course, must be left till pruning time, which is the proper season to do the other work, and after being spurred in, in the ordinary manner, the next thing is to strip them of any superfluous bark and scrub them with strong soapy water, making sure to get well round the spurs and into all indentations where the bugs lurk. This done, the next proceeding is to dress them with some smothering mixture, and what this is made of matters little, so long as it is of a plastic nature and sufficiently thin to be put on with ease. Some recommend tar and clay, with water, and, if well blended and the proportions are right, nothing more effectual or better can be had. A pint of tar is quite sufficient to make a gallon, with clay and water of the consistency of paint, which is about the pitch it may be the most readily applied, and if put on carefully the stems of the Vines or Figs may be coated that not an insect will live. Paraffin, and many other such things, used by many at the strength they often do, is dangerous, as it is very penetrating, and strikes right through the wood, which it sometimes kills, or so injures that the Vines or Figs have great difficulty in breaking or starting again. I saw a house only this season where the rods had been dressed, and they were so crippled that young ones had to be run up from below, as the old ones only had shoots here and there.

Sulphur, that kills almost every living thing when subjected to its burning fumes, seems to have no effect on bugs, as I have tried it, and though some seemed disabled, the greater portion appeared just as lively as ever, which shows that their respiratory powers must be strong, and their tenacity of life great in the extreme.

American Blight. — Next, or perhaps equal, in these respects is the American blight, which much resembles the mealy bug, but instead of being tender, is very hardy, as no amount of cold seems to affect it or stop its increase, which is rapid, for when once it gets a footing it soon spreads all over a tree. From close watching of this insect I am of opinion that it is the cause of canker in the Apple, to which it is peculiar, and may soon be seen congregated in patches, small and great, interrupting the bark, which it seems to poison and cause the wood beneath to die, when excrescences are formed by the effort of the plant to right itself in making fresh rind. As this American blight, like the mealy bug, protects itself by a webby covering, and is of a greasy nature, its skin repels anything that is not quickly penetrating, and the only way of dealing successfully with it is by using a mixture of turpentine or paraffin and water, which

may be either squirted over the enemy or brushed into the parts it inhabits; the latter being the better plan of the two, as then the pest is sure to get a wetting, and the brood and all destroyed at once. In cases where the sore places are large and the trees old, it is advisable, after the dressing, to fill them up with clay and cow-dung, well mixed, which, if pressed tightly in, will keep out the light and air and allow the parts to heal by making new bark. So pernicious is this bug, and so fatal to the welfare of trees, that an onslaught should be made against it the moment it is detected, for if left to itself it is surprising how soon it spreads itself over an orchard or garden, and how quickly it cripples the plants.

Another insect that has caused a great scare of late is the phylloxera, which is a bug or louse that works underground, feeding on the roots of Vines, which it barks, and therefore cuts off a large portion of the supply of sap from the fibres, under which circumstances it is a constant effort on the part of the Vines to exist, and as to fruiting, or keeping in health, both are quite out of the question. Growers who have had experience are not quite so alarmed about this phylloxera as they were, as they know its habits now and what favours it, which is a state of dryness in the borders, and a check or remedy therefore suggests itself, which is to give plenty of water, and if this is always impregnated with lime, it is fatal to the insects if continued for a fair length of time. By adding soot and steeping the same in the water till its strength is taken out, a splendid stimulant is formed, and no better can be had for the Vine.

Scale Insects.—Of scale there are many kinds, and the remedy for these long ago, when I first took to gardening, was to paint the trees on walls, or in houses, with vile sorts of mixtures, which work took up an infinity of time, and often did quite as much harm as good. The practice is still carried out; but here I have abolished it, for when I find any of these insects on the bark, or moss or lichen forming, I quickly despatch them all at once. This is done by burning a little sulphur at the foot of the trees, on a still day, when I can make sure of the fumes travelling well up the face of the wall and through and among the branches, after which we have no further trouble, as scale and conferva and all parasitical growth perish and drop off and leave the trees clear, with stems as polished as if they were scrubbed. All who follow the old fashion try this remedy, and I will answer for it that you will never again go back to the other. On plants with foliage, I need hardly say that the application of burning sulphur would be a serious matter, as the effect would be to scorch it all up; and therefore in such cases insecticides must be resorted to when any have scale. The safest among these, so far as my experience goes, is Nicotine soap, which has the active properties of tobacco in it, and if this is mixed with water, at the rate of from 4 to 6 oz. to the gallon, and sponged on, scale, whether turtle or white, will soon loose its hold. When plants are in pots or tubs, and can be laid on their sides, it is always as well to do so, as then the liquid is prevented from penetrating the soil with the risk of injuring the roots, and to stop this with Camellias, or such other as may be planted out, it is advisable to put a thick layer of dry moss under them, or some other absorbent.

Thrip used to be considered a very troublesome customer, and so it is if not battled with; but it may easily be vanquished by either tobacco juice, Nicotine soap, or smoking, fumigating with the best tobacco paper, a few doings of which, in a closely-shut house, will kill all that are hatched. Eggs, which are deposited thickly on the under sides of leaves, are not so easily destroyed, as they have a varnished coating, which, however, the Nicotine soap will penetrate and spoil their fertility; but to get rid of any fresh young ones, we have only to smoke again later on. Red spider is a far worse enemy than thrip, as they are proof against any fumigating, except it be the sulphur, and so fast do they increase, and suck so much out of the leaves, that they soon impoverish the plant. Vines and Peach-trees are their specialities, although they may, only too often, be found on Apples and Pears. In vineries there is no remedy better than sulphur painted thickly on the pipes, when the leaf should be raised, after the house is shut for the night, so as to push the temperature up to 90 deg. or 95 deg., and if this is continued for a week, maintaining a moist atmosphere as well, red spider will have vanished by the end of that time. I have just cleared a house, as I have done other years when grapes have been colouring, by a thorough washing of the foliage with a garden-engine to force the water, which, sent at them in that way immediately under the leaves, breaks up the webs and carries the insects quite off. If this is done during a dry, airy morning, and the house set wide-open, no harm is done to the bloom or colour of the berries, which, if the water is pure, seem to finish all the better for the rinsing they get. For Peach and other fruit trees out of doors, water is the only help that is worth thinking about; and if they get plenty at the root they will seldom need much at the top, as starvation is the general cause of the evil.

Aphis, of which there are several species, are equally common with thrip and red spider, but fortunately they, except the black, may, when in a house, be easily got rid of by smoke, the same as the thrip. To kill the black, repeated doses are necessary, and when dipped in insecticide, the mixture has to be strong. Weaker applications will destroy green fly, and an excellent remedy is the tobacco dust, which should always be kept at hand, ready in a distributor, to be puffed on whenever a shoot is seen affected; as it is only by timely attention that they may be kept from being quite crippled, and the spread of the insects stopped. For caterpillars hand-picking is the thing; and to keep down slugs, lime, and frequent dressings of it in the dust state must be resorted to, the time for scattering it over the ground being early morning, when they are abroad after their food.

Wasps, those tiresome devourers of fruit, ought to be trapped continually, by having plenty of clear bottles, half filled with beer and sugar hung about, which greatly lessens their numbers; but to be quite quit of them, nests must be hunted up and tar poured in at the holes, or other means used to kill them when home for the night.—*Alpha.*

BRITISH FERNS.

(*Continued from p. 25.*)

Cystopteris montana. Mountain Bladder Fern.—A very rare British species, found in moist alpine situations in a few localities in the Highlands of Scotland. It is a handsome species, and easy of cultivation in shady rocky places on the Fernery.

Athyrium Filix-fœmina. Lady Fern.—A common and beautiful species, diffused throughout the three kingdoms, in moist woods, hedge-banks, and ravines. It is a most variable plant, even when wild, and under cultivation some three hundred varieties have been named. A selection of about thirty of the more distinct forms are perhaps preferable for effect. They require plenty of water in the growing season.

Asplenium fontanum. Rock Spleenwort.—A rare and beautiful species. It has been found on walls in a few localities in England, but there are doubts as to its being truly indigenous. A most desirable species for cultivation.

A. lanceolatum. Lanceolate Spleenwort.—A rather rare species, occurring on rocks and walls in a few localities in the south-western and Welsh counties, at Tunbridge Wells, in Kent, and near Cork in Ireland. A small but ornamental plant, and not difficult of cultivation. There are one or two rather rare but very pretty varieties.

A. Adiantum-nigrum. Black Spleenwort.—A common and widely-diffused species, occurring on rocks and old walls throughout the three kingdoms. There are several distinct varieties, which, as well as the species, are very ornamental on the rockwork.

A. Trichomanes. Common Spleenwort. — This beautiful little plant occurs on rocks and old walls throughout the three kingdoms. It is easy of cultivation, but, like most other species of the genus, too much care cannot be taken in removing it. There are a few very beautiful varieties, which are very effective on the hardy Fernery.

A. viride. Green Spleenwort.—This is very similar to the preceding in every respect, excepting that it is less common, and not quite so easy to cultivate. It prefers a cool and somewhat shady situation, and when well grown is a very handsome species.

A. marinum. Sea Spleenwort. — This species is chiefly confined to rocks and walls on the coast, where it is abundant in several localities as far north as the Orkneys. It requires protection in most inland localities, and in the Wardian case is a very handsome species. There are also a few very handsome varieties.

A. Ruta-muraria. Wall-Rue Spleenwort.—A tiny little species, widely-diffused through the three kingdoms, and very abundant on rocks and old walls in many localities. It is a most difficult species to transplant, though it has a very pretty effect when established on a piece of sandstone, or in crevices of the rockwork near to the eye. If a piece of rock cannot be removed with the plants attached, the spores may be sown in suitable situations. The two varieties of this species are also charming little plants.

A germanicum. Alternate Spleenwort. — A very scarce species, growing in similar situations to the last. It has been found in a few isolated localities in western and northern England and southern Scotland. It requires similar treatment to the previous species. The variety *acutidentatum* is also a pretty little plant.

A septentrionale. Forked Spleenwort.—A rare species, occurring in clefts of rock and old walls in several of the western and northern counties of England and in southern Scotland. It is a very distinct-looking plant, but great care must be taken not to damage the roots in transplanting.

Scolopendrium vulgare. Hart's Tongue Fern.—An abundant and widely-diffused species, occurring throughout the three kingdoms on banks, rocks, walls, and similar situations. It is the most protean of the British species, some four to five hundred varieties having been named, many of them very beautiful and some of extraordinary distinctness. Some thirty or forty of the more distinct varieties form a valuable addition to the hardy Fernery.

Ceterach officinarum. Scaly Spleenwort. — A common species in many parts of England and Ireland, but rarer in Scotland. It occurs on rocks and old walls, and is very impatient of removal, in which operation great care should be taken not to damage the roots. It is a very distinct and charming little object when well-established on the front of the rockwork.

Gymnogramme leptophylla. Annual Maiden-hair.—The only claim of this curious little plant to a place in our list is its occurrence in a few localities in Jersey. Its annual duration is anomalous amongst hardy ferns. In Jersey it grows on banks with a south-west aspect, not shaded with trees but protected from the sun's rays by the dwarf vegetation of the bank, which is kept sufficiently damp for the growth of Marchantia, by the constant oozing of a small stream. To cultivate it successfully, its natural conditions should be imitated under a bell-glass, the soil used being a light friable loam with a little sand, when it forms a very pretty object.

Blechnum boreale. Hard Fern. (*B. Spicant, Lomaria Spicant.*)—A common species, widely-diffused through the three kingdoms, and occurring in woods, and moist, stony, and heathy places. It is a striking and ornamental species, easy of cultivation, and with several pretty varieties.

Pteris aquilina. (Common Brake or Bracken.)—Generally distributed throughout the three kingdoms in woods and heaths; but seldom cultivated except in large Ferneries. It is, however, a noble fern when planted in a shady spot, in good soil, near the back of the Fernery. There are also one or two rather pretty varieties.

Adiantum Capillus-Veneris. Maiden-hair Fern.—This elegant species occurs in damp caves and rocks in a few localities in the south-western counties of England, in one Scotch locality, in the Isle of Man, and in the west coast of Ireland. Under cultivation it requires protection from frost, and is more at home in the green-house. There are several very pretty varieties.

Trichomanes radicans. Bristle Fern.—This beautiful filmy fern occurs in a few Irish localities, particularly near Killarney, in the Isle of Arran, and in one locality in the Snowdon range, in North Wales. It requires the protection of a bell-glass or Wardian case, frost should be excluded, and the air should be heavily saturated with moisture. The soil should consist of rough peat and lumps of sandstone, with plenty of sphagnum moss.

Hymenophyllum tunbridgense. Tunbridge Filmy Fern.—This elegant little species occurs in many localities throughout the three kingdoms, but in England is more common in the west and north than

in the east. It loves moist, shady rocks, and trunks of trees, and may be cultivated under similar conditions to the last; indeed, these two, with the following species, may be planted side by side under a large bell-glass.

H. Wilsoni. One-sided Filmy Fern. (*H. unilaterale.*) — Very similar to the preceding, and considered only a variety by Bentham, though sufficiently distinguishable. The range and situation are also very similar. It must be cultivated under similar conditions.

Osmunda regalis. Flowering Fern, Royal Fern.—A native of moist and boggy places in England, Scotland, and Ireland, though absent from many counties, and generally local. Its area has been considerably reduced by drainage and cultivation. It is a noble species on the Fernery, and should be cultivated in a moist situation, as drought is its greatest enemy.

Botrychium Lunaria. Moonwort.—This peculiar but interesting plant occurs in dry, hilly, or mountain pastures throughout the three kingdoms, though not generally common. It is rarely seen in cultivation owing to the difficulty of growing it, the best way being to dig up a large deep turf with the plant, and then carefully keep the grass healthy by watering; the plant will then grow, and the grass may be kept short by clipping.

Ophioglossum vulgatum. Common Adder's Tongue.—This singular plant is generally distributed over Britain, though more common in England and Ireland than in the north of Scotland. It occurs in moist meadows and pastures, and should receive similar treatment to the last, when it becomes an interesting object.

Ophioglossum lusitanicum. Pigmy Adder's Tongue.—The only claim this species has to a place in the British list, is its occurrence at Petit Bo Bay, Guernsey. Bentham considers it a diminutive variety of the last, though other authors keep it distinct. It is about 2 in. high, and, if procurable, should receive similar treatment to the preceding species.

This completes the list; and, in conclusion, I would say that the closer the conditions are imitated under which each species is found in the wild state, the greater will be the success attained in their cultivation.—*X.*

The Fern Herbarium.—In the selection of specimens for the herbarium some care is required, as it is important that each plant, so far as possible, should be represented in all its parts and in its various stages. Of the smaller ferns, such as the Aspleniums, Moonworts, Adder's Tongue, and the like, the whole plant should be shown; by this means it will, in many cases, be easy to secure upon one and the same specimen fronds in different stages of growth, some being arranged so as to show the upper and others the under surface, the mature fructification being always represented. Of larger species, such as the Male Fern, it will not be possible to take the whole plant; here a couple of representative and fully-developed fronds, showing the upper and under sides, must suffice. It will be impossible to show even a single entire frond of such ferns as the Bracken or Flowering Fern; a pair of pinnæ with the apex, or, in the latter case, the fertile portion of the frond will, however, give a fair idea of the plant. Variations in the size and form of ferns, however caused, may well be represented in the herbarium; the common Hart's Tongue, for example, is strikingly different when it puts forth small, stunted, but mature fronds from the crevices of an old stone wall, from the same fern when it sends out long bright green fronds from some shady hedge-bank, or from the mossy border of some old well. Most ferns growing on, or rather in, walls, are reduced to their very smallest proportions under such unfavourable circumstances; indeed, it is often a marvel how they manage to exist at all in a position so unsuitable to their full development. Then we often find, as in the Hart's Tongue, curiously curled, or forked, or variously divided fronds, some of which become permanent, and are reproduced from spores; or variations in the toothing of the margins, such as are noticeable in some of the more striking forms of the common Polypody; these, too, must find a place in our collection, which will in this manner be made very instructive, and far more interesting than would be the case were we content with a solitary example of the ordinary typical state of the fern. When it is possible to secure a seedling, or very young state of a fern, it is quite worth while to do so; in the Bracken, for instance, the young state is so different in appearance from the mature plant that it has even been described as a distinct species.—*European Ferns.*

THE ONION FLY.

We have received from Miss E. A. Ormerod, honorary entomologist of the Royal Agricultural Society of England, the following account of a successful experiment in the fight with insects for the safety of a crop:—"The amount of damage to Onion crops from the maggot is frequently so great that for some years I have been experimenting on the subject, and now beg leave to submit to you specimens of bulbs from this year's trial. I found that the fly (when it could) laid its eggs on some exposed part of the bulb, often almost beneath it, which in common practice the exposed state of the Onion bulb allows. On noticing this, about three years ago, I covered a plant up to the neck of the bulbs, and next morning found fly-eggs deposited on the Onion leaves, and dropped at haphazard on the ground—where they perished, and the Onions, being saved from attack, did well. The following year I had some part of the crop in rows earthed up with success. The Onions were firm and sweet, and though not as thoroughly protected by the rough earthing up as by my own hand-dressing, it answered to some extent, and the Onions in many cases were not injured or grew past attack from being in favourable condition.

"This year I had a trench prepared as if for Celery, and had the Onions sown along the bottom, and as they grew the sides of the trench were filled in on the bulbs. They grow extremely well, notably better than those in the bed alongside, and on raising them to-day I find them sound and fine bulbs, very free from any mark of insect injury. I venture to submit the plan of growing, with the specimens, to your inspection, as though it probably could not be brought to bear in field use, it appears available for garden growth, and especially for cottage gardens, where there is only a small quantity of ground, and where the loss of the little crop is a serious lessening of comfort to the family."—It is plain that here we have an example of a widely-reaching kind, and that success in any individual instance may be taken as an encouragement to those who are students of what may be called economic entomology, with a view to the safety of other crops of great importance to agriculturists. The Onions sent are well-grown bulbs, apparently in perfect condition.—*Agricultural Gazette.*

EAST LOTHIAN STOCKS.

For a number of years I have grown these, more especially the white variety, and in no year that I remember have they been more serviceable than in the present. They are first-class decorative plants, and I send you a note on the mode of culture we adopt. About the middle of August last year I had the seed sown in a cold frame—not in pots, but in good free soil in the open frame. Towards winter I had a large quantity of them potted, three in a pot, in large 60's, and plunged in ashes in a pit where frost could be kept out. Keeping air in this pit on all favourable occasions, the plants grew nice and stocky through the winter. By the end of March some of them showed signs of flowering in these little pots. About that time discerning which were doubles by the plump flower-buds, I had a few dozens potted on singly into 5 or 6 in. pots, and these were placed in the greenhouse. By Whitweek these plants were in splendid bloom; and for the conservatory or even the exhibition table they would have been very effective.

In April I had a lot of them planted out in the open border, which have flowered all the summer, and are still in bloom. For a white line in a riband border I have seen nothing yet superior to a good row of white East Lothian Stocks. I have had them in good flower in June, when the seed was sown early in January and grown on in pits; but I consider it the better way to sow the seeds early in the autumn, and have the plants well established by the beginning of the year.—*R. M.*

The Hackney Microscopical and Natural History Society will have a Fungus Foray in Epping Forest on the 27th instant. Dr. M. C. Cooke, Mr. Worthington G. Smith, and other mycologists have promised their assistance on the occasion.

WINTER FLOWERING PLANTS

No time should now be lost in taking up winter flowering plants which were turned out of the pots and planted in prepared soil in a suitable situation out of doors early in June last. The first of these requiring attention are the Bouvardias, and after them the Eupatoriums, Solanums, and Callas (Richardia Æthiopica). The plants should be taken up with balls of earth, and roots in proportion to the size of the pots into which they are intended to be potted. In order to render the drainage perfect, each pot should have a large piece of potsherd placed over the hole in the bottom, and over that a couple of inches deep of smaller ones, finishing off with the smallest size and a handful of half-rotten leaves.

In potting the plants only sufficient soil—consisting of three-parts of light sandy loam and one of leaf-soil—to fill in the space between the balls and the pots will be required. This done, the plants should be watered to settle the soil about the roots, and then stood in a cold pit where they can be shaded from bright sunshine for a few days until the roots have taken to the new soil, when it should be discontinued. They must also be protected from frost, as the time of year has arrived for guarding against the infliction of injury in this direction. After the plants have got well established they can be taken into heat as required to fill the places vacated by other plants, and to supplement the supply of flowers. The Bouvardias, in order to flower them well, should not be subjected to a lower temperature than 55 deg., and, together with the Solanums and Callas, should be kept free from green-fly by an occasional fumigation with tobacco-paper, and a vigorous and well-directed use of the syringe and tepid water.

VIOLETS.

The present is a good time to make a planting of Violets in frames for winter and early spring flowering. Assuming that the plants had been divided, that is to say, that the best of the "crowns" had been selected by pulling the plants to pieces in May and planted out 15 or 18 in. apart each way in a north border, and afterwards attended to in the way of watering, thinning out and pinching off the runners, good strong young plants will now be available, and they should be taken up carefully with balls of earth adhering to the roots, and be planted near the glass in frames set on a south border. The soil should be pressed moderately firm about the roots when planting, and afterwards be watered to settle the soil, and the plants should be shaded from bright sunshine for a few days until the roots have taken to the new soil, when it should be discontinued and the plants be ventilated freely. The sashes should be drawn off during favourable weather, but guard against frost and excessive damp reaching the plants, as either would be injurious to developed and undeveloped flowers. Thus treated the plants cannot well fail to yield a supply of flowers—somewhat sparingly during the dull months of February, so abundantly throughout the months of winter, but March, and April as to more than compensate for the little attention given to them. Marie Louise is one of the best varieties to grow in frames, being a robust grower and free flowerer.

Darwin's Poetical Description of the Sign of Rain:—

"The hollow winds begin to blow;
The clouds look black, the glass is low;
The soot falls down, the spaniels sleep,
And spiders from their cobwebs creep;
The walls are damp, the ditches smell;
Closed is the light-red pimpernel.
Hark! how the chairs and tables crack!
Old Betty's joints are on the rack;
Her corns with shooting pains torment her,
And to her bed untimely send her.
Loud quack the ducks, the sea-fowls cry,
The distant hills are looking nigh.
How restless are the snorting swine!
The busy flies disturb the kine:
Low o'er the grass the swallow wings;
The cricket, too, how sharp he sings!
Puss on the hearth with velvet paws
Sits wiping o'er her whiskered jaws.
'Twill surely come, we see 't with sorrow,
No working in the fields to-morrow."

THE AMATEURS' GARDEN.

The Pleasures of Gardening.—As one grows older and interest in the active occupations of life, once so paramount, declines in intensity it is a most happy circumstance to have such a resource to fall back upon as an intelligent delight in gardening. There are many men nearing middle age whose time has been so engrossed by business cares and duties as never to have felt the need of providing a pursuit for a later period of their lives, when from enfeebled physical powers or other causes they will be unable to engage in any occupation making much demand on muscular force. Sooner or later this changed condition of things comes to all whose lives are prolonged, and it will then be a matter of necessity to discover some congenial pursuit which will yield interest and agreeable occupation without undue fatigue, unless the close of life is to be so monotonous as to be scarcely bearable. As it is almost impossible to awaken a really absorbing interest in any pursuit taken up for the first time late in life, it behoves every one to make provision for the future in their earlier years; and there are few pursuits so capable as gardening of being engaged in during those earlier years, which will continue growing in interest as life advances, and in which the aged can expect to continue interested as long as they can feel interest in anything.

And what more agreeable and engrossing occupation can there be for the evening of life than tending a garden? We do not mean doing the harder, rougher work of digging, and such other operations, as may be most properly left to the young and the strong, but the lighter work of seed-sowing, pruning, and training plants, or the more fascinating work of hybridizing with a view to improving plants, flowers, or fruit; fixing some admired sport; growing some pet plants to the highest attainable perfection; or by skilful cultivation and careful selection intensifying some valuable characteristic in a plant so as to add to the common stock of the world's treasures. There is scarcely a plant that grows which is not capable of improvement in some respect; either in earliness or lateness, in size or shape, in colour or flavour. And this is work mainly to be done by the intelligent amateur who has interest in the work and time at his disposal. Then, again, what a wide field lies open for exploration by the patient, accurate observer in the matter of insect pests, and the ailments, parasitic and otherwise, to which plants are subject.

A love of gardening seems inborn in the human breast. Children are for the most part born gardeners. Give any merry little trot of a boy or girl only a square yard of garden which it can really call its own and see with what loving assiduity it will be tended. Whatever its deficiencies may be, it will, in Milton's phrase, be "a happy garden" where the "immortal fruits of joy and love" can be gleaned, and will contain "in narrow room Nature's whole wealth; yea more, a Heaven on Earth." No greater pleasure can be given a healthy child than letting it have a garden of its own; and nothing but mismanagement will prevent the love for the pursuit growing keener year after year, and thus will provision be made for later years of the most beneficial character.

How deeply planted in our nature the love of gardening is may be seen by anyone in our large densely-peopled towns. A large number of country-bred boys and girls, men and women, migrate annually to the principal seats of manufacture, and are swallowed up in their population. Such folks, brought up amid gardening pursuits, and learning as children to love flowers and to discern the beauty of growing things, even the commonest weed of the field and hedgerow maintain their liking long after their separation from country life and scenes. In the windows of back-houses, in dingy courts where the bulk of such people usually spend their lives in towns, attempts at plant growing are often to be seen under the most uncongenial conditions; many a Fuchsia, Geranium, pot of Musk, Creeping Jenny, or other plant of tenacious hold on life, growing in an old jug or spoutless teapot, affords undoubted testimony of a pure taste and a strong liking which have survived the opportunity for their full exercise.

In our wealthier suburbs, where there is no space for ordinary gardening, the love of plants is evidenced in a multitude of ways; by a rich display of tastefully filled window boxes, pot plants, and all kinds of devices which ingenuity has constructed for overcoming or diminishing the effects on plants of hot, dry rooms and impure atmosphere—wardian cases, window greenhouses, fern cases, &c. Difficulties seem only to lead to greater exertions to overcome them, and many a pleasure is drawn from these town-grown plants.

One of the most marked indications of the wide-spread love of flowers, is the enormously increased trade in cut flowers which has developed within the last few years. We know a manufacturing town where a hundred times the quantity now find ready sale as compared with those sold twenty years ago. Not less than a dozen florists now grow huge quantities of flowers for this market, and find it a very profitable business. One of the consequences is that dinner-table decorations, button-holes, and bouquets are to be seen everywhere—all witnesses of the great love of flowers which exists.

The little child gathering its bunch of Daisies and Buttercups and flinging them aside as they fade and lose their charms, is an ever-living witness of the universal passion for the "stars so blue and golden, which on earth's firmament do shine." Flowers are one of childhood's chief delights; they deck the blushing bride and her attendant maidens on the marriage day; and they are the tenderest exponents of our deepest love for departed dear ones, as we place them reverently about their final resting place.

Poets and essayists have vied with each other in naming the pleasures of gardening. To men inclined to contemplation there is probably no more congenial pursuit. The busy man who loves a garden, and as naturally loves a greenhouse too, is a man to be envied, for however pressing and arduous may be the work of his daily life, he has a place of calm retirement for his hard-earned leisure, where a gentle occupation among pleasant surroundings enables him to recreate himself and build up anew the flagging energies which the world has drawn upon too largely. Here, as he dons his easy coat and billycock, he dismisses the cares of the outer world, and in the pursuit of simple refining pleasures among beds and borders, reinvigorates himself for the daily toil of the morrow. The more he engages in the work of his garden with his own hands, the larger is his share of the purest of pleasures. And how endless are the interests it supplies! The mere tilling of the soil is a vastly beneficial occupation for the man of sedentary habits whose daily work makes a big demand on his brain and nerves. But the higher work of cultivating fruit and flowers is still more beneficial, especially when it is done so as to exercise the intellectual powers, and science directs art in the work undertaken. The highest delight is however reserved for him who takes up the improvement of plants by selection, hybridizing and skilful cultivation. What pleasure can be greater than that which falls to the lot of an amateur who raises an improved vegetable or fruit, or adds a lovelier flower to the lovely ones already in existence? Try to realize what the skilful hybridist feels who after years of labour and many failures, succeeds in the realization of an ideal he has striven for so long. Who can forget our indebtedness to such men; but even though we forget what we owe them we cannot rob them of their reward. They win it and enjoy it as they see the fruit of their labours.

Orchids.—No time should be lost in preparing for the winter by thoroughly cleansing the orchid-house, wood-work, glass, and staging. The best way is to clear one house at a time, or if there be but one orchid-house, to clear the plants out of it into another plant-house, where they can be taken proper care of for the day or two necessary for thoroughly washing and cleansing their house. Every part of it should be made scrupulously clean, the tanks being cleaned out, and underneath the stages freshened with a thin coating of shingle or whatever is used for the purpose. This thorough autumn cleansing destroys insects otherwise unreachable, and saves much trouble in the future. When quite ready, the plants should be each one carefully inspected, sponged over with weak tobacco water, have the pots cleaned, and anything else which they might want doing to looked after, so that all may be sound to commence and go through the winter. Cleanliness is one of the cardinal virtues where orchid-growing is concerned, and one which it is most profitable to cultivate.—*J. O'B.*

HARDY FUCHSIAS.

In passing through a small Yorkshire village the other day, I was much pleased to see fine clumps of hardy Fuchsias in most of the cottage gardens. They were extremely showy, being large bushes simply smothered with their beautiful and graceful blossoms. I noticed that there were two species, F. coccinea and F. gracilis. Both kinds are very fine, the former, however, being the more showy of the two. It seems strange, and much to be regretted, that the different species of hardy Fuchsias are so seldom to be seen, even in good gardens. There are many kinds which would well repay good cultivation, though as a matter of fact they require very little care in culture. Plant them in a good, rich, deep soil, and they will grow remarkably well.

What a very handsome plant is F. corallina, with its vigorous stems, and showy crimson-scarlet pendent flowers, 2 to 2½ in. long. Of F. gracilis I believe there are two kinds—one much dwarfer and more floriferous than the other. F. pumila and F. globosa are beautiful kinds, either for borders or for the rock garden. The New Zealand Fuchsia (F. procumbens) is very nice, with handsome fruit, but I am a little doubtful as to its hardiness. There are several other species and varieties which are well worth a trial, viz., F. Riccartoni, F. conica, F. minima, and F. discolor.—*F. A. P.*

THE HORSE CHESTNUT.

When English gardeners received the Horse Chestnut from "the East," they acquired, in spite of Gilpin, a very beautiful tree. Its history, in brief, is this: it belongs to a genus of trees indigenous in the mountainous regions of North America, as well as Asia and some other countries. In fact, the genus is widely distributed. The common Horse Chestnut came to England directly or indirectly from Thibet, *viâ*, according to some authorities, Constantinople, Vienna, Italy, and France. Some say that it passed directly from Thibet to England in 1550, and was afterwards taken to Vienna by Clusius, and thence to Paris by Bachelier. According to other accounts it was first grown in France from seed obtained by M. Bachelier from the Levant, and sown by him in his gardens at Paris, which were then celebrated. In 1629, in any case, Parkinson planted the tree in his orchard as a fruit tree, and here we may mention the derivation of the name from *esca*, nourishment, and *hippos* and *castanea*, a horse and a chestnut. Evelyn tells us that in his time the nut, ground into meal, was given to broken-winded horses, as well as to cattle having colds and coughs.

The horse-doctors of Turkey still use the same medicine for short-windedness and cough in horses. As to the nutritious value of the nut, we have seen deer watching and listening for the welcome sound of the ripe fruit as it quits the husk when shaken by the wind, and comes rattling through the branches to the ground; they eat it readily and so do sheep. In Switzerland Horse Chestnuts are largely consumed by stock, sheep receiving 2 lb. each of the crushed nuts in two meals, morning and evening. The nuts increase the yield of milk in cows, and are eaten by pigs after having been steeped in lime-water, and by poultry after boiling and when mixed with other food. The nut-meal mixed with alum-water forms a paste highly offensive to vermin, and worms are killed, or brought wriggling to the surface, by the pouring on the ground of an infusion of the nuts. Rooks sometimes plant this tree by carrying off the nuts and spreading them over the country. Not that rooks act benevolently on sowing seed broadcast, as they sometimes do, their actions, as well as our own, are largely based on stomach, but they don't eat the whole nut, and the germ sometimes outlives their attack, and sometimes their feast is disturbed. An example of this method of sowing Horse Chestnut-seed was quoted from R. Ellison's "Berwickshire Naturalist," in *The Journal of Forestry*, 1880, p. 877.

The tree is believed to be indigenous in the mountains of Northern Greece, where, according to *The Gardeners' Chronicle* (1880, vol. i., p. 488), it occurs wild 3,000 or 4,000 ft. above the level of the sea. It loves a deep, free soil and sheltered situation, as on the Thames side, where the soil is light and moist. We have never seen it more at home and growing faster than on the best sandy land of Surrey wherever

it is well watered, as in the Valley of the Homedale, at Reigate, Dorking, Wotton, or in the Duke of Northumberland's grounds at Albury. It is not an artist's tree, and Gilpin sadly libelled it, as he did the Beech, which he described as an "awkward" and "unpleasing" tree, speaking of its "heaviness," and adding, "what lightness it has disgusts." With the same want of appreciation, he described the Horse Chestnut as "a heavy, disagreeable tree," though it may be useful, he admits, "in thickening distant scenery." We have, however, no other ornamental tree with such handsome blossoms, and which grows so quickly and becomes so soon conspicuous.

If only for its novelty the Horse Chestnut deserves regard, for we have nothing at all resembling it in arboriculture, no other such noble blossoming tree, no other tree with such magnificent racemes of flowers—in fact, no tree in the month of May with the same attractions. How we watch the grand pyramid of foliage after the appearance of the bright green leaf, drooping at first leaving the bud, and then at last, as the warmth increases, standing erect, with the early spikes of blossoms appearing among them. One's spirits always rise in spring with the lifting of the Chestnut leaf! The tree has been compared to a "Giant's Nosegay," a "Gigantic Hyacinth," a "Brobdig-nagian Lupine," and an "immense chandelier," the spikes of flowers rising out of the foliage like waxen tapers lighted.

Horse Chestnuts were first planted largely by the introducers of Dutch gardening, who used them with great effect in the forming of avenues, as at Bushey Park. The trees at Chelsea College were young in the year 1700. They were planted early at Ham House, in Greenwich Park, in the Bishop of London's gardens at Fulham, and at Syon House, where Loudon reported a tree 80 ft. high and 3 ft. 8 in. in the diameter of the trunk. Mr. Grigor says in *Arboriculture* that the largest Horse Chestnut in Britain is believed to be one at Nocton, in Lincolnshire, but as there are trees reported 100 ft. high, as at Enfield, past or present (and I doubt if any such tree at Enfield reaches 100 ft. now), the Nocton tree, 70 ft. high, is only large in the spread of its foliage, which covers a space 100 yds. in circumference, the immense branches being supported by numerous props, which give the tree the appearance of a Banyan.

A great Horse Chestnut at Kedleston, Derbyshire, the seat of Lord Scarsdale, with a trunk 16 ft. in circumference and a head 62 ft. in diameter, was utterly wrecked by lightning soon after the family had been drinking tea beneath it, a noble family approaching within half-an-hour of extinction from the catastrophe. An early-leafing Horse Chestnut at the Tuileries was known as the "Marronnier due 20 Mars." The great part of this tree bursts with us in April, and the flowers reach perfection at the end of May. Sometimes the first crop of flowers is followed by a second crop in April, an accident which may happen to any shrub or tree. A Lilac, for instance, was cut to pieces by the wind of last September, which damaged the hop gardens so much, and its leaves were stripped off. At Christmas it was again in blossom, and it produced another abundant crop at the usual period last spring, or early summer. An autumn flowering Chestnut, however, does not ripen fruit.

The light timber of the Horse Chestnut is worth little for most purposes, but is largely used in the making of packing-cases and by carvers and pattern-makers. Physiologists find that the early formation of plants in the bud is well shown in that big bundle of a bud which is produced by the Horse Chestnut, and one of the differences between a Horse Chestnut and a chestnut horse is, that one produces buds, while the other crops them if they are sweet. It is unfortunate that the fruit of this esculent tree is so bitter that few boys, if any, ever taste it twice. In regard to diet, boys are notorious for adhering to St. Paul's advice to "try all things," and to some extent they accept his warning, and hold fast to that which is good.—*H. E.*

THE HORSE CHESTNUT: A FINE SPECIMEN ON THE BANKS OF THE THAMES.

"THE BOTANICAL MAGAZINE."

The September number of *The Botanical Magazine* contains descriptions and illustrations of the following plants:—Philodendron selloum (t. 6773). A large climber, with pinnatified shining leaves, 1-2 foot long. Spathe 1 foot long, dark green outside and pale yellow inside. Spadix pale yellow, equalling spathe, and diffusing a powerful aromatic odour, especially at night. Native of Brazil and Paraguay, in wet humid forests. First flowered in this country by Mr. W. H. Tillett, of Sprowston Lodge, in 1873.—Cereus paucispinus (t. 6774). A grotesque, spiny plant, 5 to 9 in. high. Flowers dark red with a brown tinge, anthers purple, and stigmas green. Grows on rocks and gravelly limestone hills, from the San Pedro to the mouth of the Pecos River, in the United States, bordering on Mexico. A specimen from Mr. Loder flowered at Kew in May of the present year.—Iris tingitanum, *Boiss. et Reut.* (t. 6775). This plant, which is perhaps better known as *Xiphion tingitanum* (Baker), has large lilac-purple flowers, with the outer segments paler, and with a bright yellow keel. It is a native of Tangiers, and consequently requires some protection in winter. It was discovered long ago, and has recently been imported by Mr. George Maw. The figure was made from a plant grown by Professor Michael Foster, which flowered in April last. Messrs. Elwes & Leichtlin have also flowered it. Tab. 6776 represents a Palm, of which the name and description stands over to next month. Pentapterygium serpens, *Klotzch.* (t. 6777). A very pretty Indian Whortleberry sent from Darjeeling by Mr. Gammie. It grows in the humid forests of Sikkim and Bhotan from 3000 to 8000 ft. elevation. It has a large tuberous rootstock, and pendulous branches, clothed with small ovate-lanceolate light green leaves. The flowers are axillary, with a green calyx and a pubescent, tubular, inflated, five-angled, bright red corolla. As grown in a basket it is a charming plant.

FRUITS.

Late Strawberries.—A supply of these as early and as late as possible is now-a-days a common requirement, and although we possess a very numerous list of good sterling kinds for ordinary use, we have nevertheless but very few varieties that are especially suitable for this purpose. That ancient variety the Elton Pine, so generally well known in this respect as not to need any comment more than to say that it still ranks as one of the best, though in my opinion it is much inferior to Oxonian. This sort for late work is undoubtedly the best of all, more especially so if we take all its merits into consideration, as it is good in quality, fine in shape, a free bearer, of robust habit, and with its glossy, handsome appearance when well grown, is unsurpassed at the present time, either for late use, for the dessert, or on the exhibition table. In order to grow it well, rich soil in the highest state of cultivation is essentially necessary. For late purposes give it a north border, let the rows run from south to north 3 ft. 6 in. apart, and the plants in the rows should be at least 18 in. asunder. This space admits of a free course of air and light about the plants, which is very necessary at a late period.—*G. T. Miles, Wycombe Abbey Gardens.*

Strawberries for Forcing.—Strawberries in pots should be kept well supplied at the roots with weak liquid manure, and the plants be well exposed to the influence of the sun. The young runners must also be persistently removed, so as to concentrate the strength of the plants in the formation and consolidation of plump fruitful "crowns," upon the size and firmness of which by the end of the present month depend in a great measure the character of the crop of fruit which the plants will produce next spring. About the middle of next month the pots should be removed to a dry sheltered situation, having a south aspect, and be stood on and plunged to the rims in sifted coal ashes, working a little of the latter over the balls of earth and roots as the process of plunging is proceeded with. Thus treated, the plants will be perfectly safe from the effects of frost, but in the event of its being every severe, it will be advisable to put on a slight covering of dry fern. This, however, must be put on and taken off according to circumstances, to prevent any anxiety being experienced by the cultivator on the score of the plants or pots sustaining injury from frost.

Raspberries.—There is nothing like light and air for the young canes of these, which ought now to be thinned by having all weakly ones, and those not wanted, removed, either by cutting out or digging up, the latter being necessary when they stand away from the old shoots or crowns, or by-and-bye they will throw a new crop around them. The number of canes to leave is from three to five, which are quite enough, as there is nothing gained by having them crowded. It is the practice with some to fork up the ground among their Raspberries, but it cannot be too strongly condemned, as the plants are surface-rooters, and to have their fresh young feeders destroyed must weaken them seriously, although they make others again. The proper plan to pursue, after the autumn pruning, staking, and tying, is to hoe, and clear off all weeds by raking, so as to make the surface smooth and neat, and then top dress with any old rich soil or short dung, leaving the same on to act as a mulching, and if this is done year after year the plants will always break strong, and bear fine crops of fruit.—*Alpha.*

Strawberries.—It is the same with Strawberries, the treatment of which is often even more barbarous than that of Raspberries, for how often at this time of year, as before, do we not see them denuded of foliage, which many cut off with the runners, when, instead of perfecting and ripening their crowns, the plants are forced into growth again, and make a lot of young leaves. The trimming and cleaning is all very well and quite proper, but the old foliage should all be preserved intact and a top dressing of rich soil given, the same as advised for the Raspberries, and the Strawberries will then root afresh from the crowns. To make new plantations or beds, the runners should have been pricked out and kept well watered, and if so, they will now be in fine condition for planting. In preparing the ground, it is necessary to manure well and to dig deep, after which it should be levelled and trodden firm, and the plants carefully lifted with good balls, when they may at once be put in rows a foot apart and 18 in. or 20 in. asunder. This wide space between admits full sun and air on to the fruit, and allows plenty of room to get along for the gathering. The sorts I would recommend are Vicomtesse Héricart de Thury, Sir J. Paxton, British Queen, and Elton, which are the cream, although all, except the first-named, are old kinds, and they give a good long succession.—*Alpha.*

A New Melon.—We learn from *The Irish Farm, Forest and Garden*, that at the last fortnightly meeting of the Council of the Royal Horticultural Society of Ireland, a seedling hybrid scarlet flesh Melon was exhibited from the gardens, Stradbally Hall, Queen's County, where it was raised by Mr. Taylor, gardener to Captain Cosby, D.L. It was considered, both as regards size, appearance, and flavour, to be of very high merit, and was unanimously awarded a first-class certificate, and also the Society's bronze medal.

The Orange Trade.—The head-quarters of the Orange trade is Pudding Lane, Lower Thames Street, where, during the height of the season, the chief brokers hold sales three or four times a week. Pudding Lane, where the Great Fire of London is said to have begun, is not exactly an Orange grove, but the fruit trade makes it about as busy a spot as any in the City; and if any unwary passenger happens to get in the way of the "fellowship" porters carrying along it, without intermission, the wooden packages of Oranges, he is not unlikely to become the object of some Billingsgate vernacular. The trade in Oranges and other fruits has now become so enormous, that Lower Thames Street and its vicinity is all too small to accommodate it, even if the fish trade were removed. There are many things more unlikely than that this may be eventually the case, and that the more sweetly-smelling fruit trade may one day occupy the historical market of Billingsgate itself. A large quantity of the Oranges sold in Pudding Lane afterwards finds its way to Duke's Place, a quarter of the Hebrew region on the west of Houndsditch, where it is re-sold to shopkeepers and costermongers. This locality is redolent of Oranges, and it is no exaggeration to say that, in wet weather, you may walk literally ankle-deep in orange pulp and peel, mixed with cocoa-nut fibre. The appetite for Oranges among the masses in London seems almost insatiable, and it is said that nearly half the retail trade in them is done by the itinerant street vendors. A package of Oranges contains, on an average, 400; and in the season of 1881-2, nearly a million packages were landed in London; and not far short of that number were landed in Liverpool. Glasgow receives a large, and each year an increasing supply; while Bristol and Hull account for many thousands. Altogether it was computed that in the season of 1881-82, two-and-a-half million packages were imported into this country, which would represent something like 1,000,000,000 of Oranges for home consumption. This season will show a still greater advance, as in most Orange-growing districts the supply is plentiful; and the market value of the total importation, including lemons, will represent something not far short of two millions sterling, first hand. The increase in the trade is due not only to increased facilities of transport, but to the abolition of the duty on the fruit. Formerly, 2*s.* 6*d.* per package was the impost; in 1853 it was reduced to 8*d.*; and was altogether abolished in 1861. Happily, the Orange is a very harmless, if not a decidedly wholesome, fruit.—*Society of Arts Journal.*

Kæmpferia Roscoeana is a Scitamineous plant now in flower at Kew. It is anative of Birma. The leaves are Maranta-like, of a very dark dull green with large whitish-green blotches. The flowers are pure white and rather under 1 in. in diameter. It is figured in *The Botanical Magazine*, t. 5600.

FLOWERS.

Disbudding Chrysanthemums.—As success in the blooming of this indispensable winter flowering plant largely depends on a judicious system of "disbudding," a few remarks on this important operation may be of service to those who have not before given the subject the attention which it deserves. Of course, where plants grown in a perfectly natural way are desired, disbudding is not needed; but those who, like myself, prefer one good flower on a shoot to a number of small ones, will find that a little attention now will in a short time be amply rewarded. Chrysanthemums, when left to themselves, produce three distinct sets of buds. The first makes its appearance early in July, when the plants are in vigorous growth, but young shoots speedily spring from its base, and the bud gradually disappears. The next one, which is known as the "crown bud," generally makes its appearance from the beginning of August to the present time, some varieties showing it much earlier than others, and it is from this bud that some of the finest flowers are produced. But the bud must be well formed, and the young shoots which will be seen springing from its base be removed with a pen-knife as soon as they are visible. A good deal of judgment, however, is required in selecting this bud, as it is apt to go blind or become malformed if the young shoots are not removed as soon as possible. By taking this bud for the late varieties, and the "terminal bud" (of which I shall presently speak) for the early ones, they can both be had in flower at the same time, which is no mean advantage when the flowers are wanted for exhibition. On referring to my note-book I find that on July 23rd of this year I took the buds of a few late varieties, such as Grandiflorum, Bronze Jardin des Plantes, and Progne, and they are all swelling up in a very promising manner. When the crown bud is not taken, one of the shoots springing from its base should be selected, the others being removed. The shoot left will produce what is called the "terminal" bud, which generally has a number of smaller ones clustering around it; these should be removed, retaining only the central one. This bud can always be depended on to form well-shaped flowers, but, as a rule, they are not so large as those grown from the "crown" bud.—*H. D.*

Primula japonica as a Bog Plant.—If any of your readers have a bog or damp place near a drive or walk, let them try a few plants in it of Primula japonica. It will grow with its roots in water—indeed mud seems all it wants to perfect its growth and flowers. The finest plants and the most perfect flowers I have seen were grown under such circumstances as I have described. The seeds will germinate freely, and a few plants will soon increase into thousands in such a spot. Fringing ponds, watercourses, anywhere where moisture is to be had, seems to suit it best. It will do under trees, and will stand freezing. Although the leaves are tender, the "crown" and the roots seem very hardy. The plants when in flower under such circumstances as described are something worth looking at, and very different to those grown in a drier situation.—*H. M.*

Uroskinnera spectabilis is a very pretty Gesneraceous plant now flowering in the stove. The leaves are elliptic-oblong, 4 in. to 5 in. long, crenate and pale green, and the flowers, which are arranged in a dense, one-sided, eighteen to twenty flowered raceme, are an inch long by three-quarters broad, and lilac coloured with a white throat, giving a very pretty effect.

Calceolarias.—The present is a good time to see about getting in the necessary number of cuttings of the bedding varieties of Calceolarias, of which the old Amplexicaulis is the best and most reliable variety. It is a good grower and a free flowerer, the flowers being large and of a beautiful soft yellow colour. Good cuttings consisting of three joints, and having the lower pair of leaves removed with a sharp knife, inserted about three or four inches apart every way, in two or three inches deep of waste soil with a surfacing of sand, placed on a hard bottom in a cold

frame, and afterwards watered, kept close, and shaded from bright sunshine for a few weeks, will readily root, after which the plants should have plenty of air on all favourable occasions to prevent them from making a weakly growth. They should be protected from the effects of frost and excessive damp during the winter months.

Gloneria jasminiflora.—Although this plant has been introduced several years, one scarcely ever finds it even in good cultivation, and yet it is certainly one of the best and most useful flowering plants that can be grown. Being a native of Brazil it requires a warm greenhouse temperature, that is to say, not less than 45 deg. in winter. The plant is of shrubby growth, with light green coriaceous leaves, and the flowers, which are pure white, are produced in clusters, Jasmine-like, and will keep in flower for several months of the year. It usually commences about February, and continuos as long as it makes fresh growths. It is not subject to insects like many plants, but should it get near filthy associates it is easily cleaned. The best soil for its growth is a good mixture of fibrous loam and peat in about equal parts, with a little silver sand, and by using the syringe freely the plant is easily kept clean even in the dusty, foggy atmosphere of towns. This plant should be grown largely where choice white flowers are required, and for exhibition purposes I don't think it has a superior.—*W. B.*

Clerodendron fœtidum.—One would hardly expect to meet with a Clerodendron growing outside, and yet the other day we met with the above species at the foot of a south wall at Kew. The globose panicles of rosy lilac flowers, 3 in. in diameter, reminded us of an Ixora, and as they are supported by leaves of a rich dark green, the effect produced was very pretty. It was introduced from India in 1820, and of course will not stand our winters without protection. Whether it has been planted out this year or not we are unable to say.

Episcia fulgida.—This pretty Gesneraceous plant is now in flower in the stove. The habit is that of a Gloxinia, the leaves dull olive-green, with pale silvery-white veins, and the flowers, which are tubular with spreading limb, one inch long and three-quarters broad, are of a fiery scarlet. It is a native of Columbia.

The Soma Plant.—*The Daily News* states that Dr. Aitchison, a member of the Afghan Boundary Commission, has been sent out to study the natural history and botany of the places passed through, and orders have been sent out for him to try and discover the Soma plant, so celebrated in the Vedas, as the material from which the Soma juice was extracted. This plant does not grow in India, and is only known from the sacred books of the Brahmans; but on the assumption that the Aryans came into India from the mountain region of Afghanistan, it is thought that the plant still exists, and ought to be found. Should Dr. Aitchison succeed in this it will be a matter of great interest to Sanscrit scholars.

Tuberous Begonia, Miss Simpson.—This magnificent variety, raised by Mr. A. McLeod, gardener to Mrs. Simpson, Sudbury House, Harrow, has been beautifully in bloom all through the summer, and is still showy. It has been much admired, and pronounced the best even among Mr. McLeod's good collection of these plants. It has snow-white flowers, prettily edged with pink, and it is of great substance and durability. Its flowers are of perfect shape, and measure 5 in. by 4 in.

Bessera elegans.—This is a very handsome flowered Mexican bulbous plant, having graceful spikes of pendulous scarlet blooms. It is now fine with Messrs. F. Horsman & Co., of Colchester, who are making quite a new departure in bulb culture with their lovely Mexican bulbs growing in the open garden. The rare and pretty Tigridia Pavonia alba is also in bloom with them.

Milla biflora.—This lovely star-shaped, white-flowered bulbous plant has been in bloom all the summer with Messrs. F. Horsman & Co., of Colchester, and it is yet good. It is a lovely bouquet flower.

VEGETABLES.

Peas.—Never, perhaps, have gardeners had a worse time of it than they have this year, for the heat has been intense, which would not have mattered so much if it had not been accompanied by such drought, the parching effect of which was so great that peas were scorched up, and either died outright or became so crippled with mildew and the attacks of that abominable thrip that they have not been able to bear any pods since. By dint of great perseverance in the way of syringing with water strongly impregnated with sulphur and soft soap, we just managed to keep ours alive, which we could not have done had they not been heavily mulched and watered, and they are now making a little fresh growth at the tops, but whether we shall get anything from them remains to be seen. The sort we sow for late work is British Queen, which I believe to be the best of any, as I have tried it side by side with others, and treated all exactly alike, but none have stood so long and borne so well as the one mentioned. To come in as a second early and carry on a supply all through the summer months there are none equal to Ne Plus Ultra, which is a remarkably free bearer, large in size, splendid in colour, and of most exquisite flavour.

Scarlet Runners.—Not only has it been a trying season for Peas, but Scarlet Runners failed to set, as the blossoms shed wholesale, but since the rain the growth has been free, and all late sown ones are bearing profusely, and will give a grand field for the autumn, a time of year they are specially adapted for, as they enjoy the cool air and moisture, and continue to bear long after the French kinds cease. A batch of these latter should now be up in frames where they can be afforded a little heat by-and-bye, either by means of dung linings or a hot-water pipe, the latter being best, as damp, in excess, interferes with the blossoms and spoils them for setting.

Celery.—The progress this has made of late is so great as to be almost noticeable day by day, for though it may have had, to one's thinking, good supplies of water, it is questionable if it ever had enough to soak the thirsty soil below, and if it did the demand on the roots was so excessive and the evaporation so continuous that, however large the quantity given, it was soon drawn out again. How thankful, therefore, the plants must have been for the rain which came down on the 3rd so heavily for twenty-four hours, but though Celery has had such a drenching, which it wanted, it should be borne in mind that it is half aquatic and must have much more water supplied to it yet. Not only is the Celery plant half aquatic, as stated, but it is a gross feeder, and cannot well be overdone with stimulants, provided they are not too strong, and therefore, where it can be got, liquid manure should be given freely, as the quicker it grows the more tender and crisp will be the heads when dug up for use. To keep the leaves upright and close together a string of matting should be run round each plant and tied, but not too tight, as room must be left for further swelling, and if this tying is done in the way referred to, the labour of earthing up the rows will be greatly facilitated when the time arrives for blanching. Many soil up piecemeal by putting a little soil into the trenches at intervals of a week or two, but this is a bad plan, as it is impossible to water after without washing some into the hearts and down amongst the axils of the leaves, thus partly spoiling the heads by the stain and discoloration it causes.

Cauliflowers.—A season that suits Peas suits Cauliflower, and therefore heads of these have been scarce this season and are so yet, but, thanks to the heavy rain, which gave the leaves such a washing, they are fast losing the "blues," with which they have been afflicted ever since they were planted. In some gardens, this was never successfully done, or rather the plants could not be got to live, and the autumn supply will therefore, in many places, be short, especially of Veitch's, on which so many depend. This kind, having to be got out so early and to stand so long, has suffered most, but like the giant it is, it can bear a good deal, and is fast shaking off the effects of the heat and showing its strength now cooler weather has come. Like Celery, Cauliflower will endure, and receive much benefit from repeated applications of liquid manure, and no sewage, unless unusually rank and strong, comes amiss to the plants, that is, those long established which will soon be forming their heads. This being so, they should be well soaked at the roots whenever opportunity offers, and any young plants, intended for wintering, pricked out under the shelter of a south wall, or potted, ready for standing in frames, the latter being the more preferable, as the plants are safer, and in spring they receive no check, for at that time they may be transferred to the open ground with balls entire, and will then start off at once.

Planting Endives.—The present is a good time to make another planting of French Moss Curled and Batavian Endives, to supplement later on the supply derived from previous plantings. The plants should be set about 15 in. apart on a warm border, and be kept free from weeds; and in the event of frost ensuing be covered with a sprinkling of dry fern, which will not only protect the plants from being injured by a few degrees of frost, but will also have the effect of blanching the heads at the same time. The fern, however, should be removed during wet weather, otherwise the plants would be liable to suffer from excessive dampness.

Cabbage Planting.—A planting of Cabbages to come into use in April and May next, should now be made on a piece of ground well exposed to the south, and occupying a dry rather than a damp situation. Set the plants in rows from 20 to 24 in. apart (according to the richness of the soil), and at the same distance asunder in the rows. The plants should be let down to the lower leaves in the soil, and the latter be made firm about the roots and stem with the setting-stick as the work is proceeded with. The plants must be kept free from weeds by Dutch-hoeing, and be earthed-up in due time. Any blanks that may occur through the attacks of grubs or from other causes should be filled up forthwith.

Autumn-Sown Onions.—Blanks frequently occur in the rows of autumn-sown Onions through the seed from some cause or other not coming up regularly; and where this is the case they should be filled up at once with young plants thinned out of the same rows. These should be transplanted when the ground is moist at about 3 in. apart from plant to plant in the rows, and about the same depth in the soil as they were before. Where the plants are too close together in the rows, they should be thinned out a little for salading as required—always making due allowance for some of the young plants damping off during the winter and for being again thinned out in the rows in spring as required for use, or with the object of obtaining large bulbs for exhibition purposes. The crop should be kept free from weeds by hand-weeding, and by the Dutch-hoe being run between the rows as often during the winter months as the condition of the soil will permit of its being done.

Lettuces.—These ought now to be up, and those intended for winter use at once planted out in rich soil, either in pits or old spare frames, or on a prepared bed marked out the right size, for standing or placing over them any two or three light boxes when they come out of use. The sort most suitable as a winter Lettuce is the Royal Cabbage, or Victoria, which is a tender, nice-flavoured kind, and for standing outdoors Hick's Hardy Cos and the Bath Cos are the best. To make sure of wintering these safely, they should be pricked out in double rows along the foot of a south wall, or in beds on a warm border, where they will stand and turn in very early in spring.

Spinach just up needs timely thinning, as to get fine leaves the plants must have room, and ought not to be nearer than 6 in. or 8 in. in the rows, and these from 1 ft. to 18 in. between. This will give space for picking and cleaning and hoeing the ground, which should be done when necessary, and it is a good plan before carrying out this work, or immediately after, to sow some soot over the beds, but this only before the Spinach becomes advanced and ready for gathering.

THE

Orchid Growers' Calendar.

Fumigating Orchids.—In my opinion the fumigating pot is as great an enemy to Orchids as to insects, and the sooner the practice of fumigating, in order, as it is said, to kill the insects, is discontinued the better it will be for the plants. This has long been my view of the matter, and I did not come to the decision hastily, but based it on the result of years of practice and observation. In every case I have found that the fumigation of Orchids, when carried out to that extent which alone will secure the attainment of its object—the killing of even a portion of the insect pests in the house, is always followed by some ill effects on the plants, which are immediately visible, and by much more which does not make itself evident until some time has elapsed. It is well known that it is really of no use to fumigate once, but that, in order to stand a reasonable chance of success the operation must be performed two or three afternoons in succession, and thus we can readily imagine that tender plants must necessarily be injured, be the material for raising the smoke ever so good, but when it is caused by bad material the evil consequences are very great and soon make themselves evident. In olden times nothing but pure tobacco was used in fumigating, and that, no doubt, is the best and least harmful, but in the present day, in which the chemist plays such a prominent part, a number of things are brought forward for the purpose of fumigating—things composed of we know not what, but all of them causing more or less injury to the plants.

The worst of it is that fumigating Orchids with any material, while certain to cause mischief, falls far short of the object for which it is intended, and fails to take any appreciable effect on that most dreaded pest, the yellow thrip, for as soon as the smoke begins to get dense, down far into the heart of the plant it goes, into narrow openings where the smoke cannot penetrate, leaving the less wise but less harmful aphides to fall victims, and quietly emerging from its hiding place again when the smoke clears away. Thus the insect on whose extermination all the grower's efforts should be concentrated is free to continue its unsightly and harmful work.

Many who have had to do with Orchids for any length of time, and have had experience in fumigating them, will be able to call to mind lamentable instances of injury to plants from that cause, and it would be well if they were to communicate their experience through these pages. I should also like to hear what others who may be in favour of fumigating have to say in defence of the practice. For my own part I have on several occasions seen a house of Odontoglossums with the foliage blackened after fumigating as though they had been frozen, and I once saw £300 worth of O. vexillarium reduced to the value of as many shillings by the same means, while on every occasion that I smell tobacco in an Orchid house I look for damage and seldom fail to find it. Some plants are much more easily affected by it than others, or show the evil consequences more quickly, among the most susceptible being Lycaste Skinneri, some Masdevallias, Odontoglossum Roezlii, Bolleas, Pescatoreas, &c., and the two last have in many cases been chased out of our collections by the fumigating pot. These all show immediate injury wherever fumigating is done sufficiently to kill insect life, but the thick-leaved plants, such as Ærides, Cattleyas, and Lælias, although not seeming to be injured at the time, I have often found become, later on, spotted as though boiling water had been thrown on them, and in a manner which I considered could only be traced to the fumigating.

Now that most growers adopt the "pure air and cool treatment" system, insects are not so bad as they used to be in our younger days, when we often had to spend the best part of two or three days over a large Vanda or Ærides, densely covered with that close-sticking small brown scale, and often, notwithstanding all our care, left the specimen much scarred by their removal. Scale has decreased, but the abominable yellow thrip, so tenacious of life, is still in the ascendant and if on its extermination the Orchid growers efforts be centred he will not fail to keep down the other insects at the same time. I say, therefore, what I have proved in practice, that the only safe way of keeping down all insect pests peculiar to Orchids, and particularly the yellow thrip, is by dipping the plants head downwards in a bath prepared with a solution of pure tobacco water (this I certainly prefer as the safest and most effectual) or, as some do, of fir-tree oil made only of half the strength recommended on the bottles, and mixed with rain-water only, or with any other dipping solution which the Orchid grower may fancy and which experience has proved to him to be safe. This dipping system, apart from the freedom from danger of injuring the plants, should recommend itself to all in preference to fumigating, as by its means the plants affected can be treated without putting the whole of them in the house under treatment because of the few requiring it. Dipping, therefore, and hand cleaning are the best means of keeping Orchids clean, and the beneficial effects of it, if carried out on certain small collections which I have seen periodically damaged by the fumigating pot, would be immediately visible by the improvement of the condition of the plants and their better flowering, for they cannot bloom well when their foliage is constantly injured. The improved state of things would, I am sure, repay over and over again any additional trouble taken.

Dipping cannot be dispensed with wherever yellow thrips are found, fumigate or not, for it is the only means of getting rid of them. Few places are quite free from this insect, indeed such plants as Odontoglossum Roezlii are seldom without them unless the plan adopted by some of the best growers be followed, and that is to dip all such plants three days in succession every month as long as there are any signs of yellow thrips on them, and once a month afterwards be they ever so clean. There is no danger of injury to the plants by a little of the dipping (particularly of tobacco water) getting down to the roots, and consequently there is no need to place the plants on their sides to drain, all that is required is to immerse them head downwards, the hand being placed over the soil in the pot to keep it in its place. When thoroughly immersed remove it, still head downwards, give it a gentle shake, and replace it on the stage. The stuff used for the bath may be strained off when done with and stored in jars for use another time, if sufficient of it remains to make it worth while to do so. So stored it is always ready and of great service to use in sponging plants whenever the eye lights on any requiring it.—*James O'Brien.*

ORCHID NOTES.

Orchids at Kew.—The following are among the more noteworthy of the Orchids in flower at Kew at the present time:—Cattleya aurea var. Dowiana, a beautiful variety with pale yellow segments and very richly coloured labellum. The latter is deep yellow in the centre, towards the base, with radiating lines of deep purple-brown, and the margin violet coloured, becoming very broad towards the apex, where it is beautifully fringed. Odontoglossum violaceum, with spikes 3 ft. long, and very numerous small white flowers, which are beautifully barred with pale violet. Oncidium triquetrum, a little gem, with leaves 3 in. long and spikes measuring 6 in., the flowers are marbled with rich brown on a pale ground. O. bifrons, spike 4 ft. long with numerous yellow and brown flowers which are very sweet scented. O. Schlimii, spike graceful, 3 ft. long; flowers small, numerous, yellow, barred with orange-brown. Cypripedium Stonei: this beautiful Bornean species is amongst the most striking of the genus; the sepals are white with longitudinal brown bars, the petals measure 4 in., and are white with yellowish green lines and beautifully twisted, and the lip veined with pale purple-brown on a paler ground. Of the beautiful genus Phalænopsis, the following may also be seen, P. grandiflora, P. rosea, P. Esmeralda, P. violacea and P. cornu-cervi.—*Orchis.*

Oncidium Lanceanum.—This grand old Oncid is very frequently found in a condition best described as far from thriving, and more especially when grown in pots, although when properly managed it may be so cultivated and well too. Others again grow it on blocks, and creditable plants can be so grown if careful attention is paid to the necessary supply of water. A far better plan, however, and one which will give the best results, is to grow it in baskets, in peat and sphagnum in about equal proportions, with charcoal or crocks mixed freely through it. This will be found the best material for the roots, but one thing must be borne in mind, sour or decaying material must not be tolerated. While growth is in progress, careful attention must be paid not to allow any water to lodge in the young unfolding leaves, which being of a thick fleshy nature are very susceptible to damp if carelessly treated. Flowering as it does, late in the summer, or early in the autumn, according to the heat given, it causes it to be doubly valuable where orchid flowers are in demand. It does best in the East Indian house, in a position free from draughts, but yet where the air can pass freely round it. By this treatment I have had two spikes from one growth.—*E. Dumper.*

Cattleya Gaskelliana.—The Cattleya bearing this name shows great variation in the colour of the lip, some being blotched with purple, whilst others are blotched with different shades of magenta. The shape of the lip too, is as diverse as its colour, some of them being nearly rounded at the edgings, as in C. Trianæ, while others are as beautifully fringed, as the better forms of C. Mendelli. Being as yet comparatively new, many who have not obtained it, will be glad to hear that it flowers freely from the young growths, as soon as the latter have fully completed their extension. Pot culture will I think be best for it, at least by that system, it thrives admirably with me.—*E. Dumper.*

Cattleya Eldorado.—It is a pity this grand autumn flowering Orchid is not more frequently met with than is now the case. Unfortunately for its more extended culture it has the unenviable character of being "miffy," which deters many from trying it. The worst thing I find in it, however, is that it is very liable to breed mealy bug with the young growth, so that careful attention must be bestowed on it as soon as the leaves open sufficiently to disclose it, and so stop the further spread of this unwelcome pest; the bug, however, sticks well to it owing to the glutinous matter covering the young leaves. Basket culture, at the coolest end of the Cattleya house, suits it best, and it must only be shaded sufficiently to prevent the sun damaging the foliage.—*E. Dumper.*

PLANT CULTURE IN MOSS.

Some experiments on growing plants without earth have been made during the present year by Mr. W. Sowerby at the Royal Botanic Society's Garden, in the Regent's Park, and are thus recorded in the Society's *Quarterly Record*:—"The items necessary to sustaining vegetable vitality and growth are, 1, light; 2, air; 3, water. 'Earth' in its vast variety of forms, or the compound known under that name, is but an adjunct, not a necessity. . . . We placed two specimens of Scarlet Pelargoniums in garden pots, one filled with Dumesnil's fertilized moss, and the other with fresh clean ordinary moss, both without any earth or admixture of any kind; all the soil was carefully washed from the roots of the plants; they suffered little by the change, and after a few weeks' growth there appears but little difference in the two plants; they both look as well and healthy, if not better, than those of a like kind, growing as usual in earth. On the 7th February, seedlings of the common Lupin were planted in a small pot filled with broken window-glass, the pieces varying in size from that of coarse sand to an inch square, and other seedlings of the same age and plant in a similar pot filled with boys' stone toy marbles; in both cases the pots were placed in saucers of water, the water reaching nearly half-an-inch upwards from the bottom of the pot; nothing has since been supplied except water, and at the present moment one of the plants in the pot of broken glass is in flower, and appears as if grown in the ordinary way. Those in the pot of marbles did not get on so well, and died after about two months, in consequence, I think, of the spherical form of the marbles allowing them only to touch each other by points, thus not holding so large an amount of water amongst them as the broad flat surface of the pieces of glass."—*Florist and Pomologist.*

FLORICULTURE.

Dahlias.—The very interesting report on the Dahlias at the Crystal Palace at p. 28 is made the more interesting because it gives some information not commonly found in reports. But after having read that report and closely studied the definitions given of Fancy Dahlias, I have to admit that I am still absolutely incapable of telling of flaked and tipped flowers which are Fancies and which are not. The writer hopes his definition of what constitutes a Fancy Dahlia may prove intelligible to readers, but I fancy he feels that he is hoping against hope, and that those who have read will remain just as wise as before. That, as he says, the difficulty of setting up a clearly defined line increases year by year, shows that even to an expert definitions of such exceedingly minute kinds are becoming onerous.

Why do Dahlia growers continue to show in this absurd form of classification such a conservative spirit? What earthly value is this kind of indefinite distinction to any one? All Dahlias are exhibition flowers, and to class large-flowered ones as Show and Fancy is, to put the matter plainly, ridiculous and without reason.

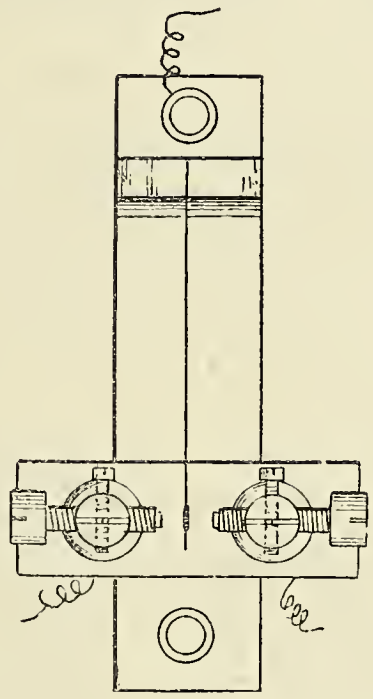
We have English or Show, and Belgian or Fancy Pansies, but the distinctions of the two sections are pretty clearly defined and easily understood. We have also Show and Fancy Pelargoniums, the distinction with these being found in robustness, habit, size of flower, and other clearly defined lines. With all large-flowered Double Dahlias we can show no such distinctions, and no one can see any reason for the existence of such arbitrary ones as having flaked and striped show blooms and similarly marked Fancy ones. Now I will suggest to Dahlia growers and fanciers that these definitions or distinctions of Show and Fancy shall be abolished, and that the flowers be divided into selfs and variegated sections—shaded flowers coming into the former section, and all striped, flaked, or tipped ones into the latter section. Then the public could clearly understand the divisions, and would doubtless feel interest in their respective characteristics, but under the present arrangement the public turn from what "no fellah can understand" with disappointment. Trade growers could easily render the public good service by classing their selfs in colours rather than alphabetically, an arrangement which is bewildering. Why not put the whites together, also yellows, scarlets, purples, crimsons, and so on, and the variegated kinds according to colour of ground? Such a plan would prove most serviceable to intending purchasers.

Now with reference to the complaint that Single Dahlias are getting too large I am disposed to agree. Still it is difficult on the lines that awards are presented to these flowers to ignore any new kind that has bold, large, well-shaped blooms of a novel and striking colour. But the objection to size in Single Dahlias, I take it, lies more in relation to them as cut flowers than as out-door decorative ones. No doubt for vases and bouquets the little stellate kinds are pleasing, though all these have too much eye for the small dimensions of the blooms. On the other hand, they produce literally no effect out-doors as border or bedding-plants, and in spite of all that has been written in favour of Single Dahlias as cut flowers, there can be no doubt but that their primary value is found in garden decoration. For that purpose we want not only very clear striking colours, but kinds that make moderate compact growth and bloom very profusely. I note elsewhere a complaint that certain flowers are too much cupped. That is a fair objection, but any one who watches the progress being made amongst the flowers, can see that raisers are now producing them with broad, slightly reflexed petals, and that form is becoming nearly perfect.

Coloration in Single Dahlias is now so varied and beautiful that in glow and brilliancy the best Doubles are quite put into the shade. Duchess of Westminster is a charming white, Yellow Queen and Yellow Gem are excellent of their colour. Dorothy and Ellen Terry are singularly refined hues of delicate tints. Queen of Singles, Lucy Ireland, and Nellie Ware are of lovely magenta hues. Formosa, Scarlet Defiance, and Firefly are brilliant scarlet and of deep coloured hues. Negress, Othello, and Acquisition are striking and effective. Some of the shaded or tipped flowers, such as Fashion, Mrs. Castle, and Mrs. R. T. Walker; and of flaked or striped flowers, such as Striata, Volunteer, and others are really charming. The chief object raisers now should have in view is improvement of habit of plants, and with that no doubt will come flowers displaying more endurance.—*Ixion.*

IMPROVED FIRE AND FROST DETECTOR.

The apparatus shown in the annexed engraving has been devised by Mr. F. M. Rogers, of 21, Finsbury Pavement, to obviate the disastrous effects arising from overheating, or from frost, in conservatories. It consists of a compound metallic bar, which under increase of temperature bends in one direction, and under decrease in the other. The two adjustable contact-pins are in the circuit of an electric bell, which can be placed at any distance from the hot-house, and within hearing of the attendant. Should the temperature rise or fall beyond the desired point, the bell will ring. By means of the adjustable contact-pins, the detector can be set to give an alarm at any degree of heat or cold; the instrument cannot get out of order, and its efficiency can be tested at any



ROGERS' FIRE AND FROST DETECTOR.

time by simply pressing the metal tongue to one side or the other. This system is a much more simple one than that in use at Syon House, and should commend itself to the notice of everyone having the care of costly plants.

EXPERIMENTS WITH BEANS.

Our bean crop is dependent in a greater or less measure upon other agencies than the fertility of the soil or the character of the seed used. It may seem curious at first that our farm crops should depend upon such small agencies as insects, and yet without insects to carry the pollen from flower to flower, in some species of plants we would have no seed produced. A true list of insects beneficial to vegetation should include, in addition to those which are destructive to injurious insects, those also which are beneficial to the plant. The Scarlet Runner bean is an excellent illustration of our remarks. This bean seems never to produce seed except when the flowers are cross-fertilized, and in Nicaragua, where insects of the proper kind do not exist, this plant is said to be sterile. If there were no insects to convey the pollen from flower to flower, this species might be as sterile in our northern localities. The bumble-bee, however, frequents these flowers, and in seeking the nectar brings his head in contact with the pollen, which, adhering to it, is conveyed to the next flower visited, and is brought in contact with the pistil.

Sometimes, however, the bumble-bees have the habit of boring a hole and extracting the nectar in that way without entering the flower. In this event their visits are of no use, and we have the curious fact that yield of the plant is dependent not only upon the presence and activity of the insects, but also upon the habits. The common garden bean may yield some seed through self-fertilization, but never in such large quantity as where cross-fertilization is effected, and as the bumble-bees here also are the principal agency in the conveying of pollen, we can imagine that a crop shall be deficient through the scarcity of the insects. Whether the Italian bees can fertilize the bean-blossom or not, I do not know, but it certainly would seem worthy of trial by the bean-grower upon a large scale to maintain a hive of these bees in the vicinity of his fields for the purpose of effecting the cross-fertilization of the flowers and thus adding increase to his crop, upon the possibility that these larger bees might be effective for this purpose.

This agency of bees and other insects in cross-fertilizing flowers, explains the appearance of variation in the beans of a crop which come from hybridizations.

This influence of hybridization was quite manifest among the varieties grown at the Station last year. The variation was usually confined to the colouring of the seed, but often it extended to the shape and size of the bean as well. We offer for illustration:—The Newington Wonder, a slender bush bean, sending out barren runners. It bears for a normal crop small, oblong, slightly kidney-form, not flattened on the side, usually compressed on the ends so that they appear quadrangular, light-brown or dun-coloured beans, with a veiny network and a yellow ring about the eye. This bean, though showing no variation in 1882 with us, yet in 1883 produced the following distinct forms: First, one entirely like the true form, but with small black spots scattered over the surface of the bean. The same plant upon which this form was found produced also beans of the true type. Second, of the size and shape of the true type, but in colour varying in dark purple to light slaty-drab, finely dotted with light brown. Third, somewhat larger and more kidney-form than the preceding, not compressed at the ends. In colour slaty-purple, indistinctly dotted with light-brown.

The Golden Cranberry, a bush bean of medium size, often with a distinct twining habit, normally bears beans nearly globular, very slightly oblong, eye plane or slightly protuberant, pale sulphur-coloured, with veiny markings and a faint pale-bluish ring about the eye. From this variety there was selected in 1882 a form of about the same size as the true type, but oblong, slightly flattened sidewise, and mottled in two rows of brown. From this form there were produced in 1883 no less than eleven distinct forms.

The Concord, a pole variety, the normal beans of which are medium or rather large in size, irregular, globose, scarcely oblong, slightly compressed at the ends, eye plane or slightly protuberant, the half of the bean about the eye light-brown or dun-splashed with dull red, the remainder with a veiny net-work and an occasional small spot of dun or red. From a variation in this bean a single bean was taken of the same colour as the true type, but larger, oblong and slightly kidney-shaped. This seed produced beans entirely different from either the seed planted or the original variety from which it was selected. The crop may be described as oblong, strongly flattened sidewise, slightly kidney-form, rarely slightly compressed at the ends, yellowish-brown with darker markings which are inclined to form broken rings concentric with the eye.

These descriptive remarks are offered in order to show the importance of growing beans for seed purposes apart from other varieties than their own, for if many varieties are grown together it is more than probable that the seed furnished will produce a variety of crop, and it seems quite possible that the habit of the plant varies to as great an extent as does the seed, although the variations are not as easily described.—*E. Lewis Sturtevant, Director of the New York Agricultural Experiment Station.*

EXHIBITORS AND JUDGES.

Respecting the remarks on dissatisfied exhibitors in the first number of The Gardening World, with which I agree to a great extent, permit me to say as an exhibitor that when beaten I have always made up my mind to increase my exertions; but when one sees inferior productions placed in the foremost position, I would like to ask, Are we to coolly look on and accept the decision as the judgment of unbiassed and ripe experience? I for one emphatically say "No." You will understand that I only mean this to apply when the awards are not judiciously given. I am prepared to allow that some judges consider that one plant well grown is preferable to another equally well cultivated, while perhaps their companions would give the award to the latter, and where such is the case the decision must be accepted. But apart from this I have often seen glaring errors in judgment. How few judges, comparatively speaking, give the same number of marks? Take Roses for example. One judge likes half-blown flowers—*i.e.* Roses that are fresh but not fully opened out, with the centre still compact; and with his dictum I agree. Others again go for size, regardless of colour. I was once exhibiting in a fashionable watering-place, and staged Roses of the first description, but was beaten on account of size, and eight out of the twenty-four staged by the exhibitor who got the first prize had yellow eyes before the judges saw them. On another occasion, at a place some twenty miles from the show last alluded to, a friend of mine exhibited Coleuses, and four out of his six plants were new varieties, but not fit for exhibiting, having been only tied out and stopped once. He was, however, much to his surprise, awarded the first prize, though the third prize lot was better than the first. I think that for local shows at least one of the judges should be fresh each year. Having the privilege of sitting on a committee myself, I know something of the jealous feeling shown towards those who are generally successful. Let it not be thought that the two instances quoted are the only ones that come under my notice, I could give many.—*Fair Play.*

AN AMERICAN SEED FIRM.

One of the principal objects of interest in Rochester, U.S.A., is Mr. James Vick's seed-growing establishment, situated in East Avenue. The principal seed-house is a brick structure, 50 by 150 feet, four storeys in height. The firm deals in vegetable, flower and grass seeds, flowering bulbs and plants, everlasting and dried grasses, small fruits and hardy shrubs. The first floor of the seed-house contains a printing-office, book-binding, and machine shop, the machinery being used in connection with the binding, and for the manufacture of paper bags and boxes used in packing the seeds, &c. On the next floor is the main office, with large fire-proof and burglar-proof rooms, express-room, post-office, and store-room for seeds for immediate use. On the next floor is a large packing-room, and the order-room, where the orders are filled and directed to their destination. The upper floor has rooms appropriated to the storage of everlasting flowers and grasses, and to their manufacture into bouquets and all kinds of floral ornaments; also rooms for the storage of tender bulbs, artists' and engravers' rooms, and editorial office.

Most of the shipping is done between January 1 and June 1 in each year; in September, October, and November there is a trade in bulbs and hardy plants. The daily mail during the busy season averages about 1800 letters, the number sometimes rising to 3000. The system for opening this large mail is very complete. Every letter is registered on leaving the room where it is opened. The orders are filled, packed, wrapped, and addressed in the order-room and each package undergoes strict scrutiny to ascertain that it is properly filled and correctly directed before passing it into the express office or post-office on the premises. In the post-office the packages are tied and weighed, the postage-stamps attached and cancelled, and then distributed and packed in Government sacks, which are sealed and sent direct to the trains. Besides the mail shipments, large quantities of packages are sent daily by the various express companies, and as freight. About 40,000 dollars (£8,000) worth of postage-stamps are used yearly in this business. The *Floral Guide* (catalogue) is issued annually to the extent of more than 200,000 copies; Vick's *Illustrated Monthly Magazine*, a horticultural publication, with at least one coloured plate every month, edited by Charles W. Seelye, circulates in all parts of America.—*A. W. B. in The Gardener's Chronicle.*

ANSWERS TO CORRESPONDENTS.

Marie Louise Pear.—*James Burns.*—This grand Pear, named in honour of the Empress Marie Louise of Austria, was raised by the Abbé Duquesne in 1809, and some seven years later was sent to this country by Dr. Van Mons of Louvain. It is believed to have been first received by Mr. Braddick (the raiser of Braddick's Nonpariel Apple), who grew it as a standard, hence the name it was once popularly known by—Braddick's Field Standard.

Skeleton Leaves.—*Rubus.*—*The Chemical News* for 1865 contains the following directions for making skeleton leaves. "The leaves are boiled for two minutes, then transferred to a strong solution of permanganate of potash and gently heated. In an hour or two the laxer tissues may easily be removed by means of a brush. Sulphurous acid, or a solution of chloride of lime, may be used for bleaching them. The stains of permanganate of potash upon the fingers are easily washed off by dilute sulphuric acid."

Wasps' Nests.—*Fruit-grower.*—Put some turpentine into a large bottle, and shake it about until the whole of the inside surface is wetted by it: then fix the neck of the bottle in the nests' entrance, and place a large flower-pot over it. By replenishing the bottle once or twice with turpentine, the whole of the wasps will be destroyed by the fumes. If the nest should be in such a position that the bottle cannot be employed, inject the spirit with the syringe and cover up the nest's mouth.

Wardian Cases.—*C. Williams.*—Mr. Ward's own description of the cases he invented, was published many years ago in a little 8vo. volume. Mr. Van Voorst was the publisher, but it has long been out of print.

Large Mushrooms.—*Quip.*—A mushroom measuring 2 ft. 6½ in. in circumference, and weighing 1¾ lb., was grown by Mr. Reid, a gardener at Roehampton, in March, 1846. This is the largest we ever heard of.

Woodlice in a Mushroom Bed.—*C. B.*—An old-fashioned but none the less effective method of trapping woodlice, is to place a boiled potato in some dry hay in a flower-pot. Examine the pot every morning, and kill all that may be found in it. Boiling water poured round the sides of the beds will help to reduce the number.

Pelargonium Tom Thumb.—*W. Higgins.*—It was raised by Mr. Wilson, gardener to W. Pigott, Esq., Dullingham House, Newmarket, about forty years ago, but it can hardly, as you surmise, have been the progenitor of many other varieties, as we believe it very seldom bore perfect seeds.

Masdevallias.—*R. B., Ockbrook.*—The Masdevallias you refer to are all called the "chimæroid" section, but it would be saying too much to state that they are all varieties of M. chimæra, as there are easily recognized structural differences between them. They are not safely to be distinguished by the leaves. M. chimæra, true, has generally ascending flowers, the others going downward. The best are M. chimæra, and its varieties, M. Backhousiana and M. bella, but there are others acceptable and pretty, such as M. radiosa. They are all best grown in baskets. We will write on Masdevallias generally shortly.

Trade Catalogues Received.

William Bull, 536, King's Road, Chelsea, S.W.—Retail list of Bulbs, and tuberous-rooted plants.

W. P. Laird & Sinclair, Dundee.—Dutch Flower Roots.

George White, Carriagehill House, Paisley.—Florists' Flowers, Herbaceous, and Bedding-out Plants.

James Yates, Underbank, Stockport.—Bulbs and other flowering Roots.

Keynes, Williams & Co., Salisbury.—Descriptive Catalogue of Roses and Grape Vines.

Thomas S. Ware, Tottenham, N.—Bulb Guide, and Special Catalogue of Daffodils and Lilies.

NOTICES TO CORRESPONDENTS.

The Editor *begs to inform his readers that special attention will be paid in the columns of* The Gardening World, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's bona fides. No notice whatever will be taken of anonymous letters.

Secretaries of Horticultural Societies and Nurserymen and Seedsmen will greatly oblige The Editor *by sending him their Schedules and Catalogues as soon as published.*

LONDON SEED TRADE.

September 17th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report that there is still a good inquiry for seeds for present sowing. Trifolium keeps steady. Winter Tares are in short supply and have advanced fully 2*s.* per qr. Rye is steady, and Rape is in small request at last week's prices. New White Mustard is selling freely to crushers at 4*s.* per qr. under last week's quotations. There is no change in the value of this article for sowing. Samples of New English Clover are now being offered at very moderate prices, but the seed is too small to suit present buyers. Blue Peas are steady. Canary Seed is unchanged; a shipment of New Dutch shows fine quality and price moderate. Hemp Seed is easier, and Millet firm.

COVENT GARDEN MARKET.

September 18th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6– 4 0	Melons, each	0 6– 1 6
Figs, per dozen	0 6– 0 9	Pine-apples, Eng., lb.	4 0– 5 0
Grapes, per lb.	0 6– 2 6	Peaches, per dozen	1 0– 8 0
Kent Filberts and Cobbs, per 100 lb.	50 0–60 0	Pears, French, p. doz.	1 0– 1 9
		Plums, ½-sieve	4 0– 9 0

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0– 4 0	Lettuces, Cabbage, per dozen	1 6– ...
Beans, French, lb.	0 4– ...	— Cos, each	0 2– ...
Beet, per dozen	2 0– 3 0	Marrows, each	0 3– ...
Cabbages, per dozen	2 0– ...	Mint, green, bunch	0 4– ...
Carrots, per bunch	0 8– ...	Mushrooms, p. basket	1 0– 2 0
Cauliflowers, English, dozen	3 0– 4 0	Onions, per bunch	0 6– ...
Celery, per bundle	1 6– 2 6	Parsley, per bunch	0 8– ...
Cucumbers, each	0 6– 0 8	Radishes, per dozen	1 6– ...
Endive, French, per dozen	2 6– 3 6	Small salading, per punnet	0 4– ...
Garlic, per lb.	0 6– ...	Spinach, per strike	2 0– ...
Herbs, per bunch	0 2– 0 4	Tomatos, per lb.	0 9– ...
Horse Radish, bundle	3 0– 4 0	Turnips, bunch	0 8– ...

Potatoes.—Kent Regents, 80*s.* to 100*s.* per ton; Kent kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0– 4 0	Lavender, 12 bun.	6 0– 8 0
Asters, 12 bunches	3 0– 6 0	Marguerites, 12 bun.	3 0– 6 0
Bourvardias, per bun.	0 9– 1 0	Pelargoniums, per 12 sprays	0 6– 1 0
Calceolaria, 12 sprays	0 4– 0 6	Pinks, various, 12 bunches	...– ...
Carnations, 12 bun.	0 6– 1 0	Primula, double bun.	1 0– 1 6
Chrysanthemums, 12 bunches	3 0– 6 0	Pyrethrum, 12 bun.	2 0– 6 0
— large, 12 blooms	2 0– 6 0	Rhodanthes, 12 bun.	4 0– 6 0
Cornflower, 12 bun.	2 0– 4 0	Roses, outdoor, 12 bunches	2 0– 6 0
Dahlias, 12 bunches	3 0– 6 0	Stephanotis, 12 spr.	4 0– 6 0
Eucharis, per dozen	4 0– 8 0	Stocks, 12 bunches	3 0– 6 0
Gardenias, 12 blms.	3 0– 6 0	Sweet Peas, 12 bun.	1 6– 4 0
Gladiolus, various, 12 bunches	6 0–12 0	Sweet Sultan, 12 bun.	2 0– 4 0
Heliotropes, 12 sp.	0 6– 1 0	Tuberoses, per dozen	0 6– 1 0
Lapageria, white, 12 blooms	2 0– 3 0	White Jasmine, bun.	0 6– 1 0
— red, 12 blooms	1 0– 2 0		

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0–24 0	Foliage Plants, various, each	2 0–10 0
Asters, per dozen	3 0– 6 0	Fuschias, per dozen	3 0– 6 0
Begonias, per dozen	4 0–12 0	Heliotrope, dozen	3 0– 6 0
Bouvardias, dozen	9 0–18 0	Lilium longiflorum, per dozen	6 0–18 0
Chrysanth., dozen	4 0– 6 0	— speciosum, p. doz.	6 0–18 0
Cockscombs, dozen	2 6– 4 0	Marguerites, per doz.	8 0–12 0
Coleus, various, doz.	2 0– 4 0	Palms in variety, each	2 6–21 0
Cyperus, per dozen	4 0–12 0	Pelargoniums, scarlet per dozen	2 0– 6 0
Dracæna term. doz.	30 0–60 0	Petunias, per dozen	3 0– 6 0
— viridis, per dozen	12 0–24 0	Rhodanthes, per doz.	4 0– 6 0
Evergreens, in var., per dozen	6 0–24 0	Solanums, dozen	9 0–15 0
Ferns, in var., dozen	4 0–18 0		
Ficus elastica, each	1 6– 7 0		

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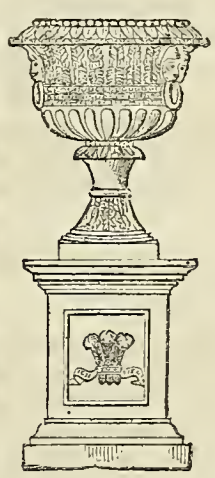

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FIFTY THOUSAND AZALIA MOLLIS. Good plants, showing from 15 to 20 buds, £2 10*s.* per 100; 10 to 15 buds, £1 15*s.* per 100; 8 to 12 buds, £1 10*s.* per 100. Plants ready for forcing in a year's growing, very best stuff, 20*s.* per 100; smaller ones, 14*s.* per 100. Planted-out Seedlings of the very best growth, £3 10*s.* per 1000, 7*s.* 6*d.* per 100. Samples sent free to London.
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Sales every Monday, Thursday, and Saturday.

DUTCH BULBS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C. (next door but one to Bennett's Clock), every MONDAY, THURSDAY, and SATURDAY, at half-past 11 o'clock precisely each day, extensive consignments of the best named HYACINTHS, TULIPS, CROCUS, NARCISSUS, SNOWDROPS, and other ROOTS from Holland, in lots to suit the Trade and Private Buyers.

On view mornings of Sale. Catalogues of the Auctioneers, 67 and 68, Cheapside, E.C.

Flowering Orchids. Special Sale.

MESSRS. PROTHEROE AND MORRIS beg to announce that their next SPECIAL SALE of ORCHIDS in Flower and in Bud will take place on TUESDAY, September 30.

67 and 68, Cheapside, London, E.C.

Sale No. 217.

HIGHLY IMPORTANT UNRESERVED SALE of the far-famed COLLECTION of ORCHIDS, formed by Oscar Lamarche, Esq., of Liège, who is giving up their cultivation.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL BY AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, October 7, at half-past 12 o'clock precisely, the entire collection of Established ORCHIDS, enjoying a reputation probably unequalled on the Continent. Amongst many other fine things, several of which are handsome specimen plants may be mentioned:—

Vanda Lowi, a most unique specimen, 4 ft. 6 in. high, with thirty-two leaves	Vanda tricolor Wioti
Dendrobium Shröderi	,, cath carti
Cypripedium Sedeni, 4 ft. through	Cattleya Gaskelliana, white variety
Miltonia Closoesi, Lamarcheana	,, trianæ alba
Vanda suavis Veitchi	,, ,, rubra
,, tricoler aurea	Cœlogyne Massangeana vera
	Anguloa Ruckeriana
	Odontoglossums
	Masdevallia chimæra arecta

May be viewed the morning of sale. Catalogues now ready, and may be had of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Brighton.

By order of the Executors of the late Mr. Thos. Killick.
IMPORTANT CLEARANCE SALE of NURSERY STOCK, PLANTS, HORSES, FURNITURE, and Effects.
To Gentlemen and others intending Planting this season.

MESSRS. PROTHEROE AND MORRIS (in conjunction with Mr. ATTREE) are instructed to SELL by AUCTION, on the Premises, The Nursery, Dyke Road, Brighton, on WEDNESDAY and THURSDAY, October 8 and 9, at 12 o'clock precisely each day, the whole of the beautifully grown NURSERY STOCK, which is in capital condition for removal, comprising Thousands of Border Shrubs in fine assortment; 4,500 Aucubas, about 400 of which are unusually fine plants, from 3 to 4 ft. high; 15,000 Dwarf Roses, Standard Roses, Fruit Trees in great variety, large quantity of Limes, Poplars and other Ornamental Trees, the whole of the Greenhouse Plants, 60 Unglazed Sashes, AGRICULTURAL IMPLEMENTS, HORTICULTURAL REQUISITES, capital Waggon, Tumbril and Spring-Carts, Bay Gelding, Chestnut Pony, Bay Pony, Harness, and the remaining HOUSEHOLD FURNITURE, Wardrobes, Chimney-glass, and other items of the usual Description.

May be viewed any day prior to the Sale. Catalogues are now ready, and may be had on the Premises, of Messrs. Clarke & Howlett, Solicitors, 8, Ship Street, Brighton, at Mr. Attree's Offices, 136, Bath Street, Brighton; and of Messrs. Protheroe & Morris, Auctioneers and Valuers, 67 and 68, Cheapside, E.C.

N.B.—To be SOLD the Valuable FREEHOLD BUILDING ESTATE, being that portion of the Nursery situate on the Eastern side of Dyke Road, with the DWELLING HOUSE standing thereon, and having an area of about four acres, with a frontage of about 300 ft. to Dyke Road, particularly eligible for the erection of Superior Residences.—For Particulars and Terms apply to Mr. Attree or Messrs. Protheroe & Morris, as above.

Wimbledon, S.W.—Preliminary Notice.

GREAT CLEARANCE SALE of unusually well-grown NURSERY STOCK, in consequence of the expiration of the Lease of a portion of the Home Nursery.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. D. S. Thomson to SELL by AUCTION, on the Premises, The Nursery, Wimbledon, on MONDAY, October 20, and three following days, about 10 Acres of remarkably well-grown Nursery Stock.

Further particulars of which will be Advertised.

Flowering Orchids.—Special Sale.

MESSRS. PROTHEROE AND MORRIS beg to announce that their NEXT SPECIAL SALE of ORCHIDS in Flower will take place on TUESDAY, September 30.

Special Notice.

HARDY FLORISTS FLOWERS: Their Culture and Management. By JAMES DOUGLAS. Price 3s. 6d., post free.—Address, Mr. James Douglas, Great Gearies, Ilford.

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Cyclamen persicum (Smith's superb strain), full of buds, 5-inch pots, 18s. per doz.
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Ferns, Maiden-hair, &c., in great variety; also
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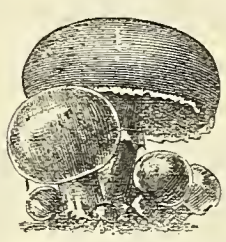

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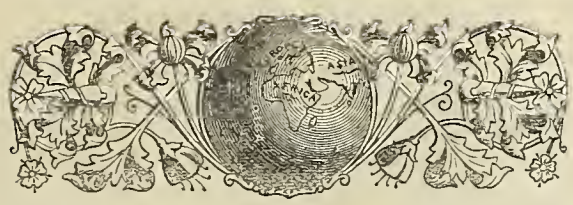


Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, SEPTEMBER 27, 1884.

The Royal Horticultural Society's Committees.—We are in good company in taking occasion to regret that the various committees which sit in connection with the Royal Horticultural Society at South Kensington and perform its most useful and popular functions, should not have been called together twice during the present month, especially as a large fruit show was being held on the date the usual fortnightly meeting would have taken place had the committees been convened, and that in itself would have attracted the members in great force. So often have complaints been made by those who have novelties or other interesting garden products, that a month is too long an interval (in the present case the interval is of five weeks' duration) to elapse between these meetings, that we are surprised to find in the early autumn month of September only one meeting is held. We notice that whilst in the beginning of the year it is only January and February, the dullest of winter months as a rule, have only one meeting allotted them; in the autumn—that is, the present season—no less than four months are so treated. We hope the Council of the Royal Horticultural Society have not got to think these committee meetings a bore. If so, then it is time to ask for what other reason or to perform what other work need the Society exist? We should have imagined that gentlemen having some kindly regard for horticulture would have thought that its interests, as well as those of the Royal Horticultural Society, would have been best served by promoting an expansion of the operations of the committees rather than by restricting them. If it is thought the present work for the committees is too onerous for its members, though we hear no complaints, that may be remedied by extending the numbers of those bodies, and calling up only one-half of each committee for each meeting.

Border Carnations.—The month of August, especially the earlier portion of it, is usually held to be the best time to propagate border or Clove Carnations by layering. Still it sometimes happens that the work cannot be always done at that time, or it may be, as this year, that the weather is so hot and the soil so hard that it is difficult to perform the work just then satisfactorily, and often it is deferred to a more convenient season. Early layering means early rooting and the production of strong, sturdy young plants, but the best has often to be made of a difficulty, and therefore if layering cannot be done in August it may be done during September with fairly successful results. It does materially help quick rooting on the part of layers if a free addition of old pit-soil, fine and gritty, be added to the border-earth in which the shoots are layered; indeed, when old stools are being dealt with, half a bushel of this kind of soil may well be used with the best results. We have seen mounds of layers, some thirty or more in number, from one stool, all layered by using additional soil, and all presently forming good-rooted layers. It speaks well for the propagating powers of some capital seedling Cloves, that in the second year they have each given thirty good layers at once. Thus a fine stock is created with little trouble and in a short time. It may not always be known that, even if layering is done so late that rooting is not possible the same season, and if the layers be taken off below the cut in the shoot and be dibbled out in a frame, all will make roots, and form good blooming plants ere the spring is well advanced. A hand-light placed over the layered plant will prove equally serviceable in promoting winter-rooting. Done when it may, layering will always give an ample stock of border Carnations.

Adders in the Wild Garden.—As many gardens now include a wild part, or as popularly so-called—a Wild Garden, it cannot be too widely made known that such places afford good cover for snakes. Equally important is it, that everyone having such a garden, or the charge of one, should know what to do, if anyone is bitten and there is no doctor near. Mr. G. F. Wilson, Heatherbank, Weybridge, called attention to the subject in the columns of *The Field* of Saturday last, and we here reproduce his letter for the benefit of our readers:—"Adder bites seem to have been more common than usual this year and the poison more powerful, probably owing to the great heat. My attention was painfully drawn to the subject through my son, when out with a well-known naturalist near our river at Wisby, being bitten in the hand. Within half-an-hour he could not walk, and could hardly speak. Ammonia externally and brandy internally were applied, but not for some little time; so the poison got fully into his system. He was very ill, suffered greatly for some days, and did not recover his strength for many weeks. If a strong young man in the fullest health (he had just returned from a Highland fishing-run) could be made so ill, such a bite must, I think, have been fatal to a weaker subject. The adder was a very large one. This accident brought me communications from friends all over the country; from them I gather that, if bitten at a distance from medical aid, the proper course is to tie a ligature above the wound, then cut off the skin (it is apt to close over the puncture), and, if the lips are uncracked, suck the place; then rub ammonia over it and take brandy from time to time; and, as the remedies should be applied at once, it is desirable to have them near when in places frequented by adders. The patient should on no account be allowed to go to sleep. The popular country remedy is adder's fat, but this I conceive can have no action different from olive or other sweet oil. Quite lately a navvy employed on the new Guildford railway was bitten. I am informed that he was taken to the hospital, but died in a few days."

The Blue Gum Tree.—If it be true that in Australia the prevailing tint of leaf colour is the beautiful shade of green peculiar to the Eucalyptus globulus, and that other tints would be there welcomed as a contrast, it is no less true that in English gardens not half enough use is made of the plant for the same purpose. We have in our eye a group of plants, some six or eight in number, each clothed with foliage to the ground and about 15 ft. high, backed up with tall deep green-leaved trees and shrubs, which has quite an unique effect. In a gentle breeze, the motion of the leaves add a charm to the group that is indescribable; the eye is irresistibly drawn to them, and one longs to see more of such charming contrasts. It is true that the plant is not hardy, at least near London, but neither are many other subjects that have had more favour shown to them than the Blue Gum tree, and that should be no bar to their extended cultivation. The plant is a striking one, whether in a small or large state, but it is the large ones, such as we have described above, that give the grandest effects. The best way of obtaining such plants is to sow the seeds the summer previous to planting them out, so as to get good strong plants about a foot high by the autumn; and these, if planted in good soil, will grow away at a wondrous rate.

Potato Shows.—We referred last week to the very popular International Potato Show. There is one feature of the present year's schedule of prizes which merits on the part of new or hitherto unsuccessful exhibitors careful attention. It is in the section of four classes specially arranged for the benefit of all who have not hitherto taken a first prize at these exhibitions. Thus small or inexperienced growers have some classes in which they will not have to fight on unequal terms with older exhibitors. As evidence of the exceeding popularity of the Potato as a show subject it is worthy of notice that on the week following that in which the International Potato Show is held there will be a three days' exhibition of Potatos at South Kensington, in connection with the National Health Exhibition; and that the prizes, which are good, are in classes arranged in diverse fashion from that usually found. Thus we find one class for fifty kinds, but it would seem as if the number of exhibitors in this class was not expected to be large, as the sums given as prizes are curiously enough less than are those offered for eight kinds of vegetables only. Then we find classes for garden kinds, twelve dishes, which we presume mean only early or short-topped sorts, and also for field varieties, the which should include, of course, only coarse growers. Then we have other classes for American kinds with pedigrees, rather an onerous condition in that case, and also of English-raised sorts with pedigrees, which should bring out some of the larger raisers. Finally, we find a class for twelve kinds suitable for late use, which will include, of course, some of the field sorts, as all strong-growing kinds make the best keepers.

Anemones.—Incredulous readers will scarcely believe the statement that anemones are already in bloom, yet such is the case, beautiful flowers, if not yet quite so big as those which look so glorious in March and April, yet not less charming. How comes it that these spring flowers are blooming thus early in the autumn and so much out of season. They had bloomed beautifully during the spring and early summer, and after the seed was gathered the roots soon went to rest, and, thanks to heat, such rest too! There can be no doubt at all but that these tuberous-rooted kinds like a good baking in the sun heat. It thoroughly ripens or matures the tubers, and the moment autumn rains fall the impulse to grow is marvellous, for leaves appear in a few days and in a week or two the once barren soil is rich in greenery. Then come the earliest blooms, and henceforth, if the winter be propitious, there is no lack of beautiful flowers until, perhaps, the end of the following May. The surface of the beds have just been stirred with a pointed hoe, kept free from weeds, and then dressed with a mulching of very short manure. The nutriment from this the rains have washed down to the tubers, and the growth resulting is luxuriant. The beds are bare for, perchance, a couple of months—say during July and August—but soon the leaves begin to appear, and for the rest of the time there is foliage and bloom. So easily is it to obtain anemones from seed that it is marvellous not to find them in every garden. Seed sown either as soon as ripe or early in the spring

will give myriads of plants in a short time, and once a good stock is secured an abundant supply of seed is also obtained if growers will but carefully save it.

The Horse Chestnut Flowering a Second Time.—Last week, in the article on the Horse Chestnut (p. 41), mention was made that this tree sometimes flowers again in the autumn (by a slip the word April was inadvertently used), and this peculiar phenomenon may now be seen at Kew. The tree in question stands just inside the wall, exactly opposite the Lichfield Road, and is about 30 ft. high. Nearly all the leaves have fallen, owing, perhaps, to the unusually hot and dry summer, and a second growth is the result. All the buds which should have remained dormant until next spring have burst, producing two or three new leaves, and the flowering panicle, thus giving a very singular effect. Both leaves and panicles are abnormally small, the latter measuring 2 or 3 in., but the flowers are quite perfect, measuring ¾ in. in diameter, and the colours are as brilliant as in the spring. Second growth is always the result of some check before the growing season is normally over, followed by a renewed activity of the sap, and in support of the theory that in this case the abnormally hot and dry summer was the cause, we may mention that a second tree which had shed most of its leaves has again begun to grow, though no flowers have been observed. The fall of the leaf generally is this autumn unusually early.

"The Revue Horticole."—The number for September 1st of this work, just to hand, contains a coloured plate, representing Prunus triloba and P. Pissardi, with an article from the pen of M. Ed. Morren. The former species has ovate, irregularly toothed, bright green leaves, with red and yellow globose fruit of the size of a small cherry. P. Pissardi is represented with purple, ovate, crenate leaves, and depressed-globose red fruit of the size of a large cherry. It has produced fruit this season for the first time, it is believed, in Europe. We also notice a paper on the "Formation of fruits without flowers," by M. Carriere, with five woodcuts, showing some curious abnormal growths of this nature on the Apple and Pear. Also a notice of Sambucus pyramidalis and Anoplophytum amœnum, the latter a Bromeliaceous plant from Brazil, sent by M. Glaziou.

The Weather and the Fruit Crops.—What a glorious time for late Peaches and Plums! We are having quite a second summer, and the solar heat coming in just after the heavy rain, has caused a rapid swelling of the fruit. That it may have as much of the sun's influence as possible, every leaf covering any of the Peaches should be pushed aside or shortened, for without full light, it is impossible to have either high colour or flavour, as it is the solar rays that paints the cheeks and converts the crude juices under the skin into sugar or saccharine matter. Not only are Peaches and Plums benefiting by the beautiful weather, but it is just as favourable for Apples and Pears, which, within the past month, have quite doubled their size, and besides this, they, like the Peaches, will be greatly improved in their quality.

Mussænda pubescens.—This pretty little plant is now flowering in the stove. It is a compact little bush, 6 in. high, with bright green leaves and terminal flower-heads. The tubular flowers with spreading segments are bright-yellow in colour, and each head is surrounded by a few pure white leaf-like bracts, altogether giving a very pretty effect. It is a native of Hong Kong and South China, and as it is of dwarf habit, it should prove serviceable as a decorative plant.

Gardening Miscellany.

Apples being unusually plentiful in Devon this season, it is proposed to hold an Apple Fair, shortly, in Exeter, to encourage the growers and to promote the development of one of the principal horticultural specialities of the district.

Mr. J. Wright, gardener to the Hon. Society of the Middle Temple, states that, in consequence of the Long Vacation ending so much earlier this year, the annual show of Chrysanthemums at the Middle Temple Gardens will be opened to the public about the middle of October, instead of, as formerly, at the end of the month.

Public attention having been drawn to the cleaning operations now going on at the Albert Memorial in Kensington Gardens, Mr. John Wills has revived the scheme proposed by him in 1877 for covering the National Memorial with an immense glass structure. The subject is ably treated in the columns of *The Citizen* of Saturday last.

The opening meeting of the session, 1884-85, of the Manchester Horticultural Improvement Society, will be held on the first Thursday in November.

At the meeting of the Essex Field Club, to be held on Saturday, October 4th, Mr. Worthington G. Smith has undertaken to read a paper on "The politics of the Potato Fungus;" and Dr. M. C. Cooke will report on "The objects of interest found during the two days' Foray."

Mr. G. Goldsmith, gardener, Hollander, Tonbridge, exhibited at South Kensington, on Tuesday, a couple of tubers of the White Elephant Potato, which together weighed 6 lb. 1 oz. Both were grown at one root, and the largest turned the scale at 3 lb. 10 oz.

A Committee has been formed, with F. B. Thomas, Esq., Bond Street, as chairman, and Mr. E. R. Cutler as secretary, to organize a complimentary dinner, to be given at the Holborn Restaurant on November 21st, in honour of George Lambert, Esq., F.S.A., who it will be remembered ably filled the chair at the last festival of the Gardeners' Royal Benevolent Institution. Mr. Alderman Savory will preside.

The sale of new Masdevallias at Messrs. Protheroe and Morris' rooms on the 16th was a great success, the competition for most of the lots being exceptionally keen.

The trade sales of winter flowering plants held last week were well attended by nurserymen from all parts of the country, and the gross amount realized was nearly £3,000.

We regret to record the death, at Trinity, Edinburgh, on the 21st inst., of Mr. Isaac Anderson-Henry, F.L.S., F.R.S.E. Mr. Anderson-Henry's fame as an experimental horticulturist and skilful hybridist was made many years ago, while he was practising as a solicitor in Edinburgh. Since that time he has been the means of introducing many valuable plants to the country, and has also contributed many singularly interesting papers on his favourite subject, hybridization, to the Linnean and other learned Societies.

Messrs. James Carter & Co. have been awarded a Gold Medal at the Amsterdam Exhibition for their Grass Seeds in growth.

The awards of the jurors at the Forestry Exhibition as published having given great dissatisfaction to most of the Exhibitors, a meeting was held on Monday afternoon, at which about fifty gentlemen were present. The following resolutions were passed, and a committee appointed to carry them out:—(1) That, seeing the glaring inconsistencies of the awards as published, we, as practical men, consider that such adjudications cannot have emanated from competent jurors, who should have been appointed under rule 11 of the regulations; or otherwise their original decision must have been altered, after being submitted to the Executive Committee. We therefore demand that the committee appointed from this meeting have access to the original reports of the jurors. (2) That this meeting considers that the Exhibition has not been satisfactorily managed by the Executive Committee, and that the interests of the Exhibitors have been habitually and superciliously ignored by the officials; we hereby resolve to remove our exhibits by the 1st October unless such explanations and concessions are made as are deemed satisfactory to the committee appointed by this meeting.

FUCHSIA TRIPHYLLA.

We recently saw a flowering specimen of this charming plant. It is at once new and old, paradoxical as that statement may appear. And, gentle reader, do not turn away at the sight of one more addition to our already too numerous army of Fuchsias, for this one is, *par excellence*, the Fuchsia, as it is the one on which Father Plumier, as long ago as 1703, founded the genus. This illustrious botanist travelled in the French West Indies, principally in San Domingo, about the end of the seventeenth century. In 1703, three years before his death, his *Novarum Plantarum Americanarum Genera* was published, containing descriptions of about 100 new genera, the present species appearing as "Fuchsia triphylla flore coccines" (p. 14, tab. 14). In 1753, in accordance with the system of binomial nomenclature, this was changed by Linnæus to F. triphylla (*Species Plantarum*, ed. 1, p. 1191).

The species is interesting as the only one known to be indigenous to the West Indies, nor is it certainly known from any other island except San Domingo, where Plumier found it, and from whence it was sent to Messrs. Henderson & Son's establishment a few years ago by Mr. Thomas Hogg. It is somewhat remarkable that a species discovered so long ago should only so recently have been introduced to cultivation, but here it is, and we append a brief description. It is 1 to 1½ ft. high, and of pyramidal habit. The leaves are petioled, obovate, with attenuate bases, the midrib and numerous parallel veins being dull crimson-purple, especially beneath. The flowers, which are borne in pendulous bunches at the ends of the branches are 1½ in. long, and of a uniform brilliant orange-scarlet, perhaps better expressed as cinnabar-red. The tube is proportionately long, the sepals not spreading, and the petals and stamens not exserted.

In conclusion we may say that F. racemosa of Lamarck is the same plant, but that a New Granadan plant which was erroneously called F. triphylla by Kunth must not in any way be confounded with it.

PLANT CULTURE IN MOSS.

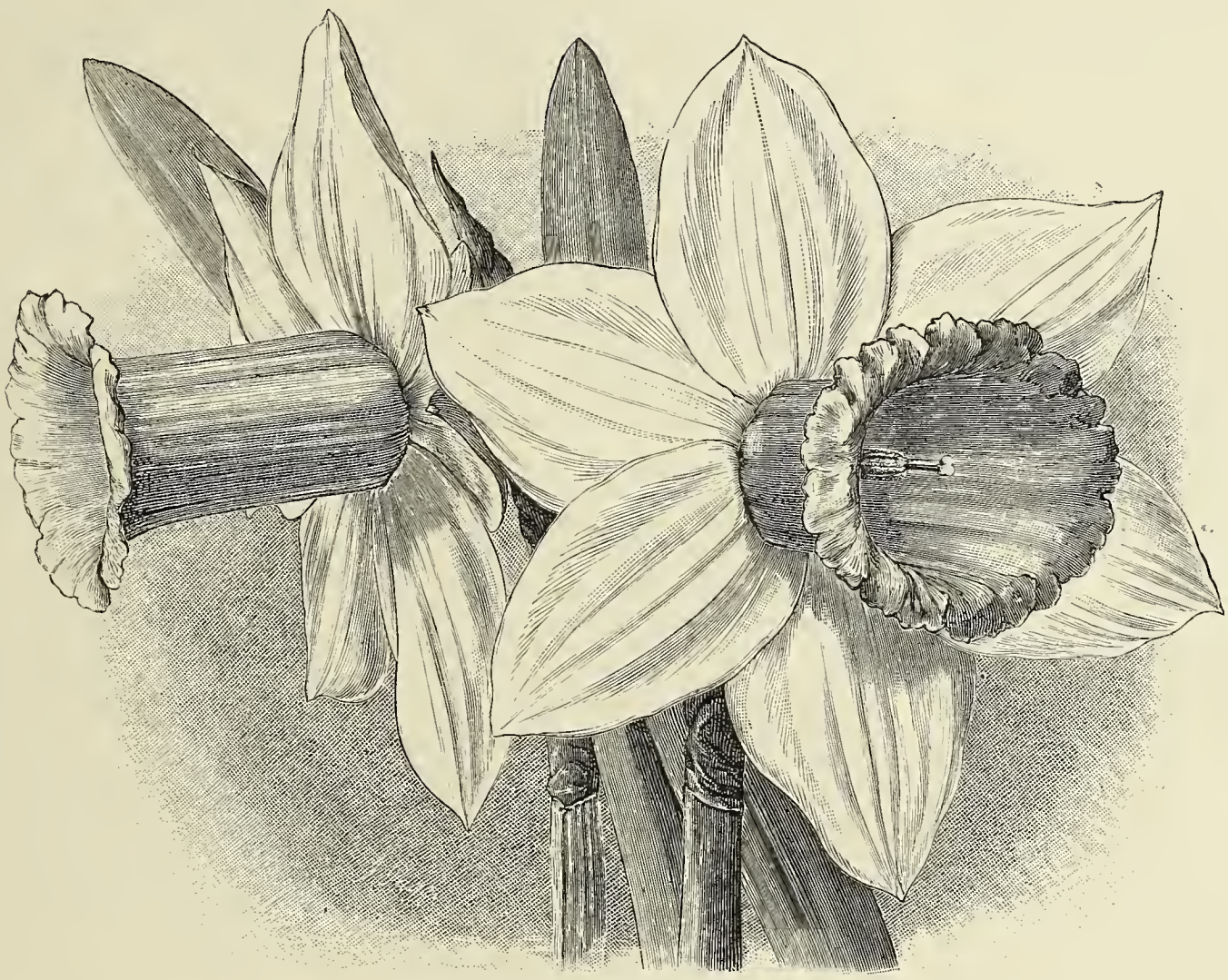
That plants will do well in moss I have had constant proof for more than a quarter of a century, as during the whole of that time we have constantly had them with it about their roots, and I have always found them do well. Why we use the moss, which we do largely, is that we have many vases in our conservatory to fill, and as we have to knock most of the plants out of their pots to get them in, we are compelled to place some light clean material around them. After trying leaf soil and cocoanut fibre refuse, we found moss by far the best, and the roots lay hold of it freely, so much so that after the moss has been in a few weeks, and the plants are lifted, it comes out the shape of the vase it was in, and matted all over. Although the roots will permeate and cling to living moss, they prefer that which is dead, or has been raked up and laid by for a time, or used for top dressing. This they lay hold of at once, and if the pots are plunged or buried in it they will leave the soil, and find their way out above and below. This I have seen again and again; and not only will plants take hold of the moss in the way referred to, but they improve greatly through it, and carry out their bloom much more satisfactorily or make far stronger growth. Why plants like moss so well is that it is loose and open, thus letting in plenty of air while at the same time it is a good medium for conducting water, as it is spongy and absorbent, without being or remaining actually wet. I once tried it for Azaleas by chopping it up and mixing it with the peat, but in that case it did not answer, as the balls seemed too elastic, and after a time it was almos impossible to get water to penetrate. Incorporated with loam for Pelargoniums, or other soft-wooded subjects, it might do better, and such things as Achimenes and Gesneras are actually fond of it, and only want it and leaf-soil to do really well. Window gardeners will find it a great boon, and should make free use of it for bulbs, or as we do, around plants in their vases, as it may be obtained in towns, or ought to be there supplied, at much less cost than loam.—*Alpha.*

IMPERIAL DAFFODILS.

The Imperial Daffodils are Narcissus bicolor, "Empress," and N. lovifolius, Emperor, both raised from seeds many years ago by the late Mr. William Backhouse, of St. John's, Walsingham, who devoted many years of his life to the culture and improvement of these beautiful flowers. When well and vigorously grown, no seedling Daffodils whatever approach those we now illustrate in stately growth or in perfection of blossoming. N. Empress has great, solid, wax-like flowers fully 4 in. in diameter, the perianth segments being white, and a long trumpet of a rich golden-yellow colour. As seen in well-established health and vigour, it is a noble flower. Some have confounded N. Horsefieldii with N. Empress, but as seen in the mass growing side by side, the two kinds are quite different and distinct from each other. In Mr. Walker's collection at Whitton last April, we saw beds of each variety side by side, we have also seen them growing in Holland, and the differences between N. Horsefieldii and N. Empress may be shown as follows:—

N. Empress.	N. Horsefieldii.
Height of plant 18 to 24 in.	Height of plant 15 to 18 in.
Leaves pale or leek green.	Leaves darker or onion green.
Flowers about April 20th.	Flowers about April 10th.
Petals stout; Trunk golden.	Petals shimmer in the wind, being of less substance, and the trunk is of a paler colour.
Increases slowly, at the root.	Increases quickly, at the root.
Price one shilling and sixpence per root.	Price ninepence per root.
Raised by Wm. Backhouse.	Raised by John Horsefield.

Both varieties should be grown, because while N. Empress is undoubtedly the finer of the two in its blossoming on good well-drained soil, N. Horsefieldii is the hardiest, increases more rapidly, and is the best Daffodil of the two for ordinary rough and tumble culture. N. Emperor differs from N. Empress in having the petals pale yellow instead of white, but is in all other ways equally fine in form and substance. It has not the molten gold tint of N. maximus, but comes much nearer to the "florist's standard" of a beautiful flower. The accompanying illustrations of the two varieties by Mr. J. Page, for which we are indebted to Messrs. Jas. Veitch & Sons, of Chelsea, show the size and form of these two grand Daffodils, the yellow colour of N. Emperor being indicated by the darker shading on the perianth segments. We need scarcely point out the fact that these two noble Daffodils are perfectly hardy on all good well-drained soils, but for pot culture they are quite as valuable. Bulbs of N. Empress cost fifteen shillings per dozen; those of N. Emperor twenty-one shillings. In a word, every amateur fond of his garden can at a cost of three shillings and sixpence possess himself of a bulb of each, and those who think nothing of paying five or ten guineas for an Orchid, might do worse than invest in a dozen each of these Narcissi for pot culture. Planted now, three bulbs in a pot, they will be fine in a cool greenhouse next March, and will then bear comparison with any Orchid in flower. When potted, the bulbs should be covered 3 or 4 in. with coal ashes or cocoa-nut fibre, and should not be brought into the warmth of a greenhouse until next January or February, about which time they will commence to throw up leaves and flowers. All Daffodils are beautiful in pots, and open out larger and clearer under glass than when fully exposed to the inclemency of our spring season in the open-air, but none are finer for this purpose than these two varieties which we have here figured and described.—*F. W. Burbidge.*



NARCISSUS BICOLOR "EMPRESS" (*see* p. 61).

Hardy Cyclamens.—These are charming little plants for the hardy rockwork, and commence flowering at a season when most of the summer things are fading. A few plants of C. coum, C. europæum, and C. hederæfolium with their rose-coloured or white flowers, are now very pretty objects. Several clumps may be seen on the new rockwork at Kew, and in the wild garden we observed a patch some three yards in diameter. The majority of the plants were rose-coloured, and the effect as they nestle in the grass is not less novel than attractive.

DUTCH BULBS FOR AMATEURS.

This is the season when amateur readers who are fond of growing a few bulbs have their attention turned to what they shall cultivate. Now is the time to do this and also to make such a selection as they think will meet their requirements. Some are attracted by the announcements of public sales of bulbs and make a purchase, only in many instances to suffer grievous disappointment. It is far better, and much more satisfactory in result, to spend a few shillings more, and make a selection from a trustworthy catalogue, and thus secure something worthy of the time and attention necessary to be given to cultivation. Now here is a selection of Hyacinths that is well suited to anyone of moderate means and limited accommodation. I have purposely passed by the double varieties, as they are not wanted in a limited collection. Single red varieties:—Cavaignac, Cosmos, Emmeline, General Pelissier, Lord Macaulay, Norma, Solfaterre, and Von Schiller; eight in all. Single white varieties:—Alba maxima, Cleopatra, Grandeur à Mervielle, La Franchise, Madame Van der Hoop, Mont Blanc, and Snowball; seven varieties. Single blue varieties:—Baron Von Tuyll, Charles Dickens, De Candolle, Grand Lilas, Haydn, King of the Blues, Lord Byron, Lord Palmerston, Marie, and Sir John Laurence; ten in all. Add the following four yellow varieties, and our selection is complete:—Anna Carolina, Duc de Malakoff, Ida, and La Citronnière.

These will average from ninepence to one shilling each; and the bulbs, if had within the next month, will be plump and sound, and, if well grown, certain to flower in a satisfactory manner. As a matter of course a cultivator of Hyacinths will be certain to include a few bulbs of the Early White Roman variety. If a half-dozen bulbs be put into a fair-sized pot, using good soil, they will bloom early and be found very useful indeed, especially if they can be forced on a little in a gentle heat. The other early flowering forms are not worthy of attention, and in regard to the

cultivation of the Hyacinth but little is necessary. The best time to pot is during October, but there is no reason why the bulbs should not be purchased as early as possible so as to get the best pick of them. What are known as 48 and 32-sized pots will be found quite large enough for Hyacinths; the latter is the largest, and the biggest bulbs should be placed in them. If anyone has the materials out of which to mix a good Hyacinth compost, they can do it in this way: two-thirds good fibry loam, and the other third should consist of rotten dung and leaf-mould in equal parts, and a fair proportion of rough Bedfordshire sand. These should be well mixed together, and turned over a few times before using. If it is out of the power of an amateur to make this compost for himself, then let him apply to a dealer in garden composts, and he will supply him with what he requires. Drain the pots well in the usual manner, and then pot the bulbs, leaving nearly one-half of them exposed, press the soil firmly about them, and that part of the work is complete. Then stand the pots in a cold frame or under a wall, and cover them over to the depth of four inches with finely-sifted cinder ashes. Here they may remain for two months, the object being to induce the bulbs to root freely into the soil, and the weight of ashes at the top will keep the Hyacinths from being lifted up out of the soil—a frequent occurrence when there is nothing placed over them after being potted.—*R. D.*

HARDY FRUIT CULTIVATION.

September is generally considered to be rather an easy month with the fruit-grower, except that in it many of the non-keeping fruits require harvesting and marketing, operations which, in showery weather at least, cause him considerable trouble and anxiety. Instead, however, of this being comparatively a leisure month, it is, or should be, one of the keenest observation and greatest activity; for on the judgment which he may exercise, and the exertions which he may put forth in this month depend, to a great extent, as far as human efforts can avail, the success or non-success of the following and future years' crops. This is essentially the month of all months of the year when the critical eye of the fruit cultivator should carefully examine every tree, every branch, and almost every leaf and bud, so as to ascertain as accurately as possible their condition, and when found unsatisfactory, to immediately take such measures as will tend to rectify the existing evils. Root-raising and root-pruning are the two chief, as they are the two best remedies that can be applied for correcting many of the infirmities to which fruit-trees are liable. When fruit-trees are young they are too apt to produce ill-formed, gross shoots, which neither ripen perfectly nor develop their fruit buds, owing chiefly to the too free emission and extension of tap-roots. When roots descend into a cold, wet, ungenial soil, weak insipient shoots with yellow leaves are formed, from which no fruit can possibly be produced.

When the stems and branches become enshrouded in moss and lichen, the root action is invariably sluggish and imperfect, and unless remedial measures be taken, the trees gradually, yet surely, succumb to these slow, stealthy enemies. When cankered and diseased branches are visible, they are more frequently the result of defective root action than from any other cause. To each of these evils the best, and to some of them the only effective remedies are root-raising and root-pruning, and the sooner these operations can be performed in the autumn, so much the sooner will the trees become healthy and fruitful. But root-raising and root-pruning would, if generally, judiciously, and periodically performed, at desirable intervals, soon be productive of such satisfactory results as would surprise even their most sanguine and devoted advocates. They would tend more than any other means that can be used to increase and cheapen the supplies of our hardy and most valuable fruits. Why then are not these operations more generally practised? Simply because we are generally too indifferent to the condition of our fruit trees, or too careless and lazy to perform the requisite operations to improve their condition at the proper time, although we may be clearly convinced of their necessity and importance. Root-raising and root-pruning, to be effectual and successful, must be performed sufficiently early in the autumn, so as to enable the trees to overcome the check, and become re-established by making new roots before the approach of winter.

Some persons have contended that these measures are necessarily laborious and expensive, which is perfectly true, and so is the cultivation of every garden and field crop, some of which it is fully admitted do not give a profitable return. But the same cannot be said of our well-managed orchards. That they give a handsome profit for any reasonable expense incurred in their cultivation is abundantly manifest. Why then neglect altogether, or indifferently perform, those simple means, which when judiciously practised, have proved so advantageous, only because they are somewhat laborious.

The chief results to be obtained from root-raising and root-pruning are to check exuberant growth; to place the roots in a warmer and more favourable position: to increase the quantity of fibrous roots which are essentially the fruit producers: to supply the requisite quantity, quality, and appropriate kind of food within a convenient and limited space round the tree; and last, though not least, to provide that consistency or mechanical condition of the soil which will be most likely to conduce to the health and fertility of the tree. Although these operations necessarily entail a considerable amount of labour, and are in this respect somewhat costly, on the other hand, if the increased quantity and improved quality of the fruit be taken into calculation, the results will be found exceedingly profitable and satisfactory. I would wish it to be thoroughly understood what is here meant by root-raising and root-pruning. Unfortunately these terms appear to be very widely and diversely construed by different practitioners, for while some evince the greatest caution in performing the work, carefully preserving every healthy root from injury, only removing such as are dead or diseased, and simply shortening the ends of those which are disposed to form tap-roots, others appear to think that the greater the mutilation, the greater the check to the sap, and in proportion to the check so will the crop of fruit be.

Happily, however, the latter erroneous opinion is fast fading away, at least, amongst professional fruit-growers; as to the farmer and the cottager, they have not yet (generally) recognized the fact, that their fruit trees require cultivation. It is sufficient for them to gather the miserable rubbish from the moss-clad half-starved trees planted by their forefathers in the lowest and most unsuitable positions, without a thought as to their condition or cultivation. It was my unfortunate lot, however, to witness, even, in some respects, a first-class garden, last autumn, this root mutilation in progress, with a determination and energy worthy of a better cause. The free use of saw and knife is sometimes terrible to behold, but what would a society formed for the prevention of cruelty to vegetable life say to the free and indiscriminate use of the grub-axe, wielded with a strong and determined arm on roots 4 in. in diameter within 3 ft. of the stem? If the sonorous and lamentable wail given forth by the roots at each blow did not cause the hard heart of the operator to relent, they certainly did mine as I walked round the garden, and most surely the silent, sorrowful appearance of the trees themselves, this year, will penetrate even his.

To the uninitiated I would say avoid giving a severe check to the tree in performing the operation; aim at raising the roots as much as practicable, rather than in pruning them, except to remove injured and decayed ones, and in pruning off the extreme ends of such as are inclined to form tap, being assured that even with the greatest care some injury and sufficient check will accrue. Rather do one half the tree than the whole in one season, and commence the work at the extremity of the roots instead of cutting them off by digging a trench near the stem. Throw out the soil from the trench as the work proceeds, and tie the roots together, covering them up with mats to prevent injury. When this part of the operation is finished, means should be taken to prevent the roots from penetrating in future into the subsoil, either by a mixed layer of well-rammed chalk and fine ashes, or other equally suitable materials. In some cases, however, where the subsoil is hard and rocky, this precaution need not be taken. Over this it is always advisable to place a layer of stones or other suitable drainage, and in order to make this more permanent a layer of cinders and fine ashes should be placed over them and rammed quite firmly. Having ready at hand the new compost prepared according to the special requirements of the particular tree, let it be mixed or not, as convenient, with the best of the old soil previously thrown out. In replacing the soil it should never be forgotten that to succeed well all fruit trees require a firm soil; if, therefore, the natural soil be of a light or loose nature, it should not only be rammed firm, but such materials should be intermixed with it as will tend to consolidate, without making it at the same time too retentive of moisture.

In respect to the soil for stone fruits, it is not advisable, except it be extremely poor, to introduce any kind of manure; instead of this, however, it is very essential that it contains a large percentage of calcareous matter, but in respect to other kinds of fruit-trees, some manures may with advantage be used, but even to these, it is not well to introduce large quantities, nor yet such as are of a very stimulating character or of short duration, but rather to use such as stimulate moderately, and which are more permanent in their nature. Bones and charcoal are invaluable, as are old plaster and mortar rubbish mixed with small quantities of hair or shoddy. If the soil be naturally rich it is far preferable to attend carefully to its mechanical condition, using no manure, but mulch the surface with stable manure when the fruit is swelling. Whatever the nature of the soil may be, it must be firm and somewhat gritty, or otherwise intermixed with such substances as will afford considerable resistance to direct root-growth. By this means the tendency to form tap-roots is considerably lessened, and the necessity for frequent root cultivation partially obviated. In replacing the roots in the fresh soil, it is advisable for the sake of convenience and economy, to confine them to a somewhat limited space; they should therefore be laid in a circular form at a reasonable distance from and round the stem of the tree, rather than allow them to radiate in direct lines outwards. By so doing, the roots do not so soon grow out of bounds, nor interfere with the growth of other crops, while at the same time they receive fuller advantage from the soil especially prepared for them, and the successive operations at the roots can be performed with much less labour and less liability of injury.

I have in writing this paper endeavoured to confine my remarks to root cultivation only, not because I believe it to be, as some do, the specific for all ills, but simply because I hold it to be, after a somewhat lengthy experience, and considerable practice, a most important factor in successful fruit cultivation, and my chief reasons for attempting to direct special attention to it now is, first, because I think it is most essential that the work should be performed in the early autumn months instead of mid-winter; second, because the work is still very imperfectly understood and improperly performed even by many professional men; and lastly, because farmers and cottagers, who are large fruit growers, have but the most remote and indistinct idea of what it really means.—*Scribo.*

AGAPANTHUS UMBELLATUS.

This is a fine old border plant, known as the Blue African Lily, by no means uncommon, and yet it is doubtful if it is as well known to amateur gardeners as it deserves to be. I infer this from the fact that at the present time I have in my little fore-court garden a few large plants in pots, producing four and five fine trusses of bloom each; and passers-by stop, look on with undisguised admiration, and go on their way wondering what plant it is. In a few words, let me say to amateurs what I can about it. Of all flowering plants it is one of the very best to grow in pots for flowering in a fore-court garden, and for placing on the sides of steps leading up to an entrance. It is an evergreen perennial, and it throws up strong flowering stems, on the top of which is produced an umbel of from 50 to 100 blossoms, according to the strength of the plant. Then the flowers are blue, and we are short of blue flowers, and this colour is always acceptable in the garden. Now, though the Agapanthus is classed among the hardy plants, it is not hardy in the sense that frost cannot harm it. I found to my sorrow it can harm them, during the severe winter of 1880-81. The plants were in pots, and wintered in a

cold-house, but the frost fastened upon the roots, and the plants were completely destroyed. If the soil be kept dry about the roots, they will stand a good amount of frost; but when we get a spell of almost unprecedented frost like that of January, 1881, and the pots are not protected, it is almost certain death. The plants would stand a better chance in the open ground, if covered over with some loose litter, and the plants do not require frequent re-potting.

They make very thick fleshy roots, and when these fill the pots they must have abundant moisture; and in order to supply this, I this season adopted the practice of standing the pots in earthenware saucers of water. All the plants were in 14-in. pots, *i.e.* 14 in. in diameter, and the moisture at the bottom caused the roots to expand so freely, that two of the strong pots are already in two parts. This is vexing, and it suggests that it would be a good plan to have the pots bound round with bands of zinc or iron. But do not let anyone be deterred from growing the Agapanthus because such an accident may happen. Human ingenuity can always devise measures to meet a case of this kind. Grow the Agapanthus in pots, and you will come to love it for its superb beauty and usefulness. Then there is a white variety, not nearly so strong-growing as the blue form, but a good companion. It will take a long time to grow a plant to a large size, but time is always on the side of the cultivator. Agapanthus umbellatus is one of the many good things that have come to us from the Cape of Good Hope. Let me further state that a single plant will in the course of time divide into three or four or even more.—*R. D.*

THE DICTIONARY OF GARDENING.*

We have received Parts I. to VII. of this work, from Abelia to Bixa inclusive, and judging by the numbers before us, we do not hesitate to say that it will prove an invaluable addition to the Gardeners' Library. The arrangement is, as the name implies, alphabetical, and under the head of the genus we find the derivation of the name and the Natural Order given. This is followed by a few general remarks as to the habit and appearance, with a brief description, as a guide to identification, and lastly, the treatment required and mode of propagation. We have looked through these cultural notes in several of the genera, and find them carefully written, and such as if followed will in most cases lead to success.

Coming to the species we find that a judicious selection of those most worthy of cultivation has been made. The derivation of the specific name is given, also the colour and time of flowering, the height, and generally the native country and date of introduction. In the case of species with ornamental varieties, these are enumerated after the species. Synonymous names, too, are pointed out, and these two points we are especially pleased to see, as it gives a more correct idea of what are natural species and what mere varieties; it also shows which species have yielded the most valuable varieties in the hands of the hybridist. There are numerous cross-references; for instance, Aaron's Rod, see Verbascum Thapsus, and these are often very valuable where plants have more than one name. By the way, Abaraxis, the Gooseberry Moth, should be Abraxis.

The descriptions of Insect Pests and the best modes of combating them are generally good, though we take exception to the statement (under Aphides) that "nearly every plant has its own peculiar Aphis." This axiom has long been exploded; Aphis rumicis has been shown to have about thirty synonyms, originating in this same idea, and the destructive Rhopalosiphon dianthi is known to feed on at least sixty plants, while the Oak and Willow each support several distinct species of Aphis. The paper and type are both good, and the work is profusely illustrated with excellent woodcuts. The first number also contains a beautiful chromo-lithograph of Anemone palmata var. alba as a frontispiece.

* The Illustrated Dictionary of Gardening. A practical Encyclopædia of Horticulture, illustrated with upwards of 1,500 engravings.—London: L. Upcott Gill, 170, Strand.

JUDGING AT FLOWER SHOWS.

I think Mr. G. T. Miles has done good service in calling attention to this matter. The vagaries of some judges are truly astonishing, and they show themselves as much, perhaps more, among vegetables than anything else. With not a few of the judges at country exhibitions, a little knowledge appears to be a dangerous thing. A few years ago I was at a show where vegetables were largely and finely shown by cottagers, and there were separate classes for Round and Kidney Potatos. In the latter class some fine examples of Snowflake and Extra Early Vermont were quite passed over, and on my expressing surprise that this was so, I was informed that they were not regarded by the judges as kidney varieties, but as "intermediate," whatever this might mean. This was setting up a very arbitrary, exasperating, and unjust distinction, and you may rely upon it there was a pretty hornet's nest raised about the ears of the censors. If judges are in doubt as to whether a Potato is a round or a kidney, the catalogue of a good seed-house can always settle that matter.

I am frequently chagrined to find judges at country shows taking as their standard in judging Potatos a white skin and a white flesh, passing over everything else. I was at a show last month where there was a very varied and interesting collection of Potatos. In the round classes I saw beautiful samples of Reading Russet, Vicar of Laleham, Grampian, and Adirondack, among others, passed over for inferior samples of Schoolmaster and deep-eyed Regents. It was the same with kidneys. Excellent samples of Edgecote Purple, Mr. Breesee, Prizetaker, American Purple, and others were passed over for white kidneys of inferior quality, simply because the former had coloured skins. This showed a great ignorance of the true value of Potatos, and it is grossly unfair to raisers of good coloured varieties.

The act of cutting Potatos in two is foolish. It seems to be done for two purposes—to see if the flesh is white, and to see if there is any flaw in the middle. If it is necessary to cut any in halves, then every tuber should be cut, which means wholesale spoliation. I content myself with these illustrations at present. I hope others will give their opinions on the subject, and let it be well ventilated. Some of our erring brethren need to be preached at pretty strongly.—*R. D.*

ON GATHERING FRUIT.

Simple as this may appear, there are few operations in gardening that require more knowledge and care, for not only is it necessary to be acquainted with the different kinds of fruit, and their period of ripening, but it is requisite for anyone to handle them even more tenderly than they would eggs in collecting. Take Peaches, for instance, and how often do we see people try them, to test if they are ready for plucking, by giving them a nip or squeeze between the finger and thumb, and as surely as that is done, so surely will bruises be seen, and even before these are visible, slight decomposition sets in, and the appearance and quality of the fruit is damaged or spoilt. A Peach, if ripe, will leave the tree readily, and the way to ascertain this, if there is any doubt, is to place the whole hand over it and bring all the fingers and thumb gently to bear, but not in such a manner as to exercise any pressure, and the fruit, if ready, will leave at once. It is the same with Plums, which become detached from the stalk directly they are finished, but some sorts, such as Jefferson and Coe's Golden Drop, will hang longer than others and improve, if the weather is fine.

Late Pears, like Joséphine de Malines, Bergamot Esperen, Easter Beurré, and any of that class, cannot well be left too long on the tree, provided they escape frosts, as they all take a long season to get them mature, and if picked before, they shrivel, and never turn in so good as they ought, and it is the same with all of the others. The kinds that well want watching now are Beurré Superfin, Beurré de Amanlis, Louise Bonne of Jersey, Seckle, and Marie Louise, the two first-named being now in in early districts, and the three last will follow quickly after. A good test for these, or indeed any other Pears, to show when they are ready for gathering, is to gently move one or two up, when, if ripe they will part readily at the joint in the stalk, and another pretty sure sign is when they begin to drop off, and they are rarely fit till they do. The same remarks apply to Apples, and it will be found that many of these, such as Warner's King, Cox's Pomona, and most kinds that come into use before Christmas, are now sufficiently advanced to go into the fruit-room. In gathering these soft Apples, great care is needed not to bruise, which, owing to their size and great weight, as well as want of firmness, is easily done; and therefore to avoid pressure one on the other, only a few should be put in a basket, the sides and bottom of which ought to be lined with a cloth, or some fine hay. Pears of all sorts require the same gentle handling, and these, as well as Apples, when carried to the place of storage, should be laid out singly on shelves, the bare boards being better than straw, which, unless very clean and fresh, imparts a bad taste.

The kind of room most suitable for keeping fruit in is one that is dark, airy and dry, and so situated that the temperature is always low, and not variable, as a rise of a few degrees does much to forward its ripening. To have the season of different varieties of Apples and Pears as long as possible, it is a good plan to make two, or more, gatherings, taking off the tree the most forward first, and storing the later after in a dry airy cellar. By managing thus, I have had Doyenné du Comice, Marie Louise, Glou Morceau, and such sterling sorts long after I otherwise should have done. —*Alpha.*

CHOICE FERNS.

Gymnogramma Alstoni.—This is one of the best of the Gold Ferns. In habit it somewhat resembles G. ochracea, of which it is probably a variety. It differs, however, from that species in having the pinnules curved inwards, so that the under or golden surface is seen to advantage. Like G. ochracea also it is of dwarf compact habit, and makes a well-furnished plant for decoration. It was awarded a first-class certificate by the Floral Committee of the Royal Horticultural Society, in July, 1876, and we may add that it comes true from spores, though they do not germinate quite so readily as some of the Gymnogrammas.

Pteris cretica albo-lineata cristata.—This is a very pretty variety of the older form, P. cretica albo-lineata. It is dwarf and compact in habit, and the fronds are beautifully crested. It is a very useful variety for growing in the small fancy pots that are now so much in use, and it also makes a very graceful plant in a larger state. It may be raised from spores, which germinate very readily, and almost invariably come true.

Quality of Animal Manure.—A knowledge of chemistry and physiology is not needed to enable us to comprehend that the quality and quantity of dung voided by any description of fattening stock or milk-cows is the balance between the food consumed and that portion of it which is retained in their bodies as flesh, fat, &c., or withdrawn in the form of milk, perspiration, respiration, &c. The dung is therefore inferior to the food, from a fertilizing point of view, just in proportion to the substances extracted from the food by the animal economy; but it is improved in form as food for plants by having been consumed by animals—they prepare it for the plants, which in turn again prepare it for the animals. A four-year-old beast extracts from the food given him only those substances which go to increase the soft portions of his body, and to maintain the various processes of which his life is made up; but a young beast not only does both these, but also extracts what is required for developing the bone; hence the dung of a mature animal is more valuable than that of a young one, just in proportion to the amount of matter which the young one keeps to build up the bony and circular structure of his frame. It follows, consequently, that the quantity of manure produced on a farm will depend on the quantity of food grown and consumed on it, and on the quantity of feeding-stuffs purchased to supplement and improve the food produced on the farm itself; and that the quality of the manure will in like manner depend on the kind of stock kept, and on the kind of food purchased in addition to that produced.—*Illustrated Dairy Farming.*

The Amateur's Garden.

The Amateur's Garden—Does it Pay?—Of the pleasures of gardening, on which a writer discoursed so pleasantly and suggestively in last week's number of The Gardening World, one might cite still further advantages. The cultivation of a garden by those who bring to its practice patient and intelligent observation, is not only a healthful and delightful recreation, but, carried out persistently and thoroughly, it is one of the very few hobbies which really can be made to *pay*. No one at all experienced in the matter will venture to deny the humanizing and refining influences, the ever fresh interest and delight attaching to its ordinary pursuits. But an opinion very generally prevails among those who, from lack of experience and knowledge, cannot understand the case, that gardening is an expensive hobby. No doubt it is made, by some of the fortunate mortals whose earliest efforts at suction were aided by the inevitable silver spoon, a very expensive hobby; a hundred guineas for a small bulb of some rare and beautiful Orchid is no uncommon price. But, on the other hand, it is by no means difficult, with the aid of a shilling packet of annuals, to cover a garden plot of a thousand square feet in area with a surprising wealth of beauty of form and colour and fragrance.

Let us not be misunderstood, however, we do not mean by *paying* that the amateur may dispense altogether with the services of the greengrocer, much less do we wish the enthusiast to believe that he may cultivate and dispose of "*surplus*" crops as a market gardener. If he embarks in business he must be prepared to accept the risks incident thereto. Nor do we for a moment suggest that the clerk or warehouseman who lives in the country can employ his time in the garden so profitably, as far as mere money-making is concerned, as he can in his office or shop. But nevertheless, gardening "pays," and we will briefly point out in what respects. It pays in health. Exercise in the fresh air is healthful, and, as a natural consequence, it pays in the saving of doctors' bills. It is a savings bank for moments of leisure time. It is or should be a little store-house for fresh delicious and wholesome food; and, if the amateur be a father, it is a veritable "garden of sweets," for his children of a special and abiding interest. As a means of education, it is invaluable in providing materials for the kind of training most fitted to develop the faculty of intelligent observation, and awaken in the young mind an interest in the natural objects, not alone flowers and fruits, but bird and insect life may be studied within the limits of even a small country garden. And by promoting and encouraging attention to such objects we are doing the best to lay the foundation of an active, healthy, intelligent, and useful life. There is an amateur gardener in our immediate neighbourhood whose occupation is that of a London clerk, and who, until a few years ago, knew absolutely nothing of the gardener's art. His garden now vies in interest and productiveness with some who employ a regular gardener. What splendid vegetables he grows! What fruit and flowers! With what pardonable pride he shows us round, and expatiates on the history and treatment of his pets. With what an air of confidence he sallies out in the early spring and summer mornings, in blouse and broad-brimmed hat, with knife and basket in hand, to cut the crisp spring cabbage all pounced with sparkling gems of purest water! How daintily he picks the glowing fruit! With what a critical eye he chooses an opening bud of Marechal Niel or Niphetos of Gloire de Dijon, or sweet old General Jacqueminot, for a morning button-hole, or packs a dainty punnet of strawberries and basket of roses for a "Friend in Town"!

Does it pay? Answer ye who enjoy one of the few delights that ne'er grow old. From the early dawn of life, when the outstretched chubby fist first grasps the golden buttercup; from boyhood, when shady bank and woodland are despoiled of their primroses; from youth, when lads' love and roses are proffered with beating heart to the blushing maiden; from manhood to old age, when we surround our homes with fragrance and graceful forms and gorgeous colours, it always pays—morally, intellectually, and physically; in health of body, vigour of mind, and serenity of soul. Gardening is one of the most inexpensive, delightful, and profitable of hobbies. We will describe, Mr. Editor, if you will allow us in your next number, some amateurs' gardens, with a view of showing "How it pays." [With pleasure. —*Ed.*]—*Luke Ellis.*

What is an Amateur in relation to Gardening Matters?—It is a term difficult to define with anything like accuracy. In sporting and athletic circles discussion often arises in reference to this designation, and the fact that debate is of annual origin goes to show how unsatisfactory are the definitions usually employed. From the gardening point of view, an amateur is one who engages in gardening for the love of the thing, and not from a desire of making a livelihood wholly or in part. Then the term amateur is of wide application, and is made to embrace all that are not nurserymen, seedsmen, and florists or jobbing gardeners. But seeing that now-a-days very many gentlemen's gardeners are little better than market gardeners in the interests of their employers, it is obvious that the term "amateur" does not bear this wide interpretation. Then there are hundreds of persons who style themselves amateurs who trade in plants, flowers, and seeds, by selling them for money or bartering them for some other consideration. Who shall accurately define what an amateur is, or should be? In some country shows it is found necessary to separate gardeners from amateurs pure and simple, having a special division for the last named; and in order that there should be something like a definite and understood distinction made, an amateur is made out to be one who does not employ constantly a regular gardener. But such an one may sell freely if he has the wherewithal—what he would perhaps call "surplus stock"—to dispose of. We wait for an intelligible definition of an amateur. Will our readers assist us to settle this knotty matter on some understood basis?

A few good bedding Zonal Geraniums.—I call them Geraniums because it is a popular name by which they will be better understood by your readers. Here, then, is my selection:—Erckmann Chartrain, vivid crimson, a sort of half nosegay variety, with large symmetrical trusses, and good close habit of growth; Charles Schwind, deep bright crimson, large trusses, good habit, very fine and effective; Dr. Orton, very deep crimson, large flowers, very fine pip and truss, remarkably free and effective; J. C. Musters, bright rosy crimson, good habit of growth, and very free; Mrs. Miller, deep pink, very fine pip and truss, very free; Lizzie Brooks, pale scarlet, flushed with purple, large bold pip, fine truss, excellent habit; Beauty of Surrey, bright scarlet, flushed with purple, very like Lizzie Brooks, but yet appearing to be distinct as a variety; Lord Zetland, orange scarlet, very dwarf habit, large flowers and trusses; and Climax, pink, large, strong trusses, close compact habit of growth. The foregoing descriptions can be depended upon, for they were seen growing in the open-air. By their side was one of the Gold and Bronze or bi-colour section, named Gilt with Gold. This has lively and even striking foliage, produces rich scarlet flowers, and has a dwarf and compact habit of growth.—*R. D.*

Charity Lands.—We have known many enthusiastic amateur gardeners among village schoolmasters. They have as a class special opportunities for promoting and encouraging a love of gardening, not only among their pupils, but among the parents of pupils. Several flourishing Horticultural and Cottage Garden Societies now in existence have been founded and supported chiefly by their exertions. Allow us to remind those of them who may read The Gardening World that they may do the village communities in which they live a lasting benefit by explaining to them the action of the Allotments' Extension Act which was passed in the session of 1882. There are, no doubt, numbers of villages in which the provisions of the Act are applicable. Trustees in whom charity lands are vested for the benefit of the poor "shall in the month of June give notice on the church door of the lands they have to let, and announce when and where applications to rent the same may be made." And by the eighth clause trustees are compelled to let in allotment, when applied for, such lands as are devoted to the poor. The rent to be charged is to be the same as the ordinary rent of similar land in the parish. We would advise those who are interested in this important question to purchase the Allotment Extension Act of 1882. Charity lands could not be devoted to a more useful and profitable purpose than their cultivation as allotments. The Gardening World would be only too glad to assist in so laudable an object. Meanwhile, we hope village schoolmasters will take the matter up by explaining to their neighbours the meaning and provisions of the Act.

The Periwinkle.—Vinca major and its variegated variety may be included among the best plants for permanent window-box decoration. They are very elegant hanging over the fronts of the boxes, as mine do, to a length of from 6 to 8 ft. from the upper windows, and their beautiful evergreen foliage is further assisted in summer by the production of a profusion of blue flowers. If planted permanently in the front of the box, the back can be filled with Geraniums, &c., in summer, and Euonymus in winter without disturbing them or interfering with their beauty.—*J.*

DWARFED APPLE TREES.

The term Dwarfed, as applied to Apple trees, may to some minds convey the idea that it refers to stunted trees, but the designation does not necessarily possess any such meaning. By using the term "*dwarfed*" we mean that by certain means trees are prevented from attaining to the usual height and size seen in similar kinds growing under ordinary conditions, and yet are still productive and healthful. It is not clearly proved yet, for excellent reasons, whether the term of life of a dwarfed tree is equal to one growing under the usual conditions of free growth, though probably it is not so; but that is of little moment, as the object in view in producing these miniature trees is to enable Apples to be grown well, and to be induced to fruit freely and early in gardens where big trees could not be permitted to exist. Really we may well designate these dwarfed trees as amateurs' trees, for they are just the things for anyone not well versed in gardening and having a small garden to cultivate.

The great advantages incidental to these dwarfs are, first, they may be grown in number in a small space, and never become overpowering to other things; secondly, they are always within reach and easy to operate upon, whether to prune or to gather the fruits; thirdly, they are always very fruitful, and begin to produce fine fruit even when but two years worked; and last yet not least, they admit of many kinds being grown in a fairly moderate expanse of ground. These are considerations which may well weigh strongly with all those persons who may now be purposing to plant Apple trees in a small garden. Our illustration is that of a well-known market kind, the Cellini Pippin, one of the most productive of Apples, and a kind specially suited for growth in small gardens. It is a faithful representation of one of many similar trees growing in the Royal Horticultural Society's Gardens at Chiswick, where as a rule not only this sort, but some other excellent kinds, produce crops of which it is not at all exaggeration to describe the fruit as hanging like ropes of Onions, though, unfortunately this season, as at many other places in the Thames Valley, there are no Apples at all. We have seen in the fruit nurseries where trees of this and other kinds are produced literally in many thousands every year, such crops on trees three and four years old that would astonish those only conversant with large or free-growing trees, and such fruit too! At exhibitions of Apples and Pears now, all the finest and richest coloured fruits are from dwarfed trees, for it should be known that Pears are treated in the same way as Apples, and with the most satisfactory results.

The amateur or unlearned gardener will naturally ask how is this dwarfing and early fruitfulness produced. The reply is simply by employing what are called dwarfing stocks for the trees rather than free-growing ones. Ordinarily, we have worked Apples and Pears, the former on the common Crab or Seedling Apple stock, and the Pear on the Seedling or

Common Pear stock. It is these stocks which produce our standard orchard trees, and, indeed, up to a certain period, all our Apple and Pear trees. With Apples the dwarfing stocks used are of French growth chiefly, and are called Paradise and Doucin, but the Paradise is the most largely used kind.

There are, however, two kinds of the Paradise stock, the French or narrow-leaved, and the English or broad-leaved, though both are chiefly grown in France all the same. It was the first-named kind which our fruit growers employed to create dwarfing trees when first the practice was adopted, but in course of time it was found that many kinds of Apples died or literally became stunted and useless. It presently became apparent that the French Paradise stock did not swell or expand relatively to the growth of the tree, and hence in time the tree became as it were strangled. Such mishaps brought the system of dwarfing trees very much into disrepute, until very fortunately it was found that by employing the broad-leaved stock all that was desirable resulted, this stock being more expansive, more hardy, and enduring, and in all respects seems to be the very best kind which can be obtained. What the Paradise stock is to the Apple the Quince stock is to the Pear, and just the same results follow. Hence we have been able during the past twenty years practically to revolutionize our fruit-tree culture, at least as far as it relates to Apples and Pears.

It may well be asked what special features are there in these dwarfing stocks which enable them to produce in trees grafted on them results so divergent from those seen in ordinary Apple and Pear trees. Those features are found first in the fact that these kinds of stocks when in the form of natural trees always have a moderate compact habit of growth, and that habit is when employed as stocks communicated to the trees grafted on them; and, secondly, that these Paradise, Doucin, and Quince stocks, are all fine or surface-rooters, and all trees of that class fail to produce that robust free growth found in strong deep-rooting trees. Naturally the Apple and Pear stocks in common use root deeply and coarsely, hence the deeper and wider-spread the roots go, the coarser and freer is the tree growth. That growth which is good for orchard or standard trees intended to remain and produce fruit through generations, prevents free early fruiting for some years, and results season after season almost wholly in the production of wood or growth much of which must be removed yearly by hard pruning. The removal of soil in the form of a deep trench around the tree and the clean cutting off of the main roots and also the severance, if possible, of any roots which have struck downwards into the soil is a practice called root-pruning, is meant as a corrective of this free growth, and in some cases proves efficacious, but as a rule it is not a desirable method of culture, because it is the undoing of all nature has been building up in previous years. With patience these robust rooting and growing trees will in time produce fine crops of fruit, but their place is in the orchard and not in the garden. It is just there however where the miniature or dwarfed trees are at home. In the light, rich soil of kitchen gardens and planted at intervals of several feet in the quarters and just within the path margins, the fine surface roots feed upon the rich soil and produce short stout wood that is full of fruit-buds and in most years produce crops of very fine fruit. A little long manure spread over the roots in summer promotes growth and makes a soft bed for any falling fruit. It is now the season for planting fruit trees and Dwarf Apples and Pears specially command our warmest approbation. Those who intend planting this season should lose no time in selecting their trees in the nursery, October being the best month for planting.

THE CELLINI PIPPIN APPLE, AS GROWN AT CHISWICK.

FRUITS.

Fruits at the Health Exhibition.—Visitors to the Health Exhibition on Tuesday and Wednesday last enjoyed the privilege of inspecting one of the finest displays of Grapes, Apples, Pears, Plums, Peaches, and other fruits, that is likely to be seen in the South of England this season. Indeed, a finer display of horticultural produce has not been seen in London for some time, and gardeners owe the executive authorities of the Exhibition a hearty vote of thanks for affording them an opportunity of showing, if any proof were needed, that fruits can be grown and shown of the highest quality if only the needful amount of encouragement be given. The great feature of the show was undoubtedly the Grapes, which occupied by far the greatest amount of space, and collectively, on more grounds than one, was of an exceedingly interesting character to gardeners. The first prize for a collection of ten varieties, six black and four white, was won by Mr. Wildsmith, gardener to Lord Eversley, Heckfield, Winchfield, with a collection composed of bunches that would not be large enough to win such a prize in the North, but which for all practical purposes would be considered quite large enough by all who have to consider their employer's requirements before the exigencies of the show table. Their great points of merit were the admirable manner in which they had been thinned, the even development of the berries, their high colour and perfect bloom, and general appearance of high quality—or what gardeners better understand by the phrase "well finished." Mr. Wildsmith's largest bunches were those of the Black Alicante, and the other sorts making up the collection were Black Hamburgh, Golden Queen, Madresfield Court, Muscat of Alexandria, Alnwick Seedling, White Tokay, Lady Downes Seedling, Mrs. Pearson, and Gros Maroc. The second prize went to Mr. Wallis, gardener, Keele Hall, Newcastle, Staff., and the third to Mr. Roberts, of Gunnersbury, who both had collections worthy of high commendation. The class for five bunches brought Mr. Woodbridge, gardener to the Duke of Northumberland, to the front, and high quality combined with medium size, were the special feature of his samples. Mr. Horsefield, gardener to Lord Heytesbury, Heytesbury, Wilts, was a very good second. The samples which perhaps created more interest than any other, were three magnificent bunches of Muscat of Alexandria, shown by Mr. Pratt, gardener to the Marquis of Bath, Longleat, Warminster, which were easily first in their class, and collectively weighed about 13 lbs. The shape of the bunches, excellent size of the berries, and high finish, showed cultivation of a high order of merit, and we need not add that high encomiums were freely bestowed on them. Mr. Herrin, gardener to T. N. Hibbert, Esq., Chalfont, Slough, was second with a smaller, but in every other respect highly finished, sample; and Mr. Allan, gardener to Lord Suffield, Gunton, a good third. The class for Black Hamburghs was disappointingly poor, though, of course, it must be admitted that it is rather late for this variety. Mr. Pratt won the first prize here too with two large, well-shouldered bunches. The class for Gros Colmar was also a small one, but unexceptionally good were the three first prize bunches, shown by Mr. Smith, gardener to W. H. Sewell, Esq., Warren Hill, Loughton. Mr. Pratt had also the best Black Alicantes; Mr. W. Howe, gardener to H. Tate, Esq., Park Hill, Streatham, coming in second with a very pretty sample. The Madresfield Courts made a very nice class, and here Mr. Roberts of Gunnersbury, carried off first honours, Mr. Woodbridge, Syon House, being a close second. For three bunches of any variety not specially named in the schedule, Mr. Hudson, gardener to H. J. Atkinson, Esq., Gunnersbury House, Acton, was first, showing a very good sample of Alnwick Seedling; and Mr. Gilbert, of Burghley, was second with Gros Maroc, a variety, by the way, which shows much variation in the form of the berries, as a result of cultivation in different soils. The class for the highest-flavoured Grapes was the subject of much comment, owing to the singular fact that all the prizes were taken with Muscat Hamburgh, and by growers residing in the same district—viz., Mr. Woodbridge, Syon, and Mr. Robertsand Mr. Hudson, of Acton. For any variety that had been certificated by the Royal Horticultural Society, Mr. Woodbridge was first with Gros Maroc, and Mr. Hudson second with Alnwick Seedling.

The Culinary Apples, by reason of their numbers, grand size, and for the most part high colour, claim attention before the Dessert Varieties. The class was for three varieties, six fruits of each, and the first prize was awarded to Mr. Eyre, gardener to C. Ross, Esq., Welford Park, Newbury, though we cannot agree with the award, which we think should have gone to Mr. Haycock, gardener to Roger Leigh, Esq., Barham Court, Maidstone, whose examples of Peasgood's Nonsuch, Belle du Bois, and Warner's King, were simply faultless. Mr. Ross's varieties were if anything the largest, the varieties being Mère de Ménage, Lord Derby, and Stirling Castle. The first named was very highly coloured, but then this and Lord Derby are essentially coarse by comparison with many other sorts. The third prize went to Mr. Waterman, gardener to H. A. Brassey, Esq., M.P., Preston Hall, Aylesford. Taking the class in its entirety, the varieties most numerously shown and in the best form were Peasgood's Nonsuch, Warner's King, Tower of Glamis, Golden Noble, Lord Suffield (not in such numbers as one might have expected from such a free bearing variety), Lane's Prince Albert, Cobbett's Fall, Emperor Alexander, Mère de Ménage, and D. F. Fish; and if a selection for planting had to be made, few better early sorts than these need be included in the list.

The dessert class brought out an exceedingly pretty lot of fruit, evidence of the unusually hot weather being furnished in the splendid colour of most of the samples. Mr. Haycock was rightly placed here; his examples of Cox's Orange Pippin, Ribston Pippin, and Mother Apple, being of a size and colour unapproachable by any of the others. Mr. Staples, gardener, Chipstead Place, Sevenoaks, was second with a very pretty lot, including Devonshire Quarrenden, Red Astrachan, and Worcester Pearmain; and Mr. Waterman came in third with the last-named variety, Gravenstein and King of the Pippins. Other sorts well shown were Wellbank's Seedling, very pretty; Scarlet Pearmain, Jacob's Strawberry, Evagil, Yellow Ingestrie, and Washington. The show of Pears was poor by comparison with the Apples, and call for little comment. Mr. Haycock was again well first with unapproachable samples of Durondeau, Doyenné Boussoch, and Pitmaston Duchess. Mr. G. Goldsmith, gardener, Hollanden, Tonbridge, was second; and Mr. Turton, gardener, Maiden Everleigh, Reading, third. A very good class for Peaches introduced us to some varieties not often seen at exhibitions. Sea Eagle, shown by Mr. Harris, gardener to Mrs. Vivian, Singleton, Swansea, being placed first; the Nectarine Peach, from Mr. Wildsmith, coming second; and Lord Palmerston, from Mr. Haycock, third. The first prize for Plums in an excellent class went to Mr. Staples, Chipstead Place, who had fine examples of Coe's Golden Drop and Pond's Seedling.

To the miscellaneous class, Mr. Barron sent a very instructive collection of Grapes, some thirty varieties, shown in samples of two or three bunches in very neat shallow baskets, an innovation that has our high commendation. Messrs. Lane & Son, Berkhamsted, sent three splendid pot Vines—a speciality of their nursery. Messrs. J. Cheal & Sons, Crawley, sent a fine collection of Apples, grown on Cordon-trained trees. Messrs. Paul & Son, The Old Nurseries, Cheshunt, also sent a capital collection of Apples; and from Messrs. Thomas Rivers & Sons, Sawbridgeworth, came a choice assortment of fruits including the new varieties of Peaches: Gladstone, fine in size, and prettily streaked with crimson; Albatross, Lord Palmerston, Princess of Wales, and the Nectarine Peach; the Byron Nectarine, of a very rich orange colour; Grand Duke and Monarch Plums; and Pitmaston Duchess, Durondeau, Louise Bonne of Jersey, and other Pears. There was no class for Pines, but Mr. Nicholson, Castle Hill Gardens, South Molton, Devon, exhibited five grand Succoth Cayennes, the largest weighing 9 lb. 10 oz.

Merendera bulbocodioides.—This dwarf Portuguese plant is now in flower at Kew. It is much like a Colchicum in every respect. The flowers are purple, and the narrow segments open in stellate fashion, giving a pretty effect. The leaves appear after the flowers.

FLOWERS.

Culture of Gladiolus from Seeds.—This is the best and most simple method of culture. The seeds, of course, ought to be saved from the best varieties, and they ought to be saved from hybridized flowers. The process is easy throughout. Select the varieties intended to be crossed, and pinch the anthers from the seed-bearers before the pollen cases burst. In two days after dust the stigmatic portion of the flower with pollen from the other flower. This may be done two days in succession. When the seed-pods burst at the top they are ready to be gathered. Keep them in a dry place until March or early in April, then sow the seeds thinly in 6 or 7-in. pots. They will vegetate in two weeks on a gentle hot-bed. Gradually inure the plants to more air, and about the end of May the pots in which they were sown may be placed in a cold-frame; and in two weeks after the lights may be removed night and day. The plants will make nice bulbs in these pots, about the size of a large pea or horse bean. Some of them may be larger and some smaller. By the end of October they may be dried off, and should be kept in a dry place to be planted out in the ordinary way in February. Most of them will flower strongly the following season, producing handsome spikes. Large growers, like Messrs. Kelway & Son, sow the seeds in the open ground; but this loses a season, and where only a few hundreds are raised it is best to sow in pots.—*J. Douglas.*

Nerine Fothergilli.—It is much to be regretted that this lovely autumn-blooming bulbous plant should be so scarce in private gardens, as few plants are more simple in its cultural requirements, and very few are more effective if turned to a proper account. Single bulbs grown in 48-sized pots yield fine heads of crimson-coloured flowers, on stems from 12 to 18. in. long, but they must be associated with suitable subjects in the matter of colour, if the highest effect is to be realized. When grouped with Maiden-hair ferns and white-flowered zonal Pelargoniums they produce a splendid effect. As cut flowers, too, they are the showiest that can be used for table or vase decoration, and if taken care of, by frequently changing the water, they will last for a week or ten days without losing much in appearance.

A New Iresine.—Mr. Coleman, of Eastnor Castle Gardens, is the fortunate possessor of a new Iresine, raised by himself, that promises to take a prominent position among popular bedding-plants. It is a seedling from Iresine Lindeni, but is more compact in its habit of growth, and stands fresh and bright when its parent has lost all its leaves. The leaves are of a rich reddish-bronze colour, while the leaf stalks and veins are bright rosy crimson, the colour and habit giving the plant at a distance the appearance of a strong-growing Alternanthera. For spring furnishing we understand that it is equally useful if grown in pots and pans. Mr. Coleman is in possession of a sterling novelty, and should soon let others enjoy the pleasure of its acquaintance.

Colchicums and Autumnal Crocuses.—The following are now flowering at Kew, in succession to those mentioned at p. 27:—Colchicum speciosus: A magnificent Caucasian species, 6 in. high, with bright rosy-purple flowers, rivalling the Tulip in size. It certainly stands in the front rank of this pretty genus. —C. arenarium. A small pale purple-flowered species much in the way of C. autumnale. Native of Hungary.—C. autumnale var. alba. A pretty little plant differing in the white flowers.—C. autumnale var. flore pleno. This variety has very double flowers, and only differs from the species in this respect.—Crocus zonatus. A charming Cicilian species, with pale lilac segments veined with a darker colour, and with a beautiful broad zone of orange colour inside near the base; white anthers and wedge-shaped orange stigmas. —Crocus speciosus. Flowers pale bluish purple with darker veins, and deep orange much divided stigmas. Native of Transylvania and N. Persia.—C. nudiflorus. A well-known and beautiful S. European species, 6 in. high, with deep purple flowers. By the way, this

species has been naturalized in the Nottingham meadows since at least 1738, and may be seen in profusion in a few localities during the next few weeks.

Pomegranates, Double and Single.—An interesting collection of these, both new and old varieties, is to be seen at Mr. B. S. Williams' Victoria and Paradise Nurseries, Upper Holloway. They are chiefly standards grown in pots and vary in the size of the heads from one to nearly three feet across. Among the new varieties, the kinds named Ludovico Taverna, and the new double white, are the most striking. The former has full double scarlet flowers and the latter is very full-petalled and of a soft creamy white. Both of them are much like Carnations. The common single variety looks very quaint with its profusion of flowers and fruits.

Marguerites.—Many people seem to be prejudiced against the varieties of Chrysanthemum frutescens on account of their close resemblance to the common Ox-eye Daisy (Ch. leucanthemum) of our fields. Yet since the spring of 1880, when Mr. Howard was awarded a first-class certificate for his yellow variety (Ch. frutescens Etoile d'Or) they have steadily grown in public favour, and at the present time few flowers are more popular. We think also they fully deserve the position they have gained, for few flowers are more useful. Where plants have not been grown on in pots for winter flowering those that have been planted out in beds may be taken up and potted, and if this is done with care the plants will continue flowering for a considerable time. After they have done flowering, the plants may be cut back, when they will break out into fresh growth, and produce a good supply of cuttings for spring propagating. To get good plants for early spring flowering the present is a good time to propagate. Cuttings will strike best in a cold frame where they can be kept close until they are rooted, and after they are established they may be kept in any cool-house until they are fit for potting. Like all other Chrysanthemums they require liberal treatment especially at flowering time. There are several different forms of the white variety, the best of which we consider is Ch. frutescens maximum, sometimes called Ch. Halleri maximum. Of the yellows Ch. frutescens Etoile d'Or must take the first place, though we have seen another under the name of Ch. frutescens bipinnatifidum, which closely resembles it.

Pepinia aphelandræflora.—Any plant that will help to make a brilliant effect either in the stove or greenhouse at this season is of the utmost value, and such is this Pepinia. It is a Bromeliad, and being a native of Peru, requires the temperature of a stove. The plant is of easy cultivation, and flowers in quite a small state. It is a dense-growing plant, with the leaves closely set, gracefully arching, and light green in colour. The flowers are produced in long racemes of from fifteen to twenty flowers in each, Aphelandra-like in shape, and crimson-scarlet in colour. It can now be seen at the Victoria and Paradise Nurseries, Upper Holloway, where it has been in flower for several weeks, and is likely to last for some time yet. Although it has been introduced into this country several years, it is scarcely ever met with.

Rose, W. A. Richardson.—Mr. Bennett, of Shepperton, points out an error in our first number with reference to the origin of this Rose. It appears that it was not raised in America, but by Madame Ducher, of Lyons, who named it after Mr. W. A. Richardson, a nurseryman, at Louisville, Kentucky, and sent it out in 1878. We thank our correspondent for his correction.

Verbascum phœniceum.—This old-fashioned plant is not often met with in gardens, though it is a good thing, and differs from the majority of the Mulleins in having purple flowers. We recently saw some plants of it flowering well. It is 2 ft. high, with a branching raceme and dark green leaves. It is a South European plant and was introduced to gardens as long ago as 1796.

VEGETABLES.

Vegetables at the Health Exhibition.—Although but one class for eight kinds was in the schedule of prizes offered for competition on Tuesday, not less than eleven lots were staged, and all first-class, although it must be said of the best that they were almost superlatively good. With respect to the distribution of the three prizes awarded, it is enough to say that one of the champion vegetable exhibitors of the day, Mr. G. T. Miles, gardener to Lord Carrington, Wycombe Abbey, was first; Mr. Haines, gardener to Lord Radnor, Coleshill, Berks, was second; and Mr. A. Miller, gardener to W. H. Long, Esq., M.P., Rood Ashton Hall, Trowbridge, was third. We found Tomatos a strong feature in every collection, showing how important these vegetable fruits are regarded, both by exhibitors and judges. The bit of rich colour found in the fruits also tells well amidst so much that is dull or pale of hue. Stamfordian, a fine form of Hathaway's Excelsior, was strong in two cases, and Mr. Gilbert, of Burghley, had in his collection as fine a lot of selected Excelsior as any new kind can furnish. Dedham Favourite, a handsome kind, but of the red rather than scarlet hue, was found in Mr. Ward's lot, and Hackwood Park, a good clear scarlet form, was excellent in another. Of Onions, Mr. Miles had in his first prize group a grand sample of a fine flat form very large and solid, and brown in skin, in Caves Pinesfield, a variety sent out a few years since by Messrs. James Carter & Co., but which does not seem to be so well known as it merits. It is a good keeper and very distinct. Mr. Haines had some huge and handsome Rousham Park bulbs of a white Spanish type, coming near to the Banbury Giant, Walker's Exhibition, and other popular sorts. It is very fine, but lacks distinctness. Good White Spanish or Reading were found in some other collections. Very fine Celery was seen in most lots, the chief sorts being Major Clarke's Solid Red and the Leicester Red, without doubt the best and most solid red Celeries in cultivation. Some of the sticks were for the season wonderfully good. One exhibitor had the London Market Red, somewhat looser in character, and two others had the Dwarf Incomparable White. Mr. Gilbert, we think, injured his case by stripping his sticks of all the outside stalks. There were very fine and clean Magnum Bonum and Snowdrop Potatos, and in one collection was a very pretty dish of that dubious table kind, Breadfruit or Breesee's Prolific. A good dish of Edgcote seedling, a Lapstone-like tuber, was in the first prize collection. Very fine samples of Runner Beans were found in Champion Scarlet and Sandy Prize. Some, perhaps, were rather too large to be of that tender quality we like to find in this excellent vegetable. Of Dwarf Beans, Canadian Wonder was very handsome, though the season for these is somewhat past.

Snowball was the chief Turnip, white, round, clean, and handsome. Intermediate Carrots in one case were exceptionally long and handsome, whilst in another James' Scarlet were, if paler in hue, still exceptionally good. A dish of the Early Nantes gave for that short, blunt kind a capital sample. There was but one lot of Parsnips, of the Student variety, but, though clean and handsome, yet too big for such competitions. Two months hence and good Parsnips will be better appreciated than now. Peas were seen in three cases, though one lot was very weak. The best dish was G. F. Wilson, green, fresh, and full, and the other, and a very good sample for the time of year, was Daniel's Sweet Marrow, an odd name, as most Marrows are sugary. Some very good Brussels Sprouts were shown, notably a sample of Veitch's Exhibition Variety, though the season is yet early for them, and one exhibitor staged Globe Artichokes, as to the value of which as a vegetable we have never heard a better definition than that they were useful as spoons to eat melted butter with.

Messrs. Carter & Co. added an interesting and useful feature to this department in the form of an excellent group of Cabbages and Kales, some forty sorts in all, and as the seeds were all sown on March 13th, the produce gave an excellent opportunity for making comparisons as to the relative merits of the different varieties. A variety that pleased us much was Carter's Miniature Drumhead, which grows only to the size of a good Cabbage Lettuce, but as solid as a Cricket Ball, and consequently has little waste. It is a capital Cabbage for small gardens, as it can be planted as close as Collards, a point of considerable importance where space is limited. To match the Scotch Kale, the same firm have named a nice-looking new variety—the Welsh Kale, which we may hope will prove as good as the old one.

Potatos.—How on earth statistics, as they are called, with respect to the acreage under cultivation with Potatos, and the probable crop are obtained I cannot understand, and I believe that, as a rule, they are jumped at. As a grower of the tuber I have never been invited to furnish any information, and it is impossible to take note of the vast quantity grown in private gardens. I do not think that the returns, as presented, are of any reliable value. I observe a statement to the effect that Potatos are not cheap now, in fact, are cheapest in disease years, when all want to sell. That is absurd, as is evidenced by the fact that, at the present moment, Potatos in the London markets can be purchased at from 60*s.* to 80*s.* per ton, and good, sound, keeping samples. If consumers do not get the full benefit of these prices, the fault rather lies with our methods of sale and distribution than with the crop or the growers of it.—*D. M.*

Early Scarlet Nantes Carrot.—This is an excellent variety for amateur gardeners with small gardens. It is of the Early Horn section, but longer, and retaining its Horn character. It is an early and quick growing carrot, coming in some days before the Intermediate variety. These two sorts will be found very useful in small gardens, but both do much better on a light free than in a heavy soil. The Early Nantes Carrot is a variety that comes in very useful for exhibition at early shows before the Intermediate has got into size.—*R. D.*

Celery.—The conservative attachment to colour in certain vegetables is evidenced by the fact that white Celeries are not in demand in the London market except for cooking purposes. One favourite kind (and no doubt it has a score of aliases), is the London Market Red, a variety that has been grown in vast quantities for years, and will probably be grown to the end of time. For is it not the fact that not only are consumers conservative as to colour, at least the dealers and greengrocers tell us so, but the growers are not less so with respect to kinds. It is almost easier to pass a camel through the eye of a needle than it is to get many of them to take up the cultivation of any new kind. We saw vast quantities of the London market Celery growing the other day; there were probably not less than 20 acres, and the rows were already banked up very much in the fashion of besiegers' trenches, except that they were in every case straight and parallel. Still an army of sharp-shooters would have found in this Celery field a welcome protection and cover. But we could not go into ecstacies over the appearance of the vast myriads of plants, although the culture was so excellent, because the leafage showed too much length of stalk, and the hearts were too low down. We were told that the very high feeding given bred pipiness in the stalks, and can very well believe, still the market growers hold on to their kind tenaciously. For our growth we should prefer a good stock of Leicester Red or Fulham Pink of coloured sorts, or of Incomparable Dwarf White or Grove White, but from any of these kinds the growers for market would turn with profound contempt. Huge breeds, 6 ft. in width, containing cross rows 15 in. apart, and each of five or six plants, were banked up 4 ft. in height. These were the beds in which the seedling plants were first dibbled out into, and every other row being taken out, the rest were left for early blanching.

Sedum spectabilis.—It would be difficult to name a more effective autumn flowering-plant than this popular favourite. It may be seen in numbers of our London suburban gardens as well as in those of larger pretensions, and we noticed quite a lot of it at Shepherd's Bush Station the other day. The pink flowers and glaucous leaves give a charming contrast, and not unfrequently the effect is enhanced by the brilliant colours of the Red Admiral and Tortoiseshell butterflies, which frequent the flowers for the nectar secreted by them.

THE

Orchid Growers' Calendar.

Staging for Orchid-houses.—During the last twenty years or so the internal fittings of Orchid-houses on which the plants are placed have undergone a marked change for the better—a change which has played a very important part in the improvement of our general collections, and in rendering easy the culture of small and delicate things which were formerly unmanageable. Before the improvement took place varied and dissimilar were the forms of staging in use, scarcely two gardens having them arranged throughout in the same way or made on the same plan. In some old places the Orchids were to be found plunged in bark beds, always unhappy-looking, but doing their best to prove how tenacious of life they were. The living among such plants were generally tall specimens of Aerides odoratum, Vandas, and strong-growing Oncidiums, which had grown up out of the stagnant air which they disliked and thus escaped the fate of their weaker and smaller brethren, which had early departed. In other places flat, hot-water tanks formed the staging, or a portion of it on which to place the plants, and this was even more objectionable. Nearer to our time a favourite and more generally followed plan, became the forming of stages by building up brickwork from the floor to the height required, in order to form the sides of the stage, on which was placed slates or boards to form a close fitting covering with a flat surface. This kind of stand for Orchids is bad in several important points. In the first place, it interferes with the free circulation of air throughout the lower part of the house and actually blocks up a great portion of the area of it and precludes the possibility of its containing and circulating that pure air which is of such vital importance to the health of the plants.

Again, on such flat-topped close stages the stronger plants were found to have a tendency to run up and in dull weather to lose their lower leaves, and the weaker ones to die off suddenly on account of the stagnant air around them. These defects were soon observed by the more watchful among the Orchid growers, and then the expedient of raising the plants on inverted flower-pots was resorted to and carried to such an extent, that in some of our collections hundreds of flower-pots might be seen in a single house doing duty in that capacity—often three or four 12-in. pots being placed one on the other to carry one plant. This is a clumsy contrivance harbouring dirt and insects, and only in a very slight degree meeting the object aimed at, viz., the raising of the plants out of the stagnant air and nearer to the light. But this and all the other kinds of staging in vogue at different times, show progress in their day, and the close staging after having been improved by being placed on iron supports instead of brickwork, and thus allowing a free circulation of air throughout the basement, formed the foundation of the Orchid-house staging now generally in use, and which seems to meet the requirements of the plants both large and small, strong-growing and fragile. It is all the more acceptable that it can be arranged in most cases without clearing out the staging already fixed in the houses.

The stage now in general use and acknowledged to be the best for all Orchids, consists of open wood-work placed over the close one, the bottom or close stage being either made water-tight and kept supplied with water a quarter or half inch in depth, or covered with shingle which will hold and give off moisture. The close bottomed stage is of great service in breaking the currents of dry air which always pass through the plants where open stages alone exist, and also in giving off a healthy moisture, which the elevated position of the plants on the open wood-work stage, surrounded as they are by pure air, places them in safety to enjoy. The open wood-work staging both for the sides and the middle of the house, is generally arranged in steps, the front one starting at a convenient height above the lower stage, (sometimes only 2 in.), and rising according to the form of the house. Orchids always thrive better when near the glass, and in some large old-fashioned houses great results with them have been obtained by building a strong wooden stage high above the old one in the house, and as the plants when placed on it would be out of reach from the floor, a walk is made along the top of the stage so that the plants can be watered and well inspected from it.

Where open wood-work staging is already in an Orchid-house, if flat it should be covered with ordinary house slates to hold shingle or whatever else is used to be kept wet and to give off moisture, and the light open-work stage should be arranged above it for holding the plants, or if the existing staging is arranged in steps and as near the glass as it is convenient to go, a close one for containing some moisture-holding substance can easily be arranged beneath it. I was one of the first to use these open stages over close ones, and, from long observation, I am convinced that it was an important step in Orchid culture. I made use of it first in order to do away with the employment of pots in bringing plants nearer to the light which were grown in houses having flat slate stages, and which were not built for Orchid culture. I soon found that the advantages gained went even beyond my calculations, and others who have adopted this kind of staging (often modifying it according to individual fancy) have done the same. My first attempt was a very simple and inexpensive one, but, as it answered the purpose as well as the most elaborate arrangement could have done, I may as well relate it for the benefit of those who wish to be economical. Having a plant-house with flat slate staging in it which I wished to fill with Odontoglossums, I made the slates water-tight with Portland cement and placed a coating of shingle on it. This formed the close moist stage. For the upper one I got roughly-planed battens and had them nailed to cross pieces of the same wood, so as to form movable trellises, each composed of four strips of wood nailed to cross pieces so as to have a space of an inch and a half between each. A sufficient quantity of these were made (movable like boards, of course), and then simply white-washed. They were then brought into the house one at a time and placed on the close stage, being supported and raised to different heights, as required, by bricks. The front trellis was raised one brick, the second two, and so on until the whole was complete, when it formed one of the best and firmest stages I ever had, and, being in pieces, it had the advantage that, when the periodical cleaning came, it could removed outside, be washed, whitewashed, and returned, the lower stage having been cleaned in the meantime.

Amateurs, and particularly those who are beginners, who have turned other plant-houses into Orchid-houses, will find the double stage a great assistance in keeping their plants healthy with little trouble, and the rough but efficient batten upper stage I have described can be put together by anyone.—*James O'Brien.*

ORCHID NOTES.

Cattleya elegans.—Some grand masses of varieties of Cattleya elegans, with over one hundred pseudo-bulbs each, are now in flower with Messrs. F. Sander & Co., of St. Albans, where they seem to be almost perpetual flowering. The varieties at present in bloom are of the "Schilleriana" type, lovely in form and odour, and varying from clear white to blush with intense violet-mauve labellums. They are grown in baskets, and are suspended near the glass in the wonderful specimen Cattleya-house (about 250 ft. long), where, in common with the large general collection of Cattleyas and Lælias, they seem to enjoy their healthy, airy situation.

Oncidium Lanceanum.—I can fully endorse all that your correspondent Mr. Dumper says in The Gardening World, at p. 44, respecting this grand old Orchid. We had a small piece with two leaves imported from Trinidad seven years ago. I potted it in a 48-sized pot and hung it up in the Cattleya-house near the glass, where it made a nice healthy growth of two leaves. I then made a square wooden basket for it, and planted it in equal parts of peat, sphagnum moss, and charcoal, and suspended it near the glass in the same house. It now has sixteen large healthy leaves, with roots hanging from the basket a yard long, and it flowers freely every summer. It bore last June fifty-four flowers on five spikes. I may mention that every year after it has done flowering I remove a portion of the old peat and moss and add some fresh material, and this in my opinion is the main point to be observed in order to ensure success.—*W. Driver, Longfords, Minchinhampton.*

The Dove Flower, Peristeria elata.—This grand old Orchid is in bloom with John Gwynne, Esq., The Grange, Kenton, where it has been sending up its wax-like white flowers for a considerable time, and has yet a quantity to come. As the plants are unusually small to flower so freely, it may be well to give Mr. F. King's, the gardener, treatment of them. He pots them in turfy yellow loam, and grows them in a moist intermediate house, giving them plenty of water until the bulbs are fully formed, and then the plants are kept rather dry for a few weeks to allow of the spikes coming up; they are not, however, dried off, but kept plump and fresh-looking. In summer the plants get plenty of fresh air.—*J. B.*

Orchids at Kew.—Cypripedium Sedeni. A fine plant with eleven spikes may now be seen, each with seven or eight flowers. It is, as is well known, a hybrid, and shows a character not unfrequently seen in hybrids, viz., the production of monstrous flowers. On this plant some flowers have one and others both petals suppressed, giving them a peculiarly odd-looking appearance.—Lælia purpurata. A three-flowered spike with flowers 3 in. in diameter, the sepals and petals are white, and the lip rich deep purple, with a white margin and yellow throat.—Epidendrum purum. A plant with a very graceful aspect and delicious fragrance. The small, greenish-white, very numerous flowers are produced in pendulous, branched racemes. —Masdevallia triglochin and M. trichæte are two minute little gems, now in flower; the former has flowers of a bronzy hue, and the latter of a peculiar claret-purple, which becomes paler in the upper sepal. Otherwise they are very closely allied.—*Orchis.*

Vanda Cathcarti.—In the interesting and healthy collection of Orchids belonging to Sydney Courtauld, Esq., at Bocking Place, Braintree, a magnificent plant of this rare Orchid now has five very strong flower spikes. The plant is in magnificent health, and furnished with leaves to the pot. V. Cathcarti has wax-like flowers, circular in outline, and unique in the polished, brownish-crimson marking of its flowers. Mr. Courtauld's plant is about 6 ft. in height. The species first flowered in England in the collection of C. Stead, Esq., at Baildon, near Leeds, in 1869, and afterwards with Messrs. Veitch in 1870. Masdevallia Dayana, the innocent-looking M. ionocharis, and superb varieties of Zygopetalum Gautieri and Odontoglossum grande are also flowering among a quantity of other good things, and the well-known collection of Nepenthes are worth a visit in themselves.—*J.*

LOBELIA PUMILA MAGNIFICA.

This is one of the best varieties of this indispensable bedding-plant that we are acquainted with. It is a good grower, of compact habit, and produces flowers of a rich blue colour in great profusion. On this account it has been greatly admired in our flower garden during the last seven or eight years, during which period several friends have had a few plants sent to them late in autumn to propagate from in spring, for, owing to the free disposition of the plants to flower, difficulty is experienced in securing an adequate number of cuttings in the autumn to propagate from. Therefore a few plants should be taken up before they are injured by frost with a little soil adhering to the roots. The latter and the tops should be shortened back a little, then the plants must be potted into 4-in. pots in light soil, watered and placed in a frame or pit near the glass, and out of the reach of frost or of excessive damp. They must be shaded from bright sunshine for a few days until the roots have taken to the soil, when it should be discontinued, and the plants have plenty of air on all favourable occasions. Keep them also on the dry side at the roots, with the object of preventing the plants from starting into growth until wanted for propagation. In spring,

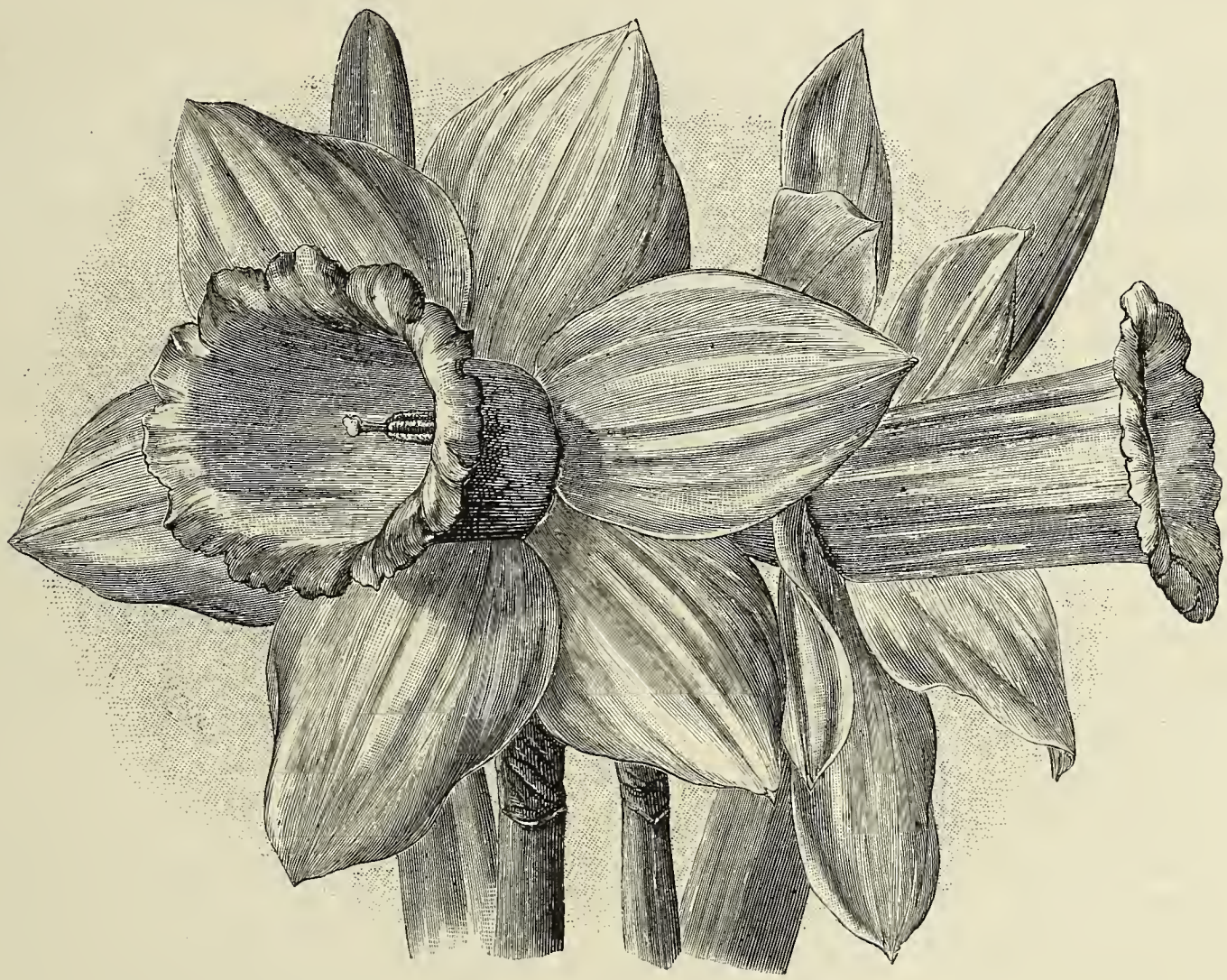
they should be put into heat, near the glass, and be kept moist at the roots, to induce young growth from which to propagate sufficient plants wherewith to furnish early in summer the number of beds allotted to it in the flower garden. Tom Thumb Ageratum—which should be in every flower garden—for the same reason as given above, should also be similarly treated. The colour—a beautiful grey—of this excellent Ageratum contrasts very effectively with masses of blue, pink, scarlet, yellow and white, when judiciously arranged.—*H. W.*

ROUGH-SKINNED POTATOS.

There is extant, and pretty largely believed in, a popular error that only rough-skinned Potatos are good eating. Those who know more about Potatos than ordinary consumers of them do, can tell us that some of the most delicious eating kinds in cultivation have skins of the cleanest and smoothest; whilst some others, having usually coarse, rough skins, are decidedy coarse eating. It so happens that this present season Potatos are almost universally rough in the skin, the coats resembling corduroy in many cases. Not only the coats, but the flesh, is full of cracks, and scab is abundant, even where scab is uncommon. We thus find that roughness of exterior in Potatos is more an accident of culture or of season than of anything else; indeed, we have often seen samples of the same kind grown in the southern districts, where there was more heat, very rough in skin; whilst those from the north, where the soil is cooler and the growth rapid and continuous, to have been singularly smooth and clear. Again, even in the south and in the same season, we have seen, even this year, tubers from early-planted sets rough and scabbed; whilst from sets planted a month later the same sort has given, if smaller, at least very smooth clear-skinned tubers.

In a review of Mr. Smith's book on "Plant Diseases" in a contemporary, we read the following:—"All the diseases mentioned except three are caused by fungi; the exceptions are scab and cracking in Potatos, supposed to be caused by some unsuitable substance in the soil, such as lime rubbish," &c. Now, it must be regarded, having reference to the present scientific tendency to charge upon fungi of some kind all sorts and conditions of vegetable ills, as specially kind of fungologists that they do not credit fungi with being the cause of scab. Happily that at least is supposed to arise from some other cause. But whether the inference we have quoted is that of the writer of the book or of the reviewer we cannot say, but in any case it shows deplorable scientific ignorance when it is stated that scab arises from some unsuitable substance in the soil, and we would advise in discussing such matters counsel should first be taken with some practical men. The fact that scab and cracking and exceeding roughness of skin is this year almost everywhere so prevalent shows that it is not produced by any unsuitable substance in the soil, but is the product of unusual drought and heat; whilst when these appearances on the tubers are but the partial, as is the case in some seasons, it is evident that some soils are much dryer and more readily heated than others. In any case, these appearances always exist most largely in dry seasons. The notion that lime rubbish produced scab we had thought an exploded one, and was surprised to find it revived with such authority. It should be permitted to exist no longer, for it is an absurdity.

And now it will be asked, What tangible explanation is to be offered for these extravasations on the coats of Potato tubers? The only reasonable one that presents itself as far as relates to cracked or rough skins is that during the growth of the tubers the heat and drought for a time arrests it and sets or hardens the outer article to an unusual degree. Rain showers falling on the foliage and heated soil suddenly promotes renewed growth. There is a rush of sap into the tubers, and the internal pressure or force employed is so great that the skins are fain compelled to burst to admit of the compulsory expansion from within. In not a few cases this year tubers show cracks a quarter of an inch in depth and two inches in length or more. Last year, curiously enough, many tubers were marred by sutures in them just as seen in Russet Apples, though the surface of the sutures had become coated. This year that phenomenon is infinitesimal, whilst roughness of skin is universal. Many kinds that in previous seasons had coats as smooth and shiny as Apples now have stains of the roughest description. But scab seems to belong to a different order of eruption, and for some time was attributed to the attacks of earth-worms, the which it was supposed excoriated the skins in dry weather in search of moisture. Still there remained the difficulty in connection with this suggestion that scab is always but skin deep, in fact, if a disease, it is but a skin disease. That suggestion may well go the way of the lime rubbish notion and be decently buried. Scab and drought are without doubt in considerable affinity, and we shall have to look for its origin in some internal causes in operation in the tubers promoted largely by heat and drought. Anyone who has given close attention to the newly forming tuber has found in lifting them ere matured a common appearance on their coats of small whitish eruptions. These, it is evident, are promoted internally and are either the product of gaseous compounds escaping from the tubers or else of starchy ones, but, whatever may be their original cause, certain it is that heat and drought assists in their creation, and that it is these eruptions in the young skins the which, as the tubers enlarge, assume the form of scab. Really the appearance is, if militating against beauty, not otherwise objectionable, as scabby tubers almost invariably cook well and the excrescences are only skin deep.—*X.*



NARCISSUS BICOLOR "EMPEROR" (*see* p. 53).

Isolepis gracilis.—This is a very useful plant as an edging, and gives such a good finish to a group of plants, that it ought to be more frequently employed than it is. It may be readily increased by division at any period of the year, but the spring is the best time, and any good rich soil will suit it. It must, however, be grown in a position where it will get plenty of light. We believe many people fail to grow it well through placing it too much in the shade, and in not giving it sufficient manure.

WOODSTOCK, KILKENNY.

The houses at Woodstock number nearly a score. Melons here are well-grown in frames or hot-beds, and none are more certain in bearing than Munro's Little Heath. But this method cannot be regulated in regard to temperature with the same certainty as a specially heated Melon-house or pit, where the vines can be trained against the glass. In this way Mr. Gray, the gardener, had the fine variety, Blenheim Orange, which he considers one of the surest setters and finest scarlet-fleshed Melon in cultivation. In addition to this he grows here, too, a seedling he has raised from Little Heath, combining all the good qualities of both those named. The zonal Pelargonium-house was a brilliant sight, a regular stock being maintained for succession, so that next Christmas it will be equally gay. The roof, too, was bright with the vigorous, almost perpetual blooming, Tacsonia Van Volxemi, an immense specimen covering a house nearly 100 ft. long. The collection of stove and greenhouse plants is of the usual description, with more of the usual health and cleanliness, the latter being interspersed between the conservatory, cool ferneries, and several other houses open to the public. The large conservatory looking out on the flower garden or rather one of the flower gardens, for there are several, is a very handsome structure externally, with the arms of the family on coloured glass at the entrance. The shape is pyramidal and octagonal, nearly 20 ft. high, and contains some fine specimen Palms, Tree Ferns, Camellias, with Coleus, Begonias (foliage), Caladiums, Gloxinias, Abutilons, specimen Fuchsias, while among the creepers I give the preference to Hoya Carnosa. I was greatly puzzled at the door as to what gave the delicious scent that filled the whole structure. It was Magnolia fuscata.

The Fruit Department, especially where tolerable success has been realized, is an object of special interest in such a year as we have passed through. Last year in Ireland we had a minimum of sunshine, and this seems synonymous with a minimum of fruit. On this principle there should be profusion next year. However, all were not blanks with Mr. Gray. I am now referring to out-door and wall-fruit unprotected. It has long since been given up expecting Peaches to succeed unprotected here, so a glass wall structure has been erected, open underneath to give perfect ventilation. Nectarines and Apricots are similarly treated. Here the finest and largest Peach is Vanguard, Noblesse, Grosse Mignonne, and that hardiest and surest of bearers, Royal George, coming next. Pitmaston Orange stands first among Nectarines, with a fairly good crop trained on curvilinear wrought iron, so as to catch the sunshine. The roots of both go inside and out, so as to make certain of feeding material. Where they are wholly inside, and this applies to Vines also, it is often difficult to know when a deluging of water is necessary or not, while if the drainage is imperfect, rotting of the fibrous roots is almost a certainty. The sheet anchor Vine here is the Black Hamburgh, with Buckland Sweetwater, Alicante, and Gros Colmar for succession. All carried a fair, though not exhaustive, crop this season. One of the most successful Vines is the very fine flavoured Black Muscat of Alexandria which Mr. Gray finds to succeed best worked as here on Black Hamburgh stock. As elsewhere, the stock of Pears is much under the average, there being very few exceptions. As in other localities, the drought was telling on the Vegetable department, and water was not in plenty even for drawing; but this has been a standing difficulty over the British Isles for months. The oldest inhabitant cannot remember a drier season. Into the Vegetable garden or out the visitor can go by means of either of four large, ornamental gilded gates. We left on the southern, and found ourselves in one of the flower gardens. This is terraced, and each is reached by handsome rows of steps on each side, extending the whole length of the garden wall. Bedding-out is still maintained, but with a very desirable blending of the more showy perennials, of which Lady Louisa Tighe is a pronounced patroness. There are four terraced gardens here extremely brilliant. The beds are edged with Box, which is kept tidy, and brings out the design forcibly, between the beds being handsome gravel walks of brownish quartz. On the eastern side are some very curious designs in succulents and foliage plants, and further, on a raised mound with star-shaped beds and walks, a curiosity of the place being walks of blue pieces of flint.—*William J. Murphy, in the Irish Farm, Forest, and Garden.*

ANSWERS TO CORRESPONDENTS.

Peaches.—*R. S.*—Many thanks for your letter. We are pleased to hear of your success in cultivating this fruit.

Fumigating Orchids.—*A. Wright.*—Your question shall receive attention in our next.

"Semper Vita."—*E. J. Peck.*—If you will send us a leaf we will endeavour to get the plant identified for you. It is impossible to do it without.

Ants.—*J. B.*—Ammonia water obtained from gas-works or boiling water poured into their haunts is an effectual means of destruction for these pests. Another speedy method of destroying them is to pour a small quantity of paraffin into the holes and places infested by them. They may also be caught in tea-cups (placed in their haunts) half filled with a mixture of brown sugar and warm water, sufficiently thick to prevent them from getting out when once in.

Heaths.—*Jasper.*—If the present delightful weather continues the plants may be left out a little longer, but you should have the house thoroughly cleaned ready to receive them, and get them under cover as soon as cold damp weather comes on.

Liquid Manure.—*Tab.*—Perhaps the most useful and the easiest made, in your case, is that made of sheep droppings and soot. Put a peck of the droppings and a few handfuls of soot into a tuh, fill up with water, and well stir the mixture. When it has settled down it will he ready for use, but must be diluted before applying it to the plants. Weak and often is the golden rule to follow in the case of all stimulants.

Potato, Recorder.—*Chas. Jones.*—It is a seedling between Success and Woodstock Kidney, and we think Mr. Dean raised it, but are not quite certain.

Weed Killer.—*J. Long.*—We think the article you want must be that manufactured by Mr. Mark Smith, Chemist, Louth. We have no experience of it ourselves, but have heard good opinions expressed as to its efficacy.

Scotch Fir Seed.—*Planter.*—One pound by weight contains about 40,000 seeds.

Grapes.—*Vitis.*—The rule for proportioning the crop to the size of the Vine proposed by Mr. Clement Hoare in his book on "The Vine," is as follows:—If the stem of the Vine, measured just above the ground, be 3 in. in circumference, it may bear 5 lb. weight of grapes; 3½ in., 10 lb.; 4 in., 15 lb.; 4½ in. 20 lb.; 5 in. 25 lb.; and so 5 lb. additional for every half inch of increased circumference.

Crickets.—*Under Gardener.*—Mix arsenic with roasted Apple or Potato, and leave it on a sheet of paper during the night; the crickets will partake of it, and be destroyed. Or, place treacle in a saucer, to the thickness of about half an inch; the insects will get stuck fast in the treacle, and must be picked out daily.

Communications have been received, with thanks, from A. H.—F. Q. L.—F. B.—M. T. M.—F. W. B.—W. Ashworth—G. B.—Cymro—J. W.—A. B.

Trade Catalogues Received.

James Veitch & Sons, King's Road, Chelsea, S.W.—Hyacinths and other Bulbous Roots.

George Phippen, 108, Broad Street, Reading.—Dutch Bulbs.

Alfred Peel & Sons, Wood Green, N.—Price lists of Greenhouses, &c.

NOTICES TO CORRESPONDENTS.

The Editor begs to inform his readers that special attention will be paid in the columns of The Gardening World, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's bona fides. No notice whatwill be taken of anonymous letters.

Secretaries of Horticultural Societies and Nurserymen and Seedsmen will greatly oblige The Editor *by sending him their Schedules and Catalogues as soon as published.*

LONDON SEED TRADE.

September 25th.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report that the demand for Trifolium has now fallen off, and that stocks are well cleared out. Winter Tares continue firm; but Rye, owing to a slow demand, is easier. Mustard remains unchanged, and Rape is steady, with small offerings. Hemp and Millet are unchanged. Blue Peas are in fair request at last week's quotations. Supplies of new clovers continue small.

COVENT GARDEN MARKET.

September 25th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Melons, each	0 6- 1 6
Figs, per dozen	0 6- 0 9	Pine-apples, Eng., lb.	4 0- 5 0
Grapes, per lb.	0 6- 2 6	Peaches, per dozen	3 0- 8 0
Kent Filberts and Cobbs, per 100 lb.	50 0-60 0	Pears, French, p. doz.	1 6- 2 6

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Lettuces, Cabbage, per dozen	1 6- ...
Beans, French, lb.	0 4- ...	— Cos, each	0 2- ...
Beet, per dozen	2 0- 3 0	Marrows, each	0 3- ...
Cabbages, per dozen	2 0- ...	Mint, green, hunch	0 4- ...
Carrots, per bunch	0 8- ...	Mushrooms, p. basket	1 0- 2 0
Cauliflowers, English, dozen	3 0- 4 0	Onions, per hunch	0 6- ...
Celery, per bundle	1 6- 2 6	Parsley, per hunch	0 8- ...
Cucumbers, each	0 6- 0 8	Radishes, per dozen	1 6- ...
Endive, French, per dozen	2 6- 3 6	Small salading, per punnet	0 4- ...
Garlic, per lb.	0 6- ...	Spinach, per strike	2 0- ...
Herbs, per hunch	0 2- 0 4	Tomatos, per lb.	0 9- ...
Horse Radish, bundle	3 0- 4 0	Turnips, hunch	0 8- ...

Potatoes.—Kent Regents, 80*s.* to 100*s.* per ton; Kent kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lavender, 12 bun.	6 0- 8 0
Asters, 12 bunches	3 0- 6 0	Marguerites, 12 bun.	3 0- 6 0
Bouvardias, per bun.	0 9- 1 0	Pelargoniums, per 12 sprays	0 6- 1 0
Carnations, 12 blooms	0 6- 1 0	Pinks, various, 12 bunches	...- ...
Chrysanthemums, 12 bunches	3 0- 6 0	Primula, double bun.	1 0- 1 6
— large, 12 blooms	2 0- 6 0	Pyrethrum, 12 bun.	2 0- 6 0
Cornflower, 12 hun.	2 0- 4 0	Roses, out-door, 12 bunches	6 0- 9 0
Dahlias, 12 bunches	3 0- 6 0	Roses, indoors, p. doz.	1 0- 3 0
Eucharis, per dozen	2 6- 5 0	Stephanotis, 12 spr.	4 0- 6 0
Gardenias, 12 blms.	3 0- 6 0	Sweet Peas, 12 bun.	1 6- 4 0
Gladiolus, various, 12 spikes	1 0- 3 0	Sweet Sultan, 12 bun.	2 0- 4 0
Heliotropes, 12 sp.	0 6- 1 0	Tuberoses, per dozen	0 6- 1 0
Lapageria, white, 12 blooms	2 0- 3 0	White Jasmine, bun.	0 6- 1 0
— red, 12 blooms	1 0- 2 0		

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ferns, in var., dozen	4 0-18 0
Asters, per dozen	3 0- 6 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Fuschias, per dozen	3 0- 6 0
Chrysanth., dozen	4 0- 6 0	Heliotrope, dozen	3 0- 6 0
Cockscombs, dozen	2 6- 4 0	Lilium, various, p. doz.	9 0-24 0
Coleus, various, doz.	2 0- 4 0	Marguerites, per doz.	8 0-12 0
Cyperus, per dozen	3 0- 9 0	Palms in variety, each	2 6-21 0
Dracæna term. doz.	30 0-60 0	Pelargoniums, scarlet per dozen	2 0- 6 0
— viridis, per dozen	12 0-24 0	Petunias, per dozen	3 0- 6 0
Evergreens, in var., per dozen	6 0-24 0	Solanums, dozen	9 0-15 0

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Superintendent of the Royal Horticultural Society's Gardens at Chiswick and South Kensington; Secretary of the Fruit Committee; Honorary Member of the Cércle d'Arboriculture de Belgique, &c.

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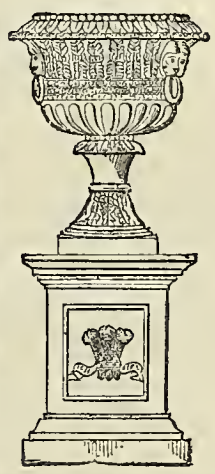

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OPINIONS OF THE PRESS.

From **THE GARDENERS' CHRONICLE,** *September 6th.*

"'The Gardening World.'—The world is a very big place, or a very little place, according to the standpoint of the observer. It is, therefore, both big and little, The centre of the gardening world seems to be comprised within a mile of Covent Garden, indeed, 17, Catherine Street, whence the new *World* starts on its career through space, is within a stone's throw of the market: but the circumference, who shall tell where this is? It is just that uncertainty, we suspect, that has led Mr. Brian Wynne to cast his stone into the pool in the hope that in the ever-widening circle he, too, may cast his net, and secure his share of the haul. Why not? Long practice in this office should render him an expert, and we have none but good wishes to offer him in his new career. He starts well, and doubtless in future numbers will break out into grooves not quite so much like the old ones. Matter, type, paper, are all excellent for the money."

From **THE GARDENERS' MAGAZINE,** *September 13th.*

"'The Gardening World' is the title of a new weekly horticultural paper published by Mr. B. Wynne. It treats, in an agreeable way, of the whole round of horticultural practice within doors and without, and contains a great bulk of practical information. It makes number four of the series of penny gardening papers, and number eight of the entire happy family."

From **THE GARDEN,** *September 20th.*

"Still they come.—Another gardening paper has just been issued. The appearance of three new journals on one theme within a few months is quite without precedent in the history of class journalism. There can be no doubt that the multiplication of journals in gardening is beneficial, and we may without affectation wish well to the best of the new comers."

From **THE AGRICULTURAL GAZETTE,** *September 15th.*

"'The Gardening World.'—We are interested in seeing that Mr. B. Wynne, who has long been an efficient member of the staff engaged on *The Gardeners' Chronicle*, has published (at 17, Catherine Street), No. 1 of a new gardening paper, price one penny, which well deserves the long and prosperous future, which we hope for it. There is such an immense constituency available for its success that it is hardly to be doubted."

From **THE LITERARY WORLD,** *September 12th.*

"Saturday last saw the birth of another popular horticultural journal, 'The Gardening World,' illustrated. The editor anticipates the exclamation, 'What! another gardening paper!' and proceeds to show that, 'in this newspaper reading nation, and amongst a rapidly increasing intelligent people,' of whom he reckons there are fully a million adults imbued with a love for gardening, there is room for his new venture. By a happy inspiration, the writer of the editorial notice describes gardening as 'the gospel of recreation,' and trusts that 'The Gardening World' will 'rank amongst the most successful of its evangelists.' The first number is a valuable pennyworth of horticultural lore."

From **THE WEEKLY DISPATCH,** *September 20th.*

"Numbers 1, 2, and 3 of 'The Gardening World,' illustrated, are before us, and, judging from the general get-up of the paper and the good sound common-sense quality of the matter covering the twelve pages of each number, the new venture is likely to take up an important position in gardening literature. The price of the paper being the popular penny will doubtless influence the sale largely, added to which the name of Brian Wynne, as manager, will go far towards the success of the journal, which first saw the light on Saturday, September 6, at 17, Catherine Street, Covent Garden."

From the **KENTISH MERCURY,** *September 12th.*

"'The Gardening World.'—This is the first number of a neatly printed, carefully edited, and profusely illustrated paper of 16 quarto pages, devoted to the interests of horticulture, and sold for a penny. In a pleasantly written opening article the Editor calls to mind the immense increase of interest in gardening and in gardening questions that has taken place during the last twenty years, and declares his conviction that there are fully a million of adults deeply imbued with the love of horticulture, while the subject appeals to many millions more whose interests are identified with it more or less directly, and the number of those who take pleasure in the pursuit is constantly and rapidly increasing. The object of this publication is therefore fittingly declared to be not only to satisfy the existing demand, but to create a new demand, and no better course could be adopted to secure this end than to supply such a serial as the one we notice, which for a penny furnishes a great variety of useful and interesting instruction and information on all questions connected with gardening in its various branches and departments. The subject is of course literally exhaustless, and it is gratifying to know that it is every year growing more and more interesting and attractive to English readers. There is no taste more purifying or ennobling than the love of flowers. We heartily welcome the new periodical, and wish that it may secure, as it undoubtedly deserves, success."

From **THE NORTH BRITISH AGRICULTURE,** *September 24th.*

"'The Gardening World,' Illustrated.—Such is the attractive title of another London weekly journal which has just made its *début* on the horticultural platform. It is published every Friday, by Brian Wynne, at 17, Catherine Street, Covent Garden, and has the hopeful appearance of being skilfully conducted. Beautifully illustrated with plants of various descriptions, and convenient in size, The Gardening World contains much useful information to the practical gardener, to whom it will be specially valuable. Too much instruction as to the proper cultivation and management of garden plants cannot be given, and all who desire to see additional light supplied where it is needed will gratefully welcome the subject of this notice. Its articles are indeed of the most practical kind, and obviously written by able authorities on gardening matters. The editorial ideas are conveyed in choice yet simple and explicit language, and cannot fail to be universally appreciated. As a whole, the newly-inaugurated journal looks like one that is destined to play an important part in encouraging the improvement and development of the more useful—though it by no means forgets the ornamental—departments of the garden. It augurs well for the future."

MANAGER:

B. WYNNE (Fifteen Years Sub-Editor of "The Gardeners' Chronicle"),

Honorary Member of the Cércle d'Aboriculture de Belgique.

PUBLISHING OFFICE—17, CATHERINE STREET, COVENT GARDEN, W.C.

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Sales every Monday, Thursday, and Saturday.

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MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C. (next door but one to Bennett's Clock), every MONDAY, THURSDAY, and SATURDAY, at half-past 11 o'clock precisely each day, extensive consignments of the best named HYACINTHS, TULIPS, CROCUS, NARCISSUS, SNOWDROPS, and other ROOTS from Holland, in lots to suit the Trade and Private Buyers.

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Sale No. 217.

HIGHLY IMPORTANT UNRESERVED SALE of the far-famed COLLECTION of ORCHIDS, formed by Oscar Lamarche, Esq., of Liège, who is giving up their cultivation.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL BY AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, October 7, at half-past 12 o'clock precisely, the entire collection of Established ORCHIDS, enjoying a reputation probably unequalled on the Continent. Amongst many other fine things, several of which are handsome specimen plants may be mentioned:—

Vanda Lowi, a most unique specimen, 4 ft. 6 in. high, with thirty-two leaves	Vanda tricolor Wioti
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Miltonia Closoesi, Lamarcheana	,, trianæ alba
Vanda suavis Veitchi	,, ,, rubra
,, tricolor aurea	Coelogyne Massangeana vera
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By order of the Executors of the late Mr. Thos. Killick.
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To Gentlemen and others intending Planting this season.

MESSRS. PROTHEROE AND MORRIS (in conjunction with MR. ATTREE) are instructed to SELL by AUCTION, on the Premises, The Nursery, Dyke Road, Brighton, on WEDNESDAY and THURSDAY, October 8 and 9, at 12 o'clock precisely each day, the whole of the beautifully grown NURSERY STOCK, which is in capital condition for removal, comprising Thousands of Border Shrubs in fine assortment; 4,500 Aucubas, about 400 of which are unusually fine plants, from 3 to 4 ft. high; 15,000 Dwarf Roses, Standard Roses, Fruit Trees in great variety, large quantity of Limes, Poplars and other Ornamental Trees, the whole of the Greenhouse Plants, 60 Unglazed Sashes, AGRICULTURAL IMPLEMENTS, HORTICULTURAL REQUISITES, capital Waggon, Tumbril and Spring-Carts, Bay Gelding, Chestnut Pony, Bay Pony, Harness, and the remaining HOUSEHOLD FURNITURE, Wardrobes, Chimney-glass, and other items of the usual Description.

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N.B.—To be SOLD the Valuable FREEHOLD BUILDING ESTATE, being that portion of the Nursery situate on the Eastern side of Dyke Road, with the DWELLING HOUSE standing thereon, and having an area of about four acres, with a frontage of about 300 ft. to Dyke Road, particularly eligible for the erection of Superior Residences.—For Particulars and Terms apply to Mr. Attree or Messrs. Protheroe & Morris, as above.

Wimbledon, S.W.—Preliminary Notice.

GREAT CLEARANCE SALE of unusually well-grown NURSERY STOCK, in consequence of the expiration of the Lease of a portion of the Home Nursery.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. D. S. Thomson to SELL by AUCTION, on the Premises, The Nursery, Wimbledon, on MONDAY, October 20, and three following days, about 10 Acres of remarkably well-grown Nursery Stock.

Further particulars of which will be Advertised.

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ORCHID SPHAGNUM, as supplied to the leading Growers, carefully hand-picked and free from all refuse. In 4-bushel Bags at 6s. 6d. per Bag. Twenty Bags sent Carriage Free to London, Liverpool, Edinburgh, or Glasgow for £7 10s.

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I have also supplied the following:—The Baron SCHRÖDER, The Dell, Egham; The Baroness ROTHSCHILD, Gunnersbury Park, Acton; JAMES BUCHANAN, Esq., Oswald Road, Edinburgh; A. PAUL, Esq., Gilmore Place, Edinburgh; CHAS. WINN, Esq., The Uplands, Selly Hill, Birmingham; LAW SCHOFIELD, Esq., New-Hall-Hey, Manchester; H. HARDY, Esq., Pickering Lodge, Timperley, Cheshire; H. J. BUCHAN, Esq., Wilton House, Southampton; CHAS. WALKER, Esq., Brettargh Holt, Kendal, &c., &c.

F. W. B., writing in *The Gardeners' Chronicle*, says:—"Good Sphagnum is a great aid in the cultivation of Orchids. The best I have ever seen is got near Sterling."

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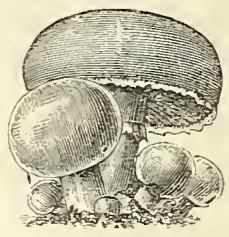

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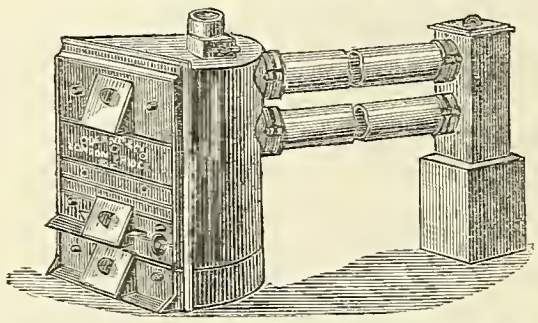

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FLOWERING PLANTS

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Grevillea robusta, 5-inch pots, 12s. to 18s. per doz.
Ferns, Maiden-hair, &c., in great variety; also

STOVE AND GREENHOUSE PLANTS.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, OCTOBER 4, 1884.

Gardening and Labour.—Amongst the pressing social problems of the day and which may, we fear, become during the winter burning questions, none seems of graver importance than is the need for more labour to satisfy the wants of a rapidly increasing population. We base this reference to a great social question, not upon correspondence in daily papers in a dull season, which, however, reveals sadly enough a state of things, in our labour market that is truly distressing, but we are rather influenced by personal knowledge of the present lack of work, and of the immense number of working men, especially those whose labour has hitherto been associated with the cultivation of land, who are out of employ, and whose constant appeals for work even thus early in the autumn, are deplorable to hear and bitter to have to ignore. When this is the case too, in a district where, as a rule, garden labour is abundant and is well paid, we may well ask, How is it in other localities where labour is ever scantily employed, and wages are low?

It may seem an odd thing to remark, but it is none the less a fact, that a dry season such as one as we have this year enjoyed so much, and which has been productive of so much pleasure for the well-to-do, is detrimental to labour—in fact, fails to create it. With harvests all has favoured the employer, and the labourers earnings have been comparatively little. On the land, drought has kept weeds in check, and there has been little to do in keeping the land clean, whilst crops on the one hand have been all gathered with a minimum of labour, and many others have been neglected because drought prevented their planting. Prices for many things now rule so low, that it seems impossible to find enough returns to pay for labour. When, for instance, Potatos are selling at such low prices as at present, what wonder is it that growers are compelled to employ the cheapest and readiest means for securing the crop. Thus we have seen introduced largely the plough Potato-lifters, that turn out an acre or two in no time; indeed, one large Potato grower stated but the other day, that he could lift and, with a staff of women, pick up 600 bushels per day, by employing a couple of these lifters to turn out the crop. Here we have several horses and four or five men doing the work of twenty men and in less time.

To some extent this extreme paucity of labour arises from the prevailing low prices of certain crops, as for instance, both Wheat and Potatos were never cheaper than now, and in the face of such things, it is impossible that a high rate of wage can prevail. It is not in the reduction of wages, however, which may be but of a temporary nature, but rather in the absolute deficiency of work which is the chief evil and danger of the present time, and to surmount which, may well call for the consideration of all earnest thinking men. To remedy such a condition of things, there is no plan so objectionable as the attempt to tide over difficulties by some tentative or temporary effort on the part of the State or local authorities, to create work of a cheap and too often of a non-productive kind. That kind of temporizing with a social difficulty, may serve as a wet blanket to stop the fire for a short time, but soon it will break out with greater force, and only a social revolution can meet the exigency thus created.

Our great want without doubt is to give to those who live by labour on the soil, a closer and keener interest in the soil. We want to attach them to it, to make them cottager farmers or gardeners, or cultivators of some sort, not for the benefit of employers only, but for themselves; and if not in the form of owners, at least as tenants, on such a basis that every encouragement shall be afforded to them to cultivate their little holdings to the best of their ability. It is notorious not only that gardening gives through the land ten times the amount of labour that agriculture gives, but also that it demands greater skill, and in a practical way calls forth in the best sense all the higher energies of the labourer. The exceedingly mechanical nature of the farm labourer's work, largely tends to keep him miserably ignorant and stolid, although in that respect he is not far below many of his employers as a rule, for probably no vocation seems so much to tend to stolidity of intellect and dense boorishness as farming does. On the other hand, gardening is so much the more elevated and intellectual an occupation, that it calls forth all a man's best energies, developes his faculties, and brings into play all his knowledge and experience. If to these good qualities we can add the charm incidental to working either one's own soil, or that to which one may be sure of long and yet independent attachment, the cultivator, however small his holding, exists in an atmosphere of independence such as pen must fail to describe.

In all farming work we find the cultivator is handicapped by his incapacity to turn the land he cultivates to other uses and more profitable crops quickly, or in such a way as shall enable him to rise successfully to the occasion. Let Wheat, Roots, Barley, or Hay, be ever so cheap, still must he continue to grow them, and he is helpless to change for the better. The gardener, on the other hand, not only grows a variety of produce, but he can with resources entirely within his control, immediately change his crops from those which are less in demand for those which are most in request, and thus accommodate himself to the ever-changing wants of the times. It was well put the other day by one of these thriving gardeners who said, "We have sent forth as it were the very flower of our labouring population to the colonies, that we might have more work for those left at home, and behold these emigrants have become the caterers for our food supplies at such cheap rates, that we seem little the better off after all." What, then, we must do is not to grow what our colonies can send us so cheaply and abundantly, but rather by changing our cultural conditions, produce for ourselves just what we cannot purchase so cheaply elsewhere.

Weeds and Rubbish.—What a glorious time it is for cleaning! for though weeds grow fast, they may be quickly destroyed, which is not generally the case at this late season, as when we get dull weather and rain, hoeing them simply means transplanting them by removing them from one place to another. With bright sun, such as we are getting now, we have only to cut them up to kill them, as they soon wither—that is, provided the hoeing is shallow, which it should be, so as to disturb the surface as little as possible. The best tool for their destruction is the Dutch hoe, as that can be driven along the ground at a very shallow level, and, if sharp at the edge of the blade, will cut all that comes in its way. There is another advantage in using the implement referred to, as the operator has no need to tread on his work, which, with a Dutch hoe is done by moving backwards, whereas with a draw-hoe, the weeds are trampled on and again pressed down, when they are able to root again in a fresh place. To prevent this, they should have a sort of scarifying with a coarse-toothed rake, so as to bring them to the top and expose them, for the wind, sun, and air to act on them and shrivel them up. That there may be no waste, there ought to be a place in some out-of-the-way corner to wheel all rakings, sweepings, and gatherings to, as, during the year, there are great accumulations of this kind in most gardens. These are generally designated as "rubbish," but really that is a misnomer, unless it happens to be in the wrong place. Decomposed vegetable matter, of whatever kind, is valuable, and should be taken every care of, as it is the food of plants, and the more of it the soil has returned to it, the less it is robbed. This being so, nothing should be lost, but all rakings, sweepings and fallen leaves be brought together and saved. Trimmings of hedges, and other *debris* of that kind, that won't rot, should be burned, as the ashes are valuable for sowing over seed-beds or young plants, as also for manure, they being rich in potash, but to preserve what is in them, it is necessary, before using them, to keep them quite dry. This can be done by storing them in a shed, and if soot is added to them, nothing surpasses the mixture as a top-dressing applied to young crops. The rubbish heap, if so it must be called, should be turned over two or three times, and at the last turning have some salt and lime added; after which, all will be ready for wheeling on to the ground.

Washing Show Potatos.—A correspondent writes to say that he purposes exhibiting Potatos at the Crystal Palace as he has done in previous years, but finds this season that his tubers, though of very good form, present all those skin cracks and eruptions which were referred to last week, and asks whether we think he should endeavour to reduce the roughness by washing or not. On this point it is not easy to give a safe opinion, because much may depend upon the hardness or otherwise of the skins and the appearance which may be presented after washing is done. Without doubt tubers this year, as a rule, would look best if they were not washed at all, but were simply cleansed of dirt in a dry state. Still washing must be resorted to, and we think, as a rule, much using of the brush may tend to render the skins even rougher than they now appear, and may even remove some of the outer coating, and in exposing the flesh give to the tubers a blotched appearance that would be detrimental. A free use of soap and tepid water, rather rubbing the Potatos with the hands than with a brush, will probably produce the best results. If severe attempts at washing are indulged in it is almost certain that the results will tell against the samples exhibited. Of course washing all tubers is the fairest thing to do, because, if it exposes all defects, it equally brings out all the good qualities of the tubers.

The Maréchal Niel Rose.—This splendid Rose is in such great request when in season, and always obtains such excellent returns in the market that its cultivation proves much more profitable than does that of any other Rose, although many excellent kinds have a much more lengthened blooming season. But not only does this Rose sell well, it is of all Tea Roses for its season the most floriferous, in fact, the tiniest of shoots will produce its bloom. We often see old plants trained over wires in big

houses which have in their time done wonders, but which now have become stiff and stunted, the shoots, though plentiful, being small and the blooms small also. There is in such case a lack of confidence in the recuperative power of the plants to recruit growth, and thus they are left to linger on till they die. Now there are few Roses that will bear hard pruning so well as Maréchal Niel, and if such old plants were cut back very hard indeed, literally to stumps, they would break with great force, and push strong shoots that would in a couple of seasons cover all the space formerly occupied by the old head, and produce splendid blooms. It is very much a question of courage and submitting for the present to a little sacrifice for the sake of future gain. Then Maréchal Niel is a most profitable Rose to work upon old stocks of other kinds, the which may be undesirable or make ample growth but give little bloom. If such old plants as these be cut very hard back, literally sawn than cut, and a few stout young shoots be encouraged to break out early in the summer, these will be fit for budding close back about July, and then, with such powerful root force behind the buds, the growth is wonderful. We have seen splendid growths from 12 ft. to 15 ft. in length made the same autumn, and then shortened back one-third, to produce from every bud splendid blooms the following season. A few good buds thus put in will fill a house in a short time. We saw but the other day buds put in quite late in August, which, having started in a couple of weeks, were then making some 2 ft. of growth, and would in a cool house probably reach 8 ft. or 9 ft. in a few weeks, so strong were they. Of course it is better to bud earlier, but it is better still to bud late than to leave an old and useless kind growing that repays for its room with few or no blooms. It is very probable that good results would follow from so hard pruning Maréchal Niel as to compel it to make new long rods every summer, for with the force exercised by well-established roots and a powerful rush of sap to new growths, the development of such shoots is wonderful, indeed at the rate of a foot length in the week. From such growths would be obtained in the following spring the very finest of flowers.

Impatiens Sultani.—It would be interesting to learn from any of our readers who have cultivated this singularly pretty Balsam how it answers as a winter-blooming plant. It has been suggested that blooming tops, now so abundant on plants, if taken off and put in as cuttings in small pots singly, and placed in gentle warmth would soon make root and form pretty, though small, flowering plants for the winter. It is an undoubted fact that few plants obtained from seed, as this Balsam is, bloom so long and continuously, indeed it seems as if it would bloom for ever. It is marvellous that plants should reach the size in quite small pots that this Impatiens Sultani will. We do not find that it seeds freely, perhaps it may do so under peculiar conditions, but what these conditions are we cannot say, but would be pleased to learn. It is chiefly in regard to its usefulness as a winter blooming plant, however, that we would like to hear more.

Eucalyptus Gunnii.—Last week we called attention to the value of the Blue Gum tree (Eucalyptus globulus) as a decorative plant, which, like many other of our most ornamental plants, is not sufficiently hardy to stand the rigours of our more severe winters. There is, however, as we have since been reminded, another species of this striking genus, E. Gunnii, which has braved the three recent severe winters without succumbing, though the young shoots have been killed back. We allude to the plant standing in the wild garden near the No. 1 Museum, at Kew; and which for a long time bore the erroneous name of E. polyanthemos, under which name it has formerly been mentioned in the Horticultural periodicals. The other day we saw this old plant, which, though bearing traces of the recent struggles it has gone through by its stunted appearance, is still growing vigorously. It is not nearly so rapid a grower as E. globulus, and has much smaller leaves, which is to some extent compensated for by its greater hardiness. The secret of this greater hardiness is that its native habitat is further south, in Tasmania, where it grows at a considerable elevation in the mountains. There are some young trees about, and it is to be hoped that it will soon become more common in cultivation.

The Civil Status of the Gardener in the present day is one to which we may briefly refer without in any way impinging upon the delicate ground of party politics. In the generality of cases he is a man destitute of some of the most important rights of citizenship. He is very often the occupier of a house without being a householder. It is true that by occupying his house rent free as a part of the salary paid to him he is not called upon to pay rates and taxes, though he does it indirectly, and he is debarred from some of the prime duties of citizenship. We think we may venture to congratulate many Gardeners, we trust by far the large majority, that they are on the eve of having granted them one most important privilege, that of voting at elections for representatives in Parliament. There are hundreds of Gardeners up and down the country of keen intellect and good understanding who take a warm interest in public questions, but who hitherto, except in extreme cases, cannot endorse their opinion by their vote. The Franchise Bill now before the country contains what is known as the Service Clause, and under that clause Gardeners, Gamekeepers, Sub-agents, and the immediate dependents of the gentry throughout the country, will be admitted to the franchise. They are not householders in the eye of the law, and, speaking generally, they hold their houses in connection with their offices. That they are fit to exercise the franchise is manifest. Let us hope it will not be long before they are in the enjoyment of it.

"Regel's Gartenflora."—The August number of this Magazine contains the following coloured plates: Lonicera Maacki (t. 1162): a neat, compact bush, with bright green, oblong to oblong-lanceolate leaves, 2 in. to 2½ in. long; flowers, ¾ in. long; white with yellow anthers, arranged in numerous axillary clusters. This pretty plant is common in Southern Mandschuria, becoming rare in Southern Amur. It also occurs in the northern part of the island of Nippon, in Japan. In its native home it is said to attain a height of 10 ft. to 15 ft.—Mutisia breviflora (t. 1163, fig. 1), a singular plant, with pale green, grass-like leaves, 2½ in. long, and hooked at the tip; flower-heads, 2½ in. long by 2 in. broad; the ray florets 1 line broad, orange-coloured, with broad, transverse, brown bars, and the disc florets yellow.—M. versicolor (t. 1163, fig. 2): a bolder looking plant than the last; the leaves are pale green, oblong, remotely dentate, 2 in. to 2½ in. long by 1 in. broad, mid-rib prolonged beyond the lamina into a hook. Flower-heads, 1½ in. long by 1 in. broad; the ray florets ¼ in. broad, brick-red in colour; the disc florets pale yellow. Both the species are natives of Chili, occurring near the town of San Fernando, and flowering in January. The genus Mutisia belongs to the remarkable tribe of Compositæ called Mutisieæ, which is characterized by the bilabiate disc florets. All the species of the genus are American, and climb by means of their hooked leaves.—Habranthus punctatus (t. 1163, fig. 3): a pretty though not very showy plant. The scape bears a solitary flower, 2½ in. long, with elegantly recurving segments, which are white, with deep rose-coloured spots near the base. The anthers are deep yellow. It is a native of the Cordillera de Rengo, South America.

Gardening Miscellany.

The Eleventh Grand International Potato Exhibition will be held at the Crystal Palace on Wednesday, Thursday, and Friday next.

The Lawson Seed and Nursery Company, Edinburgh, have disposed of their London house to Messrs. Nutting & Sons, of Barbican.

The late Mr. Bentham has left £1,000 to the Linnean Society, a similar amount to the Scientific Relief Fund of the Royal Society, and a considerable residual sum in trust for the promotion of botanical research. *The Gardeners' Chronicle* states that the trustees are Sir J. D. Hooker, Professor Oliver, and Mr. Thiselton Dyer.

On Tuesday evening next, Mr. Gordon, Royal Botanic Garden, Edinburgh, will read a paper on "The Claims of Sylviculture," at the monthly meeting of the Scottish Horticultural Association.

On Tuesday evening also, Mr. Bernard Dyer, F.C.S., will commence a series of weekly lectures, on soils, plant life, manures, tillage operations, &c., at the City of London College, Moorfields.

The fifth edition of Dr. Hogg's *Fruit Manual* was published on Wednesday. A new edition, brought up to date, has been wanted so long that we gladly welcome its appearance. It is published, as before, at 171, Fleet Street.

Mr. R. S. Dunbar, late of the Thames Bank Iron Co., has taken extensive premises at 4x, Upper Thames Street, E.C., and commenced business on his own account.

Messrs. Cannell & Sons have recently been awarded a medal and a certificate of a highly complimentary character at Frankfurt, Germany, for a fine collection of Dahlias sent over from Swanley.

Mr. Wildsmith, Heckfield, won the first prize at South Kensington last week in the class for Certificated Grapes, and not Mr. Woodbridge, as inadvertently stated by us.

The Lincoln Chrysanthemum Society will hold its next exhibition on November 18th and 19th.

In consequence of the favourable season and the forward state of the plants, the Middle Temple Chrysanthemum Show will take place about a fortnight earlier than usual this year, when the gardens will, as usual, be thrown open to the public.

Mr. Nicholas Slattery, late gardener to Sir Richard Musgrave, has been appointed steward and gardener to the Right Hon. Lord Emly-Tervoe, Clarina, Limerick, in succession to Mr. Timothy O'Rourke.

At the Horton meeting of the Royal South Bucks Agricultural Society, held on Wednesday, the piece of plate, value five guineas, presented by Messrs. Sutton, for the best five acres of purple top Swedes and three acres of Mangold went to Mr. W. King, of Denham, who also gained a prize of ten guineas, given by Messrs. Carter for Swedes; Mr. J. Rayner, of Colnbrook, receiving the ten guinea prize given by the latter firm for the best three acres of Mangold. Messrs. Webb's prizes for purple top Swedes and Mangold were won by Mr. J. Headington, of Cippenham Court, and Mr. H. S. Cancell, of Stoke Poges.

Killiney Hill, one of the most beautiful resorts around Dublin, was on Monday night the scene of a great conflagration. Some acres of furze took fire and extended to the woods covering the side of the hill. The first was visible for several miles around, whole acres of the hill presenting one sheet of flame.

This, Saturday, evening, a total eclipse of the moon takes place, all the phases of which will be visible in London, as the first contact with the fringe of the earth's shadow takes place at 7h. 15m. P.M., about two hours after moonrise.

The elegant Dioscorea retusa may now be seen in the stove at Kew. It is a small climber, and is trained in balloon fashion. The leaves are bright green, and composed of five narrowly lanceolate leaflets, and the numerous pendulous white spikes form a pretty contrast with the foliage. It is a graceful plant of very simple cultivation, and was introduced a few years ago from the Cape of Good Hope.

EUCHARIS CANDIDA.

This, without doubt, takes high rank among the few first-class white flowers that are to be had by judicious management at all seasons of the year if only a sufficient stock of it is kept, and the necessary heat is at command; under other circumstances than these it is better not to attempt its culture. Like its allied species, E. grandiflora, it can be had in flower at any date for which it may be wanted, by resting the roots for a time after growth is completed in a cooler temperature than that in which they were grown, and at the same time reducing the water supply to a minimum, though not to such an extent as to cause them to lose their leaves, a practice that some cultivators still adopt. I never allow the leaves to flag for any length of time, say an hour or two at the farthest. After a rest they should be subjected to the same heat as that in which they were grown, when they will speedily push up their flower-spikes. Unless required for exceptional purposes, however, I doubt if anything is gained by the resting system, as I have proved beyond question that as many flowers can be obtained from the plants by always keeping them in the stove as by the other system. I am not going to say that so many spikes will be produced at a time as when the plants have been rested, but I am sure that in the aggregate there are quite as many or more produced, and for ordinary purposes it is more useful to have a few spikes only at a time and to have them often.

The compost I use, and find the plants do well in, is composed of two parts of fibry loam to one of peat, with a liberal allowance of sand and either broken crocks or pounded charcoal mixed with it to keep it open and sweet, for anything approaching to sourness will soon cause them to go wrong. If, however, the loam should be of a clayey nature, I use more peat, but on no account would I have peat form the larger proportion.

The plant from which the singular spike here illustrated was cut is one that flowered at Easter, producing several spikes. It has been kept in the stove without any special preparation, and lately produced thirteen other spikes, none of them, however, showing any signs of fasciation. It is grown in an 8-in. pot, and is one of a batch of imported bulbs received here in May, 1883. When received they were in a much-shrivelled state, and, being busy, I thought a few days on a gravel stage would do them no harm. They were put under the shade of some ferns, and in that position they remained for two or three weeks, which caused them to plump up, and on being transferred to the 8-in. pots, about eight bulbs in each, they at once commenced to grow freely.

Many object to this Eucharis on the score of its being a shy-flowerer, but I cannot agree that such is the case, as when properly grown it is very free. I have, however, met with a plant bearing the name of candida, which, except in colour, is more like a Phadrænassa than anything I know, and which must in no way be confounded with the true E. candida, which is really a first-class plant, the flowers being invaluable for button-hole or other bouquets.—*E. Dumper, Gardener to J. Fitz-Gerald Bannatyne, Esq., Somerville, Limerick.*

EUCHARIS CANDIDA.

Mr. Thistleton Dyer, F.R.S., Assistant-Director of the Royal Gardens, Kew, delivered the inaugural sessional address at the meeting of the Pharmaceutical Society on Wednesday evening.

DECORATIVE PLANTS.

It is surprising how the demand for in-door decorative plants increase, and if we need evidence of the fact, it is only necessary to visit Covent Garden Market occasionally, and under the guidance of some one who knows, take a run round amongst the great growers of these things. London does not absorb all, for a large number of these plants are sent off to various parts of the country, especially to the larger towns. Birmingham is a town that takes the lead in many things, and it is a question if there is any other town in the provinces where there is a greater demand for cut flowers in various forms, or where there is so great a demand for in-door decorative plants and decorations on a large scale. There are several large nurseries where great attention is paid to this particular branch of the business, and the Market Hall is always well supplied with decorative plants and flowers. One nurseryman in particular, Mr. Hans Niemand, is doing a very large business in the cut-flower trade, and is taking the lead entirely in floral decorations on a large scale. On two occasions recently I had the opportunity of seeing the completed arrangement of about 2,000 plants each time in the magnificent municipal buildings in Birmingham, and the grand staircase and windows, corridors, and reception rooms were very tastefully arranged under the superintendence of Mr. William Spinks, the manager of the nursery.

A run through the nursery since then has enabled me to give you a list of some of the leading plants grown in quantities for this kind of work. Palms are cultivated extensively, many of the plants, especially Latanias and Seaforthias, being large specimens; and quantities of Phœnix reclinata of medium size are used, as this Palm bears a lot of knocking about. Mr. Spinks regards Phœnix rupicola as a grand decorative Palm. Ferns are extensively grown—Maiden-hairs in great quantity—and much attention is paid to Pteris serrulata cristata major, a truly fine variety for decorative work. Amongst newer Ferns grown in quantity are the new Adiantums, Lathomi, Victoriæ, and A. Pacottii, a dwarf dense-growing kind. Another fern, Onychium auratum, is a very beautiful fern which will be in great request when more known. What charming decorative plants the climbing Asparaguses are! A. plumosum nauum is well known, and a great acquisition is to be found in A. tenuisissimus, a distinct and beautiful kind of easy propagation. Caladiums are much in demand, and Baroness James de Rothschild is the finest variety yet sent out, in habit resembling Perle des Jardins, but more brilliant in colour, with rich carmine veins and colouring. Dracænas are also extensively grown, so also are Arums, Poincettias (grown to perfection), and double-flowered Zonal Pelargoniums. For decorative work, Eulalia japonica variegata and E. japonica zebrina are two invaluable plants, as they fill in so well amongst stiffer habited subjects.

Tuberoses, especially Pearl, are cultivated in large quantities, so also are Bouvardias, and they are done well. Canna Ehemanni, with its large rich rosy crimson flowers, is a favourite, and Cyclamens, Double Chinese Primulas, and Hyacinths, Tulips, Narcissus, and many other bulbs, are all grown in large quantities. Eucharises of course are much used, E. amazonica being largely in demand, while E. candida and E. Sanderiaua are also in much favour. Medeola asparagoides is a lovely and most useful trailing plant for festooning and falling down amongst other plants. Cocos Weddeliana is much used by Mr. Spinks in conjunction with the Medeola and Asparagus for delicate decorative work. Amongst the Begonias grown in this establishment, B. Knowsleyana is the most valuable, it being an all-summer and early winter bloomer. The immense demand for wreaths, crosses, and wedding orders, necessitates the cultivation of a great lot of chiefly White Chrysanthemums, the earliest blooms obtained being Souvenir d'un Ami and Le Petite Marie; and for mid-season blooming, Madame Desgrange and Lady Selborne are the favourites. For the latest bloom, Mr. Spinks grows Elaine, Mrs. George Rundle, Mrs. Dixon, George Glenny, Peter the Great, Princess Teck, and Ethel, the latest of all.

Out-door decorative plants, especially for cut-flower work, also receive attention, notably Single and other Dahlias. Cannell's Glare of the Garden is very showy, so also is the Parrot Dahlia, an orange and scarlet single variety. The Single Dahlias here are very brilliant, and a few of the best are Vivid, lutea grandiflora, Crimson Beauty, White Queen, Paragon, Novelty, Mauve Queen Improved, Lucy Ireland, Orangeman, Brutus, Negress, Asculon, aurantia superba, Mrs. Bowman, and Cetewayo, a rich velvety crimson and purple-coloured variety; Evening Star, Fire King, Magnificence, Defiance, Acquisition, Aurata, and Beauty of Cambridge. A long row of Constance (the so-called White Cactus Dahlia) is very showy, and it is an excellent decorative variety.—*Rambler.*

THE FLOWER GARDEN.

The beauty of the flower garden so far as its summer occupants are concerned is diminishing fast, and a few degrees of frost, with which we may be visited any night now, will ruthlessly destroy the floral picture that took us so long to complete. Under these circumstances the Pelargoniums of last year's striking which are intended to be saved for another year should be lifted at once. The plants should be taken up with a four-pronged fork, and the roots, together with the tops, should be considerably reduced with the knife before being placed closely together in boxes about 2½ ft. long, 9 in. wide, and 4 or 5 in. deep, in light soil, which should be made firm about the roots as the process of boxing the plants is proceeded with. This done, give sufficient water to settle the soil about the roots, and afterwards store the plants thus boxed in any frame, pit, or house, out of the reach of frost and excessive damp, and keep them rather dry at the roots during the winter months. If 4-in. and 6-in. pots can be spared it would be advisable to winter the bicolor and tricolor-leaved sections in them, placing from one to three plants, according to size, in each pot.

The beds thus cleared of their summer occupants should be levelled with the rake and again be filled with such spring-flowering plants as the Golden Gem Viola, Daffodils (Narcissus Pseudo-Narcissus), the common Primrose (Primula vulgaris), and Alyssum saxatile compactum—four distinct shades of yellow. Myosotis dissitiflora (Forget-me-not), Imperial Blue Viola, Nemophila insignis, and Aubrietia deltoidea, afford a like number of shades of colour, ranging from light blue to purplish lilac. In Dean's Viola White Bedder, Arabis albida, and White Daisies we have three white free-flowering plants; and in Silene pendula ruberrima and Red Daisies we have the material for supplying masses of pink and crimson. In addition to Crocuses, Snowdrops, Hyacinths, Tulips, and other bulbous plants, there are many hardy perennials besides those enumerated above which are suitable for the spring garden, but those already mentioned, if the colours are judiciously arranged in masses, will be found sufficiently floriferous, effective, and varied in colour to render the flower garden in spring as charmingly beautiful as it can be made in summer.

The beds in which the double Daisies are intended to be planted should have a sprinkling of new soot incorporated with the surface soil as a preventative to the attacks of the grubs of the Daddy-long-legs (Tipula oleracea), which are very destructive to the roots of these old-fashioned but nevertheless indispensable spring-flowering plants. The plants in every case should be taken up with a little soil adhering to the roots and be planted the same depth in the ground as they were before, making the soil moderately firm about the roots in planting. In some instances the yellow and blue Violas will be already established in their winter quarters, having been planted last May in the beds in which they were to remain during the winter and spring months—the former among plants of Calceolaria amplexicaulis, and the latter mixed with Bijou and Manglesi Pelargoniums. The silvery leaves and pale pink flowers of the last-named excellent bedding Pelargonium is very effective when contrasted with the blue flowers and green foliage of the Viola. Thus grown the Violas may be had in flower in the garden more or less all through the year.—*W.*

POLYGONUMS FOR THE WILD GARDEN.

The genus Polygonum is widely diffused throughout both hemispheres. It contains about two hundred species, mostly weeds, but with a few notable exceptions. It is not our object at the present time to enumerate these exceptions generally, but to call attention to a few species of sterling merit for the wild garden. They belong to the section *Pleuropterus*. The species of this section may be distinguished from all others by their notched stigmas, which are broader and flattened towards the apex. Another character is—and from an ornamental point of view it cannot be overlooked—that the male and female flowers are always borne on distinct plants. One sex has six perfect stameus and abortive stigmas, the other has three notched stigmas and abortive stamens. It is a small section, confined to East Temperate Asia and Japan, and consists of five species, all of which we have seen in cultivation. The following characters will suffice to distinguish them; their value from a decorative point of view is mentioned under the respective species:—

P. sachalinense.—This is undoubtedly the noblest species in the genus. It forms clumps of 6 ft. to 8 ft. high and the same in breadth. The stems are erect for some distance, and then droop gracefully all round. The leaves are large, sometimes attaining a size of 18 in. long and 10 in. broad, though usually smaller; they are cordate in shape and quite glabrous. The flowers are yellowish-green in colour, and borne in numerous axillary divaricate spikes, near the end of the branches. It forms a most beautiful clump on the lawn, and is very suitable for the shrubbery border or wild garden, its greatest drawback being the habit of throwing out underground suckers some distance from the stem; these, however, can easily be removed as they make their appearance. It is a native of Amur, Japan, and Sachalin Island—hence its name—and is well-figured in *The Botanical Magazine*, t. 6540.

P. cuspidatum.—Smaller than the previous species in every respect, and usually attaining a height of 4 ft. to 6 ft.; the branches, too, spread in a similar manner. The leaves are ovate-cordate in shape, suddenly narrowing into a cuspidate point, and are generally from 3 in. to 4 in. long. The axillary flower-spikes are much branched, and the flowers are white, hence, in this one respect, it is more effective than P. sachalinense. It is equally suitable for the wild garden or shrubbery, and should be planted a little nearer to the front. It is a native of China and Japan, and a good figure may be found in *The Botanical Magazine*, t. 6503.

P. compactum.—This is a still dwarfer plant, rarely attaining a height of much over 3 ft. It may be readily distinguished from P. cuspidatum by its compact, more erect habit, darker green somewhat smaller leaves, with more waved margins, and by the simple unbranched flower-spikes. Its compact floriferous habit is very pleasing. At present it is rare in cultivation, but when better known it will probably be equally valued with the others. Its native country is Japan, where it has been found on Mount Fusiyama. It was first described and figured in *The Botanical Magazine*, t. 6476.

P. Weyrichii.—The three previous species have all glabrous leaves; this one is distinguished at a glance by its having the under-surface densely covered with greyish-white tomentum. The stems are 4 ft. high, erect and very little branched; the leaves are cordate at the base, attenuate to a rather long point above, and from 5 in. to 9 in. long; the inflorescence is ample, and chiefly confined to the apex of the branches. We have only seen the female in cultivation, and unfortunately the flowers were over. The habit is not so pleasing as in the previous species, but its value from a decorative point of view is hardly settled as yet, for it is dying away much earlier than those species. It is a native of Japan.

P. multiflorum.—This species has twining stems, hence it will not be confounded with the foregoing. It will climb to a considerable height on a suitable support. The leaves are cordate, acute, and 2 in. to 3 in. long. It cannot be described as a decorative plant, though we mention it for the double reason that it is the only other known species of the section, and further that we have met with the female plant in cultivation. The flowers are borne in little spikes, and are very inconspicuous. It is a native of China, Japan, and Formosa.

In conclusion, we may say the plants are perfectly hardy, will luxuriate in any ordinary garden soil, and may be readily propagated by means of the underground suckers; indeed, too readily, as these suckers require to be frequently removed to prevent them overrunning other plants, and so becoming a nuisance. —*X.*

Hops.—The acreage of land this year under Hop cultivation in Great Britain is 69,258 acres, showing an increase of 1,242 acres over 1883.

LONGPOD BEANS.

Why is it that some writers of Kitchen Garden calendars persist in recommending that the Mazagan Bean should be sown as a first early? It is not an early Bean. It is later than the Common Longpod, while the Common Longpod is later than that best of all Beans the Seville Early Longpod. Why very few people sow the Mazagan now-a-days. A retail seedsman in a good way of business will tell us that he sells very few Mazagans, and these to some old-fashioned gardeners who are left stranded high and dry on the shores of time. It is assumed that the Mazagan possesses some peculiar hardihood of character, but I do not think so, certainly not a bit more than any other Longpod Bean. The Chiswick trials of a few years ago proved most conclusively that it is scarcely a Second Early, and I have witnessed the same result in other trials, and whether Beans are sown in autumn or in early spring, I say sow the Seville Longpod, or, failing that, the Aquadulce or Mammoth Longpod. Both are robust growers, hardy and early. For a second and third crop sow one or both of these over again, or Johnson's Wonderful Longpod. Those who prefer the large Windsor Beans can sow Taylor's Windsor or any good selection from it. Sow in early, light, free ground in autumn, and then the crop may be relied upon. As soon as the foliage is well above the ground draw the soil up about it and encourage their free growth by hoeing, and in any possible way. Don't sow Beans in autumn in heavy, wet ground—they will decay, and a poor crop will result. A market gardener sows his Early Beans in autumn on a sloping, sunny, south border, and he gets them in extra early in consequence. Let amateur gardeners do the same as far as it is possible to do so. There is an excellent Dwarf Bean that is not so much grown as it deserves to be—namely, Beck's Dwarf Green Gem. This originated rather more than twenty years ago as a sport from the Dwarf Fan or Cluster; it is very dwarf, a great cropper, of delicious flavour, and comes in well to succeed the Seville Longpod. The origin of this variety throws light on the means by which we became possessed of the Green Windsor and the Green Longpod. They are, no doubt, sports from their white counterparts.—*R. D.*

ORCHIDS AT WOOLTON WOOD.

Woolton Wood, Liverpool, is the residence of Holbrook Gaskell, Esq., who has for a long time been one of our most enthusiastic Orchid collectors, and so carefully and judiciously has he followed the pursuit that his collection contains many unique species and varieties, and all are in a healthy and thriving condition. The Cattleyas and Lælias are pleasant to look at, so clean and sturdy are the plants, and so well furnished with flower-sheaths and spikes, some of the rare varieties of L. anceps literally bristling with them. At present there are not many Cattleyas in flower, but the perpetual flowering, beautiful, and fragrant C. Gaskelliana is still doing duty here, as in most other places where a few plants of it are grown. C. bicolor is also in flower, as well as the rare C. Whitei.

The Masdevallia-house is also spare of bloom, only M. chimæra, M. bella, M. velifera, the unique M. Gaskelliana, and a grand variety of M. Davisii, with massive flowers 1½ in. to 2 in. across, being in bloom, but what a sight of green, fleshy-leaved, vigorous plants! Masses of every shade of M. Harryana, which have borne forty or fifty blooms each, equally stout plants of M. Veitchii and M. ignea, &c., and a great potful of the rare M. macrura. All are grown as cold and moist as possible, and are carefully shaded in summer. In this cold-house, too, are some good specimens of Oncidium macranthum, and a large robust mass of Oncidium incurvum, which has been reclaimed from its miserable, spotted, heat-stricken condition by being brought into the cold, and it is now sending up a quantity of flower-spikes.

The Odontoglossums are also grown cold, and they are in fine order. The flower-spikes are appearing freely to form a great show presently, and the usual number of fine varieties will again furnish their lovely flowers, among them being the Woolton plant of O. histrionicum bellum, O. crispum Chestertoni, O. crispum Horsmanni, O. crispum Chelsoni, O.

Edithianum, O. Ruckerianum, O. facetum, O. mulus, O. Wilckeanum, &c. The Vandas, Saccolabiums, Phalænopsis, &c., are looking very well,—indeed the whole collection is in good order, and Mr. Davies, the gardener, must be complimented for his share of the success.

Mr. Gaskell's Orchids are noted for the abundance of bloom they produce, and even at this dull season there is a great display. One house has a beautiful show of specimens of Saccolabium guttatum in bloom (one with fourteen long flower-spikes), also Cattleya Exouiensis, C. bicolor, and a few Vandas, while overhead are suspended a number of splendid plants of Deudrobium formosum gigauteum laden with their immense snowy white and orange blossoms, ten or more on a spike—a lovely sight. Iu the large stove, too, where the specimens of Eucharis in flower are miugled with Orchids, and the large spathes of Anthurium Andreanum aud the long fronds of rare ferns and leaves of fine foliage plants are bending over them with the Allamandas, Dipladenias, and Stephanotis on the roof, and the Rondeletia and other flowering stove plants studded here and there, contrasting their bright flowers with the quaint-looking pitchers on the differeut varieties of Nepenthes, it is difficult to realize that this is not the height of the flower season, for certainly this house could not look prettier at any time.

Among the other plants in bloom are some lovely specimens of Pilumna fragrans (one with six spikes of four flowers each), Lælia autumnalis intermedia (new). L. a. atrorubens, with twelve flowers on a spike, Oncidium tigrinim, O. varicosium, O. Lanceanium, some very fine varieties; Mesospinidium vulcanicum, Odontoglossum grande, O. Alexandræ, O. Pescatorei, O. Uro-Skinneri, Cattleya intermedia, Vanda tricolor, several varieties; and last, but not least, Vanda Sanderiana. This is one of the grandest introductions of recent times, its immense flat flowers of that delicate blush tint so quaintly variegated on the lower segments, which contrasts so pleasingly with any other Orchids. It is lovely in any position, but it shows to the best advantage with a dark background, as the subtle delicacy of its colouring loses in detail if placed against a clear light. It, however, shows itself to great advantage if placed with the bright sunlight behind it, as that brings out its spangled garb. Mr. Gaskell's plant has two stout upright spikes of very fine flowers, aud the plant, which has not been grown very hot, is very healthy.—*J. O'B.*

WHAT IS AN AMATEUR?

The Editor asks: (i.) What is an amateur in relation to gardeniug matters? (ii.) Who shall accurately define what an amateur is or should be? (iii.) "For an intelligible defiuition of an amateur," and (iv.) "to settle this knotty matter on some understood basis." Well, *amateur* is a fancy term, and may mean anything, but, strictly speaking (i.) an amateur is one who eugages personally in the labour of gardening work for his own gratification only, but he is not less an amateur because he disposes of his surplus produce. (ii.) "An amateur" at shows becomes an exhibitor as a matter of pride and display, not in order to advertise his business and draw customers for his seedlings, his bulbs, his new sorts, or his sporting varieties. (iii.) "An amateur" may be one who visits the tropics for new plants to gratify his love of science or adventure, by making collections for himself, not as an agent for professional growers. (iv.) It is obvious that many of our landed gentry maintain elaborate gardens at great annual expense without becoming personally interested in the subject. They may leave it all to the ladies or gardeners, but any such, whether noble or simple, may, by studying botany, horticulture, or arboriculture, become an eminent amateur. As such he will attend shows and look minutely into all matters relating to the science he has taken in hand. Now, on the general question. Society has got much "mixed" in the present day, and it must not be forgotten that *mere traders* are allowed to take promiuent positions in the Liunæn, the Royal Horticultural, the Royal Botanic, and other societies, instituted by, and for, the gentry; and if, as a consequence of domestic habit, the market gardeners find themselves competed with as vendors by non-professional producers, it must not be overlooked that our great nurserymen find their best customers among rich "amateurs" who can afford to pay £100 for an Orchid. The small man suffers because he cannot rise to be a big man. It is the fault or merit of the age we live in.—*A. H., Brighton, September 27th*, 1884.

PLUMS FOR DESSERT.

In one of your earlier issues a hint was thrown out that hybridizers might with advantage aim to obtain some better Plums, so that the Green Gage (which is a fickle cropper) should not stand alone for flavour. As large growers we hope your suggestion may not be followed up in many quarters, as we imagine that the fifty kinds we grow are ample for all practical purposes, while we would readily admit auy real advance. We give a list of some first-class sorts, beiug those tested by ourselves, which your writer probably overlooked. The truth is we have pleuty of sorts, but are deficieut in the matter of culture. All Plums grow too freely to produce fertile fruit buds on young trees, and it is judicious root-pruning that is required.

Anyone who has seen Plums grow in pots will at once see that either restricted growth by confining or pruning the roots produces very fertile trees, while iu the nursery it is in the "hospital quarters" (where ill-shaped or injured trees are nursed) that the most fruit is found. Our experience would lead us to infer that Plums in pots, whose fruit was set in an orchard-house and "finished" outside in a warm corner, would give the finest possible flavour. The Sawbridgeworth seedlings, from Early Prolific to Grand Duke, give us a season from July to October, and with trees on walls with various aspects (even northern), combined with open culture, a succession could be kept up for dessert and kitchen use. As the growing of Apricots, Peaches, and Nectarines on outside walls has for some years become very unsatisfactory, though this year they have been abundant and good, nothiug more useful than Plums can be found for walls, and probably these with Pears on the quince, either as horizontal or vertical cordons, will in the future take the place of the "sickly Asiatics." We have lifted trees of twenty years' growth (Standards) with success, and no doubt Pyramids and wall trees, which too frequently produce wood only, however large, might be properly prepared and lifted in October with advantage, mulching if required.

Dessert Gages and Plums.

But to return to sorts, taking the Gage family first:—

Denniston's Superb, which, though not so sweet as the Green Gage, is yet most delicious, and on a wall takes a fine bloom, and is our earliest variety.

Jefferson, one of the handsomest in cultivation, follows, and is when fully ripe very rich and juicy, but rather "plummy" than sugary.

Transparent Gage is quite equal to the Green Gage, but is an awkward grower; the early variety is the best.

Guthrie's Green Gage comes next, and is very rich, sugary, and delicious.

Bryanston Gage is larger than the old Green Gage, but equally rich and a good grower.

Reine Claude de Bavy is late, and has the "croquant" flesh of the Gage, and is both sweet, juicy, and delicious.

Coe's Golden Drop closes the season, and is a grand, large Plum, and in good positious very rich and juicy.

The following are good sorts, but partake more of the Plum flavour:—

Oullin's Golden Gage, large, early, and good, rich yellow, handsome and distinct.

Washington, a shy bearer except on a wall, but very handsome when it takes on a red flush, and is large and delicious.

The Purple Gages are very sweet and rich, and when allowed to shrivel are similar to tamariuds.

Reine Claude Rouge, a reddish form, and

Purple Gage, a deep rich coloured variety, are both good.

Boddaert's and McLoughlin's Gages have not with us the flavour of the foregoing, though good.

While on this subject there are some grand fruits that are fit for any table, but they are Plums and not Gages. Too frequently at country shows there are classes for Plums, and these are generally plentifully shown, but the prizes go to the Gages. Separate classes should be made for Black, Red, Yellow and Gage Plums.

Choice Dessert Plums would include

River's Czar, early, claret coloured, and a sweet pleasant fruit.

Kirke's Blue, very handsome, and carrying a rich bloom, and a flavour quite unique.

River's Sultan, a very sweet and good mid-season reddish purple variety.

Culinary Plum.

Plums for kitchen use, although frequently used for dessert, would include such as River's Early Prolific and Early Orleans for first crops, Belgian Purple, Victoria, Prince Englebert, for mid-season, Pond's Seedling and White Magnum Bonum for late, and the Grand Duke and Wyedale for very late kinds. For a wall, Belle de Septembre and Autumn Compôte might be added, but in Kent they have not done so well as was expected. For special purposes, Stonewood and Winesour are used for "cheese," and there is yet a class of valuable Plums which, while of no particular flavour, are of great commercial value for preserving, viz.:—

Kentish Bush, an enormous cropper, attaining the dimensions of a timber tree. The fruit is purple-coloured, and the variety is planted in Kent by the thousand.

La Deliceuse, late red, a great cropper.

Mitchelson's, similar to Kentish Bush, but not in growth. It was introduced by Mr. Dancer, and is a great cropper.

Late Orleans, which frequently crops when others fail.

Cox's Emperor, or large Orleans, excellent.

Yellow Market Plums include—

Heal's Hybrid, a variety but little known.

Pershore, the noted Worcester "egg plum," which is as good preserved as an Apricot.

Gisborne's, similar, but rather smaller.

We have now run through the best as grown here, and must finish the family by adding

The Damsons.

Frogmore Prolific is worthy of a place in the dessert, it is very sweet and rich.

Kent Cluster or Crittenden, has quite driven all the round Damsons out of the field, there is none which crops so heavily, or which succeeds in so many soils or situations.

The Shropshire or Pruant Plum is very large, oval, and late, and should be planted.

Glassenberry, a local Kent kind, is large, and a good cropper, round.

Prune Damsons do not crop sufficiently to be recommended.

Bradley's King is a fiue fruit, and we hope it will come up to its reputation.

For early Damsons plant *River's Blue Prolific Plum* which, though it has Plum foliage, really ranks with the Damsons, and a first-rate sort it is.

To sum up these remarks, which have run to a greater length than we intended, for garden culture we want restricted wood (or lower) roots. For orchard culture spariugly manure for some years, or a free and sappy unripe growth will lead to trouble, as a severe frost will completely split and rupture the wood, and the trees will die by inches. It is for this reason that we do not recommend Prince of Wales, as it is liable to sudden death. Thousands of standard trees have perished, and are yet dying from the great frosts of 1880 and 1881. Manure old trees, but not young ones.—*Geo. Bunyard & Co., Maidstone.*

Tritonia aurea.—This fine old Cape plant is most useful for the greenhouse or conservatory in the autumn. It is just now in its beauty, not only inside, but alike in the open border. The leaves are narrow and flag-like, as in most other Iridaceous plants; and the brilliaut orange star-like flowers are borne on flower-stems of 18 in. to 2 ft. high. It is very easily cultivated; a light, rich loam suits it well. When the clumps are divided care should be taken uot to damage the creeping undergrouud stems. When planted outside the roots should be protected from frost, the most suitable situation being at the foot of a south wall. It was introduced from Caffraria in 1847.

The Amateur's Garden.

An Amateur's Garden: How it Pays.—Herewith is a sketch from the spot, of an amateur's garden. The only remarkable thing about it beyond its scrupulous cleanliness and thorough cultivation is the fact that the whole of it is done in the narrow leisure of a busy life. We need scarcely hint at the moral and æsthetic aspects of a recreation so wholesome and refining, one which has sufficient attraction to keep the "gude man" at home in his leisure, and share the sober delight of the garden with his wife and bairns. Our amateur is a clerk holding a very responsible post in a great London bank. He goes to Town daily at 8.30 A.M., and invariably arrives at home about six o'clock. He has altogether three weeks' holiday in the course of the year, which he generally devotes to the cultivation of his garden. He has a pretty gabled cottage nearly covered with Creepers, chiefly Irish Ivy, Virginian Creeper, and Roses. It is surprising how much can be done by a judicious employment of some of the score or more attractive Creepers eligible for the purpose. Architects owe much to nurserymen; they are the vendors and recommendors of the good things, horticulturally, which help to hide architectural sins. Amateurs and others who are taking possession of new houses, or those who wish to embellish old ones, would do well to consult the short but carefully compiled list of hardy climbers given in the second number of The Gardening World.

The garden under notice is situated on the north side of the cottage, and covers an area of 40 yds. by 25 yds. A brick wall 6 ft. high bounds the garden on the east, a wood fence on the west and north. Our amateur wishes something may happen to the latter, it is shaky, part of the posts having gone between wind and water. He is looking forward to the substitution of a wall against which he can erect a lean-to greenhouse, and rejoice in the prospect of clusters of purple grapes and a supply of Vine leaves for his dessert-plates.

The 40 yds. by 25 yds. is managed entirely by the amateur, and one wonders in walking round how he does it in the limited amount of time at his disposal. The soil is a heavy loam with a subsoil of 300 ft. of clay. How do we know that? says our captious critic. The Directors of the Water Company here could not "let well alone;" they sank another—this an artesian well, and the aforesaid depth of clay was bored before they arrived at the chalk. The amateur's garden lies within a sixth of a mile of the new well. It is intersected by three 4-ft. gravelled paths with wooden curbings—a centre and two side paths. There is a nice little lawn 40 ft. by 20 ft. in front of his drawing-room window, and a few herbaceous plants and roses along the southern side of it. Our friend is not great in flowers, only just beginning to take an interest in them. He will watch the opening of some seedling Polyanthus, Sweet William, and Antirrhinum a friend has given him with the mild excitement and pleasurable surprise to which incipient amateur florists are liable. The most noteworthy feature about the garden is the comparative ease and freedom with which it is worked. Continual deep digging and stirring of the soil, with the addition of ashes and burnt vegetable refuse, must account for this. Potato haulm is always carefully burnt, for our amateur has an instinctive idea that the spores of the dreaded potato fungus still survive after the haulm is buried, and are lurking beneath till the spring time comes again in prospect of a fresh attack.

The burnt refuse and a load and a half of horse dung yearly are the only additions the garden has in the way of manure. There is not a weed to be seen—not a blade of the troublesome couch grass—not a single twining stem of the more troublesome bindweed. The owner of this garden is proud of his winter stuff—Scotch Kale, Brussels Sprouts, and Broccoli; he always takes the precaution of raising his own stocks of the Cabbage tribe. Wise man this! some of us amateurs will say. He is not under the necessity of admiring in a coveteous sort of way his neighbour's seed-beds, or putting off the planting of profitable winter stuff until too late for a rapid and succulent growth. The Potatos he most favours are Sutton's popular Magnum Bonum, Vicar of Laleham, Schoolmaster, and Gloucester Kidney. The Vegetable Marrow is a favourite vegetable with him; it is grown in a trench into which a couple of barrowfuls of manure has been placed three weeks before planting. It is then mixed up with some ashes and sound loam, and the long vines left to take care of themselves. This has been a favourable season, but too hot for Marrows exposed to continual sunshine. The Marrow likes warmth, but shade and sunshine occasionally also. The Marrows are allowed to ramble under the fruit trees, and late in the season all about. The soil, as we have said, is a heavy loam, but the texture has been much improved, and the vines root at the joints, and thus secure additional nourishment. There were a dozen or so of nice sizeable fruit ready to cut, and the crop had been prodigious.

Tomatos are a favourite vegetable now-a-days, quite a desiderata in well-to-do families, and one of the most profitable of market garden crops. Between rows of cabbage on a border facing west, about 5 ft. wide, our amateur put out the plants from three pennyworth of seed; they were raised in a friend's hot-bed. About thirty plants were set crosswise, and trained to 5 ft. stakes. The crop, of which the last were gathered on Monday, weighed 40 lb.; two fruit weighed 17 oz. There is a well-tended Strawberry bed, but the plants are getting too old (four years); we recommended him to replace a third of them every year with young plants. All the runners were cut off, however, a month ago, and a comfortable mulching of manure put between the rows. The usual bush fruits were grown, but this was no excuse for the neglect of keeping the ground clear of weeds. Thorough working of the soil, freedom from weeds and early cropping, and constant and persistent attention are the causes of the amateur's success. But an amateur, whose mowing machine happens to be out of order, and yet is not to be beaten, who will go to work on his knees with garden shears and take a week to cut his lawn, is sure of success in almost any pursuit. He will, no doubt, some day attain to the rank of florist. Meanwhile pleasant and healthful exercise and an abundant supply of fresh vegetables and fruit are a sufficient reward, and so the garden pays.—*Luke Ellis.*

Sweet Brier.—The delicious odour the Sweet Brier exhales ought to commend it to everyone, and cause it to be extensively planted, for besides the lovely perfume it gives off, which quite pervades the air in spring after a shower, it is one of the most ornamental shrubs anyone can have, as may be seen just now, for wherever there are bushes of it they are aglow with their bright coloured hips, which are exceedingly ornamental, showing off well and most effectively at a distance, where they look like brilliant blooms, and light up a place. Rain and wind that spoil flowers so quickly have no adverse action on them, and for weeks yet to come they will be shining objects, and remain so long after gardens are bare. We have a hedge of plants, but where, I think, they look best is in the foreground of evergreens at the back of a herbaceous border, or as isolated plants on grass, for which they are specially suited, and I was much struck with some I saw the other day so planted, as they were of the loose bush form and laden with their coral-red hips that were all aglow in the sun. It occurred to me when looking at them, as it has done before, how serviceable they and many other of our berried plants would be for the embellishment of dinner-tables.—*Norfolk, in The Gardeners' Chronicle.*

GARDENING FOR COUNTRY SCHOOLS.

Some graphic and interesting letters have lately appeared in *The Daily News* under the heading of the "Complaint of the Village." The writer evidently understands what he is writing about, and he sketches the varied scenes of village life and economy with a masterly hand. The deficiency and impurity of the water supply, the frequent neglect of the simplest sanitary precautions with regard to drainage, the education and status of the farm labourer, and the necessity for the wide extension of the allotment system, are all treated of and enforced in vigorous and picturesque Saxon English. A number of letters, some of them written by farm labourers, furnish abundant proof of the truth of the statements advanced. We, too, know something of village life and its surroundings, and desire to add our testimony to the urgent need of the suggested reforms.

It is chiefly with regard to the necessity for providing every village community with land for the profitable employment of spare time, and as a means of adding to the wealth and comfort of the cottager, and also for providing instruction in the proper tillage of land, that we wish to speak. Upon the former point there is a remarkable consensus of opinion. But "Villager" and his commentators seem to overlook the fact that before the plots of land under consideration can be properly, and therefore profitably, cultivated, some technical instruction is essential. It seems to be taken for granted that neither gardening nor farming need any such aid; whereas there are few occupations demanding greater knowledge and experience for their successful prosecution. "Scientific Agriculture" is the antidote which some would apply for the relief of agricultural depression and all the ills the village is heir to. But the latest nostrum of the Kensington school, is, so far as its practical utility is concerned, utterly misleading and a waste of public money. The so-called lecturers, mostly the masters of Board Schools in the Metropolis and large towns, teach simply to earn the Government grant, and the quasi-scientific knowledge imparted is next to worthless for any practical purpose connected with the cultivation of the soil.

Why should not every village school have its plot of garden ground attached to it, and if the master be not qualified to teach such rudimentary horticulture as would be needed for a time at least, why not call in the aid of the gardener? There are hundreds of intelligent men who are thoroughly qualified for such a post. Such teaching, accompanied by practical demonstration on the soil itself, would tend to popularize the subject; boys would learn by such means what a well-managed garden is capable of producing, and the cultivation of the cottage garden or allotment cease to be regarded by the labourer, as it is frequently now, as merely a wearisome prolongation of his hours of toil. "Summat for the pot" is the labourer's sole motive for exertion. He has no notion that flowers can be profitably grown, nor the remotest idea that a gooseberry bush or a strawberry plant will actually produce a crop of fruit year after year of sufficient value to purchase the land it stands upon.

Let the Lords of the Education Department with their worthy Vice-President add one other subject to their schedule, and make it an essential class subject in rural schools. There can be no comparison in the value of such a subject as "Elementary Horticulture," and the ordinary class subjects either in their direct usefulness or their intrinsic value as a means of education. Acre after acre may be broken up as allotments, but until the labourer is systematically taught how to cultivate them, such tillage will never become the attractive and profitable employment it is hoped they will be.

ROBERT FENN.

As a fitting accompaniment to the Great Potato Exhibitions, which are now about to be held, and with an earnest desire to do honour to one of the most ardent and successful of Potato raisers, we to-day present our readers with a portrait of the gentleman whose name heads this paper, and also with some slight outline of what he has accomplished with Potatos during an extended and busy life. With characteristic quaintness of style, Mr. Fenn mentions that his first introduction to the tuber, which in after-life he learned to appreciate so well, was some forty-eight years ago, when then a small boy, he was sent by an uncle to pick up the crop of Early Shaws on a patch of soil, the promised reward being leave to go to the neighbouring fair, and that, boy-like, never with such a reward in view was work ever quicker done. But that was hardly Potato raising in the sense with which Mr. Fenn's name has since become so prominently associated.

Apprenticed to a London watchmaker, from whose service in sheer disgust for the occupation he ran away, and finally entering the congenial and loving service of the Rev. Mr. St. John, then of Stanton Lacy, in Shropshire, and later, and for very many years, Rector of Woodstock, he, in this latter place, commenced those garden labours with which for full forty years he has been so prominently associated. It is difficult to say whether, of what a sceptical world

would term "hobbys" or "fads," Mr. Fenn began earliest to experiment with: House-sewage, and its profitable use, especially in association with earth closets; with the manufacture of garden fruits into home-made wines, of which he was one of the chief experts of the day; with the manipulation of the busy Bee, that industrious and profitable adjunct to gardens; or with his most famous of all experimental subjects, the Potato. In all these matters Mr. Fenn has done good and useful service, and not letting his light be hid under a bushel, has told again and again in the columns of older contemporaries, what he had done for the edification of others who might care to tread in his footsteps.

But our present purpose is to sketch shortly Mr. Fenn's Potato career, especially as a raiser, and to that end we have to go back to days when the best known of kinds were the Early Shaw, Ashleaf, and Cambridge Kidneys, Regents, Lapstones, and a few others. With some of these cross-fertilization was commenced in the old Rectory Garden at Woodstock, the seed produce being raised with exceeding care under glass, and treated almost as exotics. From out of these seedlings again intercrossed with other old kinds, came eventually Onwards, Rector of Woodstock, Early Market, Bedfont Prolific, Bountiful, Early White Kidney, and some other kinds, most of which in their day made excellent reputations. All these kinds were of first-rate table quality, a feature Mr. Fenn has always specially laboured to secure, fairly good croppers, and having tubers of average size. Several trying disease-seasons, however, tested these kinds severely, and just then the introduction of many attractive and most prolific American sorts into our markets, led the public to favour these novelties largely in preference to home-raised kinds, so that the outlook for an earnest raiser was not encouraging.

Always favouring beauty and quality in preference to mere size, Mr. Fenn had discarded not a few fine field sorts that, though big croppers, seemed to his refined taste too coarse. It was, therefore, with much natural disgust, that he saw the public taste running rampant after kinds akin to those he had thrown away, simply because they were expensive and immensely productive. Presently International Kidney, a splendid kind, probably the finest and handsomest kidney ever raised, and certainly not behind the fancied Americans in quality, and Woodstock Kidney, brother to the previous one, and a Potato of sterling worth and beauty, both raised from the old Dawes' Matchless, were put into commerce to become famous throughout the kingdom, and then Mr. Fenn fairly took the bull by the horns, and using some of the Americans as parents, intercrossed them with certain of his own best kinds, and thus began his Anglo-American race, of which not a few of the members rank amongst the finest and best Potatos of the day. Reading Russet, a beautiful red-round, Prizetaker, handsomest of red kidneys, and both of splendid table quality; Lady Truscott, Early Regent, Fifty-fold, Early Border, with some few others, are kinds familiar in the mouths of Potato-growers as household words, and not a few more are to follow.

In the years spent in raising these kinds, much that was deterring and disappointing had to be overcome. Though really valuable benefactors to the human family, we doubt whether the labours of any such bring less profitable results than do the labours of Potato raisers. How many of the promising kinds grown from the first have, after three or four years' trial, to be condemned; how, after years of testing, the hundred sorts have to be cut down to a dozen, and how much of patience and labour has been exhausted in those years of trial, pen fails to describe. Truly, the chief reward for the earnest worker in this path is found in the gratification of his love for his children and in little else.

Mr. Fenn has, we learn, in contemplation the raising of a batch of seedlings by intercrossing with some new or original species recommended for disease-resisting, properties. That will be, we fear, a thorny path to travel, and full of rocks and pitfalls. In spite of all that enthusiastic botanists may say, we fear the game is not worth the candle, but if our good friend in his now pleasant and truly rural home at Sulhampstead, near the busy town of Reading, thinks he can find pleasure and interest to do so in his declining years, we can but wish him success in his efforts, whilst looking to the results with scepticism. For the last few years Potatos have been so good and so abundant, that the phrase "disease-resisting" as applied to any one kind, seems to be a misnomer. Potatos even now are cheap and plentiful beyond our highest hopes, and therefore new disease-resisting kinds, even if the product of some Mexican species of very questionable edible quality, will probably be long at a discount. Potatos in many kinds and colours are now being fast put into commerce. The work Mr. Fenn so nobly began has been taken up by many others, the mantle of the seer of Woodstock has fallen upon many shoulders, and we have now finer and better kinds of our own raising than can be found in all the world besides. All honour to the subject of our notice, and may he long be spared to his family, and numerous friends and disciples.

ROBERT FENN.

FRUITS.

Peaches at the Health Exhibition on September 23rd.—To the late Mr. Rivers, of Sawbridgeworth, practical horticulturists are in a great measure very much indebted for his indefatigable efforts in raising and introducing into commerce many invaluable varieties of Peaches and Nectarines, and which in connection with some of the older varieties now give us a constant supply of these fruits from about the end of May until the middle of October. To Mr. Barron our thanks are likewise especially due for introducing into the schedule of the recent Show at Kensington a class for late Peaches, by which means an opportunity was given to many of seeing in perfection a grand display of late varieties, comprising several kinds which are not yet so well known as they deserve to be. Notably amongst them was that excellent variety, Sea Eagle, a grand sort which is worthy of a place in every collection not merely on account of its size, but because its quality is enough to recommend it for late use. The Nectarine Peach was also to be seen in very fine order. This variety in my opinion, so far as colour and appearance is concerned, is not surpassed at this period of the year, while for size Lord Palmerston and Gladstone stand pre-eminent. The current season has, since the frost in the spring, been the best we have had for many years for developing and perfecting these fruits out of doors, and will most certainly prove to be highly beneficial to the crop in prospective for another year. Many of the specimens we saw the other day were most probably grown out of doors, and even if they were not, to have such grand examples of this delicious fruit at this time of the year for the Dessert especially is surely worth some extra expense, even if it be at the cost of a glass structure for the purpose.—*G. T. Miles, Wycombe Abbey.*

Exhibition Grapes.—Having heard much discussion of late as to the relative merits of northern and southern Grapes, I would suggest that if it be possible to arrange for a really Grand International Fruit Show in London next autumn, the fullest opportunity should not only be afforded for comparison of examples avowedly grown as north and south, but that also, to place exhibitors on a footing of equality, classes should be formed for Grapes grown south of the Humber, for instance, and also for those grown north of it. Thus in certain cases exhibitors would have no undue advantage of each other. Of course the prizes should be exceptionally good, and farther there should be in all the smaller classes not less than six, for three prizes only, where there may be twenty competitors, is absurd. There seems to be in the south a consensus of opinion that southern Grapes if seen as a rule in less big bunches, at least exhibit much finer quality and finish. Such results would be natural having regard to the climatic advantages which southern growers possess. Still it must be admitted that Scotch growers are very proud of their Grapes and think them unbeatable. I have heard from Southrons who attended the recent great Scotch shows, warm criticisms as to the rough way in which Grapes and other fruits are staged in the north, and also on the general appearance of the shows as rough; still farther, that the Grapes at the recent shows at the Crystal Palace and South Kensington were on the whole better than were those at the Scottish shows. As to the comparison of northern and southern Grapes, I should prefer a chance to see for myself to hearsay. Therefore I hope that our exhibition authorities will organize a grand Fruit Show in London next autumn as suggested above.—*Muscat.*

Strawberries.—It is at once suggestive and indicative of the comparative lack of novelty or improvement in new kinds of Strawberries that, in looking over a list of kinds in cultivation some twenty-five years since, we find the most popular sorts of the present day in that list. It is true that Sir Joseph Paxton, a favourite market kind, and President, certainly one of our best general sorts, whether in or out doors, are not in this list, but still both are comparatively old kinds. On the other hand, Sir Charles Napier, perhaps the most largely grown of favourite kinds, is in the list; so, too, is Vicomtesse Héricart de Thury, with Keen's Seedling, the best for early forcing, British Queen, still the richest-flavoured of sorts, and Sir Harry, about which ample noise was made, but which, like so many other sorts, has proved so disappointing. Leaving out Sir Harry, the six kinds named above are without doubt much more largely grown than any others, although we have had in Strawberries from time to time literally a legion of novelties. But the recent expansion of the preserving business has not only accelerated the culture largely of the kinds referred to, but it has called into renewed life some very old ones. Much favoured is the ancient Grove End Scarlet for its abundantly-produced small, firm, rich-coloured fruits, because these boil whole, and do not become that dubious compound, crushed Strawberry. But an old kind has been revived as a rival to the Grove End Scarlet, and that is Princess Alice Maude—one perhaps most readers will imagine to have been long since swept into oblivion. With that terseness peculiar to market folks, the prefix of Princess has been dropped and the affix of Maude has followed suit, and now in its yet limited circle of growers it is known simply as "Alice," but is fast coming into request as a whole preserving kind. Finally, of old sorts coming again into request for similar use is the once favoured Elton Pine, a capital late sort and very prolific.

Grapes.—The weather has been greatly in favour of all late Grapes, which ought this season to finish up well; and to enable them to do so, the solar heat should be supplemented by having the pipes warm by night, so as to keep the air in motion, without which damp is apt to settle on the berries and thus spoil the bloom. To prevent this, it is necessary to have the ventilators a little way open, that any vapour arising may be driven out instead of condensing, which it would, and do irreparable damage if the house is quite closed. Not only is a little fire heat requisite for the purpose of ripening the Grapes, but it is just as necessary for the wood, which few think enough about, as often when the fruit is cut Vines are left pretty much to themselves. Where they are in early houses, it matters but little so long as they are free from thrip and red spider, as the summer sun will do the ripening, but when they are later assistance is generally required. This may be easily afforded by having gentle fires, as it is only a little warmth that is needed, and that regular, with air at the same time, as dryness and buoyancy of the atmosphere are great aids in maturing and hardening the wood.—*Alpha.*

Autumn Fruiting Raspberries: Rogers's Victoria.—Nearly all the kinds of Raspberry which I have ever grown have shown a disposition to produce fruit in the autumn on the current year's growth, but not to such an extent as to enable me to rely on them as a dessert fruit for September and October. For that purpose I find it best to grow some variety specially suited for autumn bearing, and to subject it to a mode of pruning different from that which is found so successful with the summer fruiting kinds—viz. to cut them down close to the ground at the winter pruning, give them a good coat of rich manure, and let the young growth of canes grow untrained or checked in any way. I have tried several sorts, but as yet have found none to equal a variety grown in this locality called Rogers's Victoria. It is the most abundant rooter and cane producer I ever met with, sending up a great quantity of canes, furnished along the sides and tips with large bunches of Raspberries, that when ripe are quite as large and dark as Mulberries, and at this season form a most agreeable dessert fruit; for culinary purposes, too, this Raspberry is invaluable. As it does not grow more than from 3 ft. to 4 ft. high, no stakes or trellises are necessary for it; the best way in which to grow it is in single rows across the fruit or kitchen garden quarters, so that a fish net can be dropped over it, small birds being very partial to its fruit. I may add that this kind having such an abundance of fibrous roots is specially benefited by copious supplies of liquid manure, and exhibitors of large collections of autumn fruit would find it, if well grown, no mean addition to their list of fruits in season.—*J. G., in The Field.*

FLOWERS.

Lobelia fulgens.—I have never seen this grand old scarlet-flowered Lobelia in better condition than I saw it the other day in the well-kept gardens of J. N. Russell, Esq., Plassy House, Limerick. It there forms the back row of two ribbon borders along the principal walk leading from the kitchen garden to the pleasure grounds, where bedding-out is carried on extensively, and in a style that reflects the highest credit on the gardener, Mr. Hutchison, so judiciously are the colours blended. But to return to the subject of this note. It has occupied the same position for several years, showing unmistakably that it likes being left alone as the row is now more than a foot wide. It is flowering in the greatest profusion, and looks as if it would continue to do so until the frost destroys the blossoms.—*E. Dumper.*

Dahlia Constance.—How the raisers of this variety could for a moment see in it the slightest resemblance to the much-esteemed Cactus Dahlia, I, for one, cannot conceive. True the catalogue descriptions stated that it was not exactly like Juarezii, to which there does not appear to me to be any resemblance, except that it is a Dahlia. The majority of people who have seen it here are very much disappointed with it. It is not by any means so full and formal as the show Dahlias, the petals being less incurved and flatter, but it has one advantage, it lasts longer in a cut state than the single varieties, and is certainly worth growing, although it does not come up to what was expected of it.—*E. Dumper.*

On forcing Lilies of the Valley.—Perhaps at no time in the year is a supply of sprays of Lily of the Valley more sought after and appreciated than during the interval from Christmas to May, when they may be gathered from plants growing in suitable places out-of-doors. In order to secure flowers during the period mentioned, imported crowns, or good well-prepared home-grown ones, should be obtained and potted in 6-in. or 7-in. pots, according to the size of the "clumps," in any light soil that may be to hand, and then be stood on fine coal ashes in a cold pit, be watered, and covered with 3 or 4 inches thick of sifted leaf soil, which will exclude both light and air from the crowns. A few weeks later some of these pots should be put into a box sufficiently deep to admit of a covering of a few inches thick of fine leaf soil being laid on for the purpose above indicated. This done, the box should be placed under the stage, but out of the way of drip, in the stove or any house (not excepting a mushroom-house) or pit in which there is sufficient heat to start the flower-spikes, which, if the crowns have been well-selected, grown, and matured, as they are sure to be this season, will appear a few weeks afterwards. As soon as these attain to a height of 2 or 3 in. the plants should be gradually inured to light and air, finally placing them near the glass to prevent the spikes of flowers from being drawn. Supply the roots with tepid, diluted liquid manure, with a view to developing larger and better proportioned spikes of flowers. Successions should be treated in a like manner.—*H. W.*

Eucharis amazonica.—Some diversity of opinion exists as to the best mode of treating this universal favourite so as to insure a good supply of flowers, and I have no doubt that it may be treated in various ways and the desired end still be attained. I think I may venture to say, however, that those who object to re-potting are in error in so doing. In March last I re-potted a lot, and they are now producing the third crop of flowers we have gathered since then. Part of the batch were shook out and the bulbs divided, and the others were potted on without disturbing the balls. I believe that almost every bulb I selected from those that were divided has flowered, but those that were potted on have not flowered quite so freely, which I attribute to the off-sets taking the strength from the larger bulbs. For potting, I use good rough turfy loam, adding a little stable manure, bone dust, and a good sprinkling of sand. They have been grown in a house where a high temperature has been maintained, and to which little shade has been given. I believe that

many people fail to flower the Eucharis well through growing them in a too shady position, and this opinion has been confirmed by plants having often been seen growing most luxuriantly in a shady position and yet failing to produce flowers.—*H.*

Second Flowering of the Lilac.—An example was given last week of the second flowering of the Horse Chestnut owing to the premature shedding of the leaves and the opening of the buds, which should have remained dormant until spring. As the result of a similar check, a Lilac blossomed in Sussex last winter. Just before the Hops were picked a terrible storm, which the farmers of the district will long remember, blew down the poles, bruised the bine, and divested a Lilac tree which stood in an exposed spot of nearly all its leaves. A mild winter followed, and before Christmas the tree was covered with blossoms and immature leaves. Under these circumstances, another crop of blossoms was hardly expected at the usual period in the following spring. But the Lilac proved itself to be a shrub of great fecundity and vigour, and at the customary time for the blossoming it came into full flower as usual, and showed no sign of any overtaxing of its powers, since its floral display was never more abundant.—*H. E.*

Begonia fuchsioides as a pillar plant.—This fine old plant is well-known and appreciated, judging by the frequency with which it is met. There is, however, no position in which it is seen to better advantage than when planted out in a suitable border and trained on a short pillar in the greenhouse or conservatory. We have in our eye at the present moment two plants under these conditions. They grow freely, yet not straggling, and clothe their support to a height of five feet, with a dense mass of the brightest green foliage. They flower, too, in profusion, and for weeks the graceful pendulous racemes, with flowers of the most brilliant scarlet, have produced a charming contrast. The plant requires no special treatment, and is not liable to the attacks of insects. To those who have a suitable position we would say by all means try it, as it is one of the most effective and compact pillar plants we have met with.

Salvia splendens.—Among the many beautiful species and varieties of Salvia now in cultivation, I think none are more beautiful than this useful old favourite, flowering as it does at a time when light sprays of richly-coloured flowers are in much request during the autumn months for dinner-table and vase-decoration. Cuttings should be put in some time during April or early in May, and be kept growing quickly without a check till the flowers appear. This is one of the most important points in their cultivation, for if once they get into a stunted condition through being too much pot-bound, or for want of proper feeding, they will never produce satisfactory results. During the summer months they may be either planted out or kept in pots, but I prefer the latter plan, as they are liable to loose their leaves when lifted unless they are placed in very large pots. When selecting the cuttings, take the soft upright-growing shoots which spring from the base of the plant, as they will root quicker, and grow more freely than the small shoots. Insert them singly in 3-in. pots, place them in a close frame, shading from bright sunshine. As soon as they have filled their pots with roots, shift them into 6-in. ones, using three parts of good loam, one of well-rotted hot-bed manure, a little soot, and plenty of sharp sand. Put them in the frame again till the roots have reached the sides of the pots, then remove them to the open-air for a few days previous to their final potting into 10-in. pots, using the same compost as before, only in a rougher state. After potting, place them in a shady place for a few days, then gradually inure them to the full sunshine, and when they have started into active growth, plunge the pots to within 3 in. of their rims in coal ashes. Always avoid placing them in an exposed position, as the shoots are easily broken by the wind, and the growth of the plants otherwise checked. Syringe freely during the afternoon of bright days, and when the pots are filled with roots give liberal supplies of liquid manure. About the middle of September remove them to a cool, well-ventilated house, where they will speedily develop their blossoms, and reward the good cultivator with a rich harvest of bright scarlet flowers.—*H. Dunkin.*

VEGETABLES.

Notes on Potatos.—To-day (Sept. 23) we finished lifting our Potatos, all of which have turned out very fair crops, clean and free from disease, until within the last week, when it began to be noticed. Our best and heaviest cropper has again proved to be the Golden Dwarf, a variety which seems to be little known, as I never see it mentioned, and yet, taking all things into consideration, it is one of the very best sorts that can be grown. The only fault it has is to be found in its rather deep eye, which would be against it on the exhibition table, but for marketing purposes no better Potato could be found. Being a second early, the crop can be cleared off the ground before disease sets in. Beauty of Hebron, and Climax, ready a few days earlier, were both very good. These were lifted just as required for the kitchen and before the disease had any chance with them. We began lifting with a small lot of Porter's Excelsior, which was ready for use with us in the last week in June, following on with Sandringham Early Kidney, coming in in the beginning of July. This is the best early Kidney; it is a splendid cropper, first-rate in quality, and very dwarf in the haulm. We grow a large quantity of it. I may say that we have no need for forced Potatos here, as we make them meet all the year round. Beauty of Hebron is our next, followed by Climax and Snowflake, and then Golden Dwarf. Where this variety originated I cannot say, and it may be only a local sort, but it is a good one. In shape it is much in the style of the Regent, with more or less of purple markings and splashings round the eyes. These finish what I may call the clean list. International Kidney, which comes next, is much subject to disease, which was very little noticed when lifted, but now that we come to use them we find very few sound tubers. Vicar of Laleham is also very badly diseased, and in connection with this I may state, that one serious objection I have to these dark-skinned Potatos is the difficulty of detecting disease or the first signs of it in the tubers at the time of lifting. I have grown a good many dark-skinned varieties and had to discard them solely on that account, and Vicar of Laleham must go too, although it is a good Potato and generally gives a heavy crop. Prince of Wales or Sandringham Kidney comes next. This has given a good average crop, of fairly clean tubers, but the haulm is rather tall for garden work. It is, however, an old favourite of mine, and I am therefore loth to part with it. Prince Arthur is a splendid cropper, but much subject to disease. Clark's No. 2 has turned out well and clean. This deserves to be grown largely as a garden main crop Potato. It is a seedling from Magnum Bonum, but not exceeding a height of 20 in. or 22 in. in the haulm, and as nearly disease-proof as we can reasonably expect a Potato to be. Pride of the Market also turns out splendid crops; the tubers are rather large and rough, but the variety has disease-resisting powers also. The haulm being about the height of that of its parent, Magnum Bonum, we cannot afford room in the garden to grow it, and have therefore relegated it to the field. This completes the stock we depend upon for our supply, and I have given them in the order in which they come into use. Magnum Bonum grown in the field brings us round again to June or July.—*R. Stevens, Paston Gardens, Cornhill, Northumberland.*

Autumn Crops.—No one could hardly have supposed that after the very heavy rain of the fourth of last month, when we had an incessant downpour for nearly twenty-four hours, that vegetables would be suffering for want of water, yet so it is, at least in light dry soils, and no wonder, for since then we have had quite summer weather, the sky having been clear and the sun almost as hot as it was during some parts of July and August. Brussels Sprouts and that splendid autumn Cauliflower, Veitch's Giant, which at one time seemed to have cast off the fit of the "blues," have got the same malady again, although in a milder form, and to prevent it becoming worse and the plants receiving any further check, it is advisable to give them a good soaking of liquid manure. This we have done to ours, and the beneficial effect from it was so sudden and so plain, that it might be seen at once, as they seemed to drink it up and send it, or the nourishment they derived from it, right into their leaves, which at once changed colour and have been improving in appearance daily ever since. Sewage of almost any description or strength may be given them, as nothing comes amiss to them, for so gross and greedy are they in their appetite that they can take up any strong food, and now is the time to feed them if fine large Sprouts or big heads of Cauliflower are wanted. Scarlet Runners, too, are thirsty plants, and always pay well for watering, as, when they become at all dry down comes their blossoms, which, instead of dropping, set freely if the Runners are kept moist at the roots.—*Alpha.*

Celery.—Those who did not earth up their Celery are fortunate, as though one would have thought, after the heavy rain of the 4th of September, it would not require any more wet. It has been very dry again, that is, where it has been allowed to go without water, for, besides what the plants have taken up out of the ground, evaporation has been great, as the sun has been hot and has drawn much moisture into the air. To counteract this and keep the plants on at full growth for some time to come yet, a thorough soaking should be given, and if this is done with liquid manure so much the better, as Celery likes rich feeding, which not only greatly increases its size but makes it more crisp and tender when dug up for use. If not already done, a piece of matting should be run round each plant and tied, so as to keep the leaves up together, and make them grow erect, when they will be all ready for putting the soil to them for blanching. This can then be done quickly and without any of it finding its way into the crown and thus spoiling or crippling the heart, as is often the case when the leaves are left loose.—*Alpha.*

Scab and Cracking in Potatos.—If "X" will refer to the book he mentions, he will find that the author says, "Continued drought, and possibly sudden and superabundant moisture, will also cause one form of Scab." There is probably more than one sort of roughness of skin, scab, cracking, and even splitting in Potatos. The observations recorded were made during two years in Potato-fields in South Essex, in company with "practical men,"—gentlemen held in great respect by *W. G. S.*

Lettuce, Leyden or Hardy White Dutch.—This is one of the finest varieties of Cabbage Lettuce grown. It is a splendid summer variety, forming quickly large, crisp, white heads, and, to my mind, a Cabbage Lettuce when it is in good form beats the best of Cos Lettuces hollow. It is a black-seeded variety; note that, and let it be included in the select seed list to be made out in February next for spring and summer use.—*R. D.*

A Prolific Tomato.—Mr. Tolly, gardener at Nunwell Park, Brading, Isle of Wight, last week cut a bunch of Tomatos containing twenty-seven fruits. The plant came up as a chance seedling, and bears round fruits of a good red colour and fine flavour.

Potatos and Strawberries.—In Northern Peru many plants, unavoidably treated as annuals in the north temperate zone, are grown as perennials near the equator. To take an instance in the Potato, which, in the Andes of the department of Piura, towards the towns of Ayabaca and Huancabamba, is cultivated in this way. The land having been ploughed and manured, is again ploughed over, and in this state is left for a whole year; at the end of which time they plough it once more, and in the furrows drop Potatos, a *vara* apart, covering them up with their feet. When the tubers are ripe, they are scraped out as required, without uprooting the plant, which thus lasts many years without being renewed. At Ambato, in lat. 1¼ deg. S., ripe Strawberries of large size are exposed for sale in the market *every day in the year.* They are grown on adjacent sandy slopes, at an elevation of 9,000 ft. above the sea, by means of irrigation. I could adduce many other instances of the perennial production of fruits and roots in those favoured regions.—*R. Spruce, in "Notes on the Valleys of Piura and Chira, in Northern Peru, and on the Cultivation of Cotton therein."*

THE

Orchid Growers' Calendar.

Watering Orchids.—This is one of the most important matters connected with Orchid culture, and one to which the experienced Orchid grower pays the strictest attention; but it is a matter on which amateurs who are beginners invariably err, some of them literally starving their plants, and others drowning them. A little consideration would prevent any one from falling into either of these errors, for any ordinarily thoughtful man, by looking at the plants, can tell whether they require much water or but a limited supply. But the mistakes generally arise from treating a whole houseful of plants alike, and in not considering the requirements of each individual plant in that manner which can alone secure their good health. Any intelligent person, by looking at Odontoglossums, Oncidiums, or, indeed, almost any class of Orchids, may tell by their appearance whether they are making growth or not; and as a good general rule it may be said that when they are growing they require keeping moist, and that after the growths are fully made and "hardened up," they one and all require a smaller supply, varying in degree according to the different genera to which they belong.

Odontoglossums, Masdevallias, and most of the occupants of the cold-house, although they should be watered more sparingly when their growths are completed than when they are growing, should never be allowed to get dry—that is to say, should never be dried off. Most of the Brazilian Oncids require a thorough resting dry season, and so also do the Dendrobes, which lose their leaves; but the evergreen kinds, such as D. Farmeri, D. densiflorum, D. thyrsiflorum, &c., are impatient of a severe drying-off in the resting season, unless a cool temperature is given them. Cattleyas, too, require much watching in the resting season, as if allowed to shrivel the next coming growth is weakened by reason of its having to wait until the old bulbs plump up before it gets its full supply of nourishment; therefore our best growers, Mr. Wm. Lee, Mr. R. P. Percival, and others, never thoroughly dry them off, but give them enough water in winter to keep them as plump as they are just after the growths are finished, of course it being understood that the plants are in a genial pure atmosphere at all times.

It may, therefore, be said that all Orchids tell whether they require water or not, and during the resting season the first wrinkle in a bulb should be taken as a warning that water is wanted, or that too much heat is being given. With Vandas, Aerides, Saccolabiums, &c., it is not so easy to determine whether they are growing or not, but practice soon tells the grower by looking at the points of the roots, and at the leaves in the centre of the plant.

A great many Orchids start the young growths some time before the new and imbibing roots are sent forth, and therefore such plants should not be very profusely watered until the roots appear; but afterwards a good supply may safely be given, as there is the wherewithal to carry it off and convert it to the uses of the plants.

Rain-water is by far the best for Orchids, and where possible none other should be used. So important, indeed, is it, that any reasonable expense spent in tanks for storing it, is money well invested. So very marked is its effect on the plants, that I consider a grower using it on his Orchids has an incalculable advantage over one using water from any other source. Care should therefore be taken in summer, or at any other season when the supply is likely to run short, that the rain-water be used for watering only, and that that required for cleansing the floors, &c., be brought from where it can better be spared. In days gone by (and with some persons even now) it used to be considered absolutely necessary that one or more hot-water pipes should run through the tanks in the Orchid-houses; indeed, in some instances, the poor plants had to be poisoned with water from which the heat had eliminated all the feeding-gases. No greater mistake could possibly be made, for even the hottest house plants do better with the unheated water taken from the tank in the house in which they are growing. In many places where pipes are run through the tanks in order to warm the water used in watering, the plants are saved by the hot-water pipes not acting, but where the object in placing them there is attained, the mischief is sudden and unmistakable, unless some method of tempering the water by letting it stand in an unheated tank before using it be adopted.

With regard to the time of day for watering Orchids, it is best to vary it according to the season of the year. As it is not well to water them in summer when the sun is strong, it is best to begin watering as early as possible in the morning in that season in order to get it done before the sun gains power; but in winter and in the duller parts of spring and autumn it is better to leave it until 9 A.M., or even later in the day, according to the condition of the weather outside. For the rest, it may be said that a careful hand at watering is generally a good grower, and that his two main points are not to allow a resting plant to shrivel for want of water by allowing it to remain in too high a temperature, and never to allow a plant to become soddened by watering it when wet, as be it ever such a lover of moisture, it cannot fail to be injured by so doing.—*James O'Brien.*

ORCHID NOTES.

The Dunlop House Collection.—The splendidly-grown collection of Orchids formed by the late Mr. Cunningham Graham, of Dunlop House, Ayrshire, and left by him to his gardener, Mr. D. Kemp, came under the hammer at Stevens's Rooms on September 25th, and realized about £740. The highest price, 31 gs., was obtained for Cattleya intermedia, a splendid specimen with over one hundred bulbs and twenty young growths. Next came a grand specimen of Veitch's variety of Vanda suavis, 30 gs.; Cypripedium grande, 10 gs.; Dendrochilum filiforme, 12 gs.; Cattleya Triauæ Massangeana, 10 gs.; Cypripedium selligerum magus, 14½ gs.; Vanda suavis, Veitch's variety, a very large specimen, 6 ft. high, 21 gs.; Cypripedium Dominianum, 11 gs.; Vanda Lowii, 16 gs.; Masdevallia Harryana, splendens, 14 gs.; Angræcum sesquipedale, 15 gs. and 18 gs.; Epidendrum prismatocarpum, 15 gs.; Lælia purpurata alba, 13 gs.; Vanda tricolor, a very large specimen, 16 gs.; Vanda suavis, Manchester variety, £17; and Cymbidium Lowianum, a plant of the rare Sobralia zantholeuca, realized £7 10*s*. Mr. Kemp is to be congratulated on his skill as a cultivator, and still more so on his good fortune in obtaining the plants in so gratifying a manner.

Orchids at Priorwood, Melrose.—The Orchids here are at present looking remarkably well. Odontoglossum Pescatorei, with two spikes from one bulb, has sixty-one flowers on one spike and fifty-four on the other, and very fine ones too. Zygopetalum maxillare in a 7-in. pot bears twelve fine spikes. Vanda cœrulea is also doing grandly, and has seventeen flowers on one spike.—*W. T., jun.*

Aerides Rohanianum.—This pretty new species is now in flower with William Lee, Esq., of Downside, Leatherhead, his noble specimen bearing twelve long spikes of its pretty, bluish, wax-like flowers, with yellow centres. It is a very desirable Aerides to grow, being very pretty, fragrant, and floriferous. Messrs. F. Sander & Co., of St. Albans, discovered and imported it. Also in bloom in Mr. Lee's magnificent collection, among a great many other rare things, are the neat and handsome Pachystoma Thompsoni, the large white, yellow, and crimson Trichocentrum orthoplectron, quite a giant among Trichocentrums; and a new and very distinct Dendrobium.—*J.*

Oncidium Jonesianum.—Orchid growers may be interested to know that this pretty new Oncidium is rising in value. At Messrs. Protheroe & Morris's sale on Friday week a plant with one spike realized £5. 15*s*., and as it was probably one that was bought not so long ago at the cost of a few shillings, the grower cannot be said to have obtained a bad return for his outlay.

FLORICULTURE.

Early-flowering Chrysanthemums.—Of late years there has been a marvellous development in the way of producing early-flowering Chrysanthemums—that is, varieties that will flower during July, August, and September, and so preceding by three months the ordinary varieties. Pretty little plants of Chrysanthemum nanum, a charming very dwarf and early-flowering form, are common in Covent Garden Market from July onwards. It, and others of similar character, have found their way into flower gardens, where they make excellent decorative plants. Only a few days ago we saw a little forecourt garden in the north front of a suburban villa residence, in which was a bed of dwarf compact plants of C. nanum covered with creamy-white flowers, and forming a charming floral setting within a circle of box edging. And perhaps some of our readers will be surprised to learn that there are a few very early-flowering dwarf Japanese varieties that can be put to the same purposes as those for which C. nanum is so well adapted. The names of these are M. Pynaert van Geert, yellow, striped with bright red, a good grower, and very free; and an excellent companion to this will be found in Madame C. Desgrange, with large pure white flowers, flushed with yellow when grown under glass. The flowers are large and very handsome, and yet the habit is dwarf and early. Others of the early-flowering Japanese section are Isidore Feral, very delicate, lilac, with golden centre; Simon Delaux, rich crimson red; Mons. Henri Jacetot, brilliant crimson, edged with scarlet; and Bacchus, rich velvety crimson, very fine.

But the most useful varieties will be found among the Pompon section. Such as Anastasio, dwarf, very fine, soft violet purple; Curiosity, bluish-lilac, dwarf and compact; Jardin des Plantes (this is the old yellow variety so much seen on the costermongers' barrows in September), flowers yellow, dwarf, and very free; La Petit Marie, pure white, tinted with yellow out-of-doors, very dwarf, seldom exceeding one foot, will flower in June; Madame Jolivart, soft rosy-peach, very dwarf, and excellent in every respect; Pompon Toulousain, bright red, very dwarf and free; Little Bob, bright crimson-brown, and Virginia, dwarf, white, distinct.

Now as to the treatment of these early-flowering varieties, for it is obvious they need to be managed differently from the ordinary Chrysanthemums. For pot culture, cuttings may be struck at almost any time, but those struck from October to March generally give the finest blooms. The October-struck plants will flower in May and June; those not struck until February and March flower in July and August. These are points worthy of being borne in mind, and the plants should be stopped only once. For planting out in beds they need not be struck until the middle of February, or even up to the end of March, and they will all bloom well from July to September. One of our best Chrysanthemum-growers writes as follows:—"The early flowering kinds have hitherto been nearly all of the Pompon class, but we are now getting an early strain of larger flowers. There are a few early-flowering sorts I would particularly mention; the first is La Petite Marie, a gem of the very first water, suitable for any culture, and which can be had in bloom nearly all the year round, though the early-struck cuttings give the best flowers; it grows from 8 in. to 12 in. high, and is smothered in pure white flowers of good substance, similar to those of Mdlle. Marthe. La Petite Marie will, when known, have such a demand as to rival the Scarlet Pelargonium as a pot plant. The other variety is Madame C. Desgrange, a large Japanese flower, bearing magnificent large white flowers slightly tinted with yellow, fully 6 in. across, rivalling the much-vaunted Elaine if treated in exactly the same way. Strike the cuttings at different times from December to May, and disbud to one bloom on a stem. They may be stopped or not, but they will only come to perfection by good culture, well-ripened wood, and liberal doses of liquid manure while the buds are swelling." Have we not said enough forthwith to drive all your readers to resolve that henceforth early-flowering Chrysanthemums must be cared for by them? Cuttings and plants can both be had from the growers at inexpensive rates, and the brief cultural hints given above will suffice, we think, to put admirers on the right track towards attaining success.—*R. D.*

FLOWER SEEDS FOR AUTUMN SOWING.

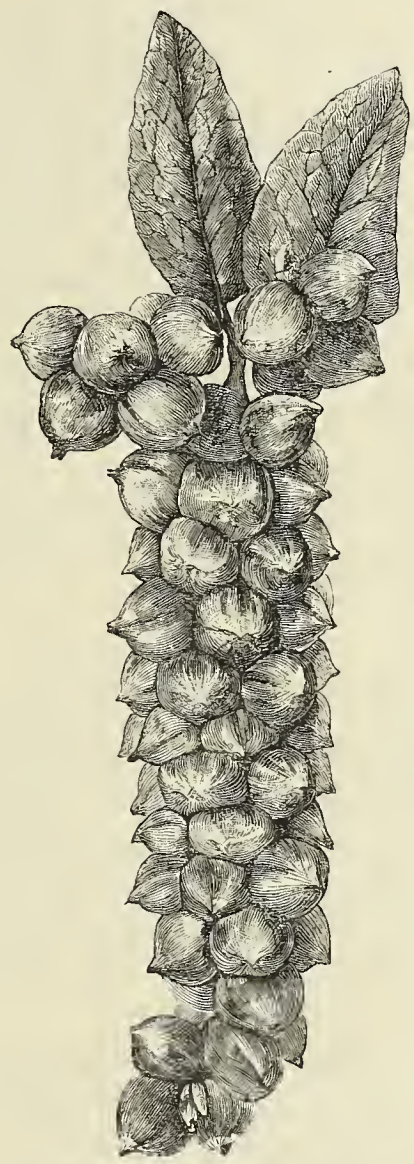
Anyone visiting the Woking Nurseries of Mr. Anthony Waterer during the time the Rhododendrons are in flower, will see there some of the most glorious Eschscholtzias ever looked upon. Mr. Waterer makes a great pet of them. He sows in autumn, the plants grow into large size and become thoroughly rooted into the ground during winter and spring, and in early summer they bloom with marvellous beauty. E. crocea, E. rosea, and E. mandarin, are all well worthy of being sown in August and September, or even later. Other good annuals are Bartonia aurea, yellow; Coreopsis coronata, yellow; and C. tinctoria, yellow and brown; the dark crimson and the white rocket Candytufts; Collinsia bicolor, purple and white; and C. violacea, violet; Erysimum Perofskianum, yellow; Eutoca viscida, a rich dark blue annual, deserving to be much better known; Gillia tricolor, white; and G. rosea splemdens, rose; Godetia the Bride, white and crimson; Limanthes Douglassi, white and yellow; Lupinus nanus, blue and white; Mignonette; Nemophila insignis, blue; and N. maculata, white and purple; Sweet Peas, in variety; Saponaria calabrica, rose; Silene pendula, pink, and its white variety; and the fine violet-coloured Whitleya grandiflora. Here, then, is a list of good hardy annuals, varied in colour and habit, and all very showy in spring and summer. Now, if anyone would see hardy annuals in perfection during early summer, they should pay a visit to Messrs. Carter & Co.'s Seed Grounds at Dedham or St. Osyth; or Messrs. Sutton & Sons, at Reading. At these places annuals are carefully sown in well-tilled and manured ground, the result being vigorous plants and large and brilliant flowers.

In spring, when annuals are generally sown, it is a time when there is a great press of work in the garden, and the seeds are sown thickly in ill-prepared ground, and very little cared for afterwards. Is it any wonder the result is poor and unsatisfactory? In autumn, more time and attention can be given to the operation. Then the ground can be deeply dug; the seeds sown thinly and leisurely, and the plants carefully thinned out as required; the plants send their roots deeply into the soil and blossom gloriously by-and-bye. Do not be afraid to thin out annuals. Four or six well-developed plants, with space enough to display them individually, are better than two dozen attenuated specimens so crowded together that they have no chance of doing themselves justice. Sow thinly, thin out courageously, but carefully. Support such as need it with twigs and branches, or, if necessary, stakes, and the result will be the scoring of a success that will well repay labour and attention.—*R. D.*

GARRYA ELLIPTICA.

Hardy winter-flowering plants are not with us a very numerous class, and few amongst them have a more pleasing effect than this graceful species, when loaded with its clusters of long pendulous yellowish-green catkins. It is a native of Northern California, whence it was introduced to this country in 1828 by Mr. David Douglas. The male plant flowered, for the first time in this country, in October 1834, in the garden of the Horticultural Society. In the following year it was figured in *The Botanical Register* (tab. 1686) by the late Dr. Lindley. It is a handsome evergreen bush, and in its native country is said to attain a height of 5 to 8 ft. The leaves are elliptical, often somewhat acute or mucronulate, very coriaceous, dark green above, and densely clothed with greyish tomentum beneath. The sexes are borne upon distinct plants. The male catkins are from 4 to as much as 8 in. long in vigorous specimens, with numerous yellowish-green flowers, from the axils of comparatively large, greyish hairy bracts. The female catkins are shorter, rarely exceeding 3 in. long, and very similar, excepting in the flowers. The male flowers contain four stamens, the females a very hairy ovary with two slender styles; both sexes have four calyx-segments, but the petals are entirely absent. Though somewhat technical, still it is essential to note these differences, as we shall presently see. The male is of the two the more handsome plant, and is well-known in cultivation. The female is much rarer, and still more rarely produces fruit with us. The accompanying illustration is taken from a fruiting-spray, kindly forwarded to us by Mr. Douglas, who obtained the specimen at Bodnant Hall, in North Wales. The fruits are purple-brown in colour, on the side exposed to the sun, slightly tomentose, and contain one or two very dark brown seeds. They do not appear to have been previously figured.

The tree is perfectly hardy, in the south at least, though the catkins, which are usually produced from November to February, are sometimes damaged by frost. It may be grown in bush form or as a standard, but is most effective as a wall or pillar plant. It thrives best in a loamy soil, and when trained on a wall or pillar the breast-wood should be well shortened back when the catkins are over and before growth commences. The new growths will then ripen and bear catkins in due season, after which they should be again shortened as before. Propagation is best effected by layering. When seeds are matured they should be sown in a frame, and in this manner plants of both sexes will be produced.



GARRYA ELLIPTICA: A FRUITING-SPRAY.

The affinities of the plant for a long time remained very doubtful. Dr. Lindley described it as the greatest botanical curiosity in all the collections of Mr. Douglas, and proposed for it a new Natural Order, which he called Garryaceæ. The proper position of this new order was by no means clear. Dr. Lindley thought it most allied to Cupuliferæ, the Oaks and Hazels; and more remotely to Piperaceæ, the Pepper Family; Urticaceæ, the Nettle Family; and Gnetaceæ, a curious order, containing the remarkable Welwitschia mirabilis, and most allied to Coniferæ. From all of these orders, however, it differs in several essential characters. For a long time the genus enjoyed the honour of a Natural Order all to itself, its true affinities being entirely overlooked, but at length it was deprived of this honour.

In the *Genera Plantarum* of Messrs. Bentham & Hooker it has been placed in Cornaceæ, next to the well-known genus Aucuba. This position may at first sight seem peculiar, but there is little doubt it is the true one. Garrya and Aucuba are the only two genera in the order with the sexes borne on distinct plants, together with opposite leaves. Nor are the differences between these two genera very great except in habit; Aucuba has flowers in panicles, Garrya in spikes or racemes; Aucuba has four small petals, while in Garrya they are suppressed; Aucuba has always a solitary ovule, while Garrya has often two ovules. Lastly, the native country is very different; Aucuba occurs in China, Japan, and the Himalayas; Garrya in California, Mexico, and the West Indies. A confirmation of these indications comes in a curious and perhaps very unlooked-for way, viz., in the fact that Garrya elliptica can be successfully grafted on the Aucuba. In the *Revue Horticole* for 1859 (p. 202) this interesting fact is very clearly set forth by M. Carriere, who again calls attention to the fact in 1865 (p. 238). The experiment has since then been successfully carried out in England. Instances of grafting between different genera are well known, but in all cases the genera have been closely allied.

Mr. Douglas informs us that the plant from which he obtained the specimen sent to us is growing in Mr. H. D. Pochin's garden at Bodnant Hall, Denbighshire, which is in the valley of the Conway and sheltered from very high winds, and where the climate is more equable than in many parts of England. Mr. Sanderson, the gardener at Bodnant Hall, states that the male catkins were in flower three weeks before the female blossoms opened, and that the plant had to be artificially fertilized.

MADRESFIELD COURT.

Though few of the readers of The Gardening World may know Madresfield Court in reality, most of them will no doubt be familiar enough with the name, owing to the lucky hit at hybridization that the late Mr. Cox made between the Black Morocco and Muscat of Alexandria Grapes, from which cross he secured the Madresfield Court variety, and which in spite of all its ups and downs is still growing in favour, and will continue to do so, as its peculiarities of culture become better known, more particularly in regard to preventing the cracking of the berries. This defect more or less bothers the great majority of growers, though singularly enough the affection is all but unknown at Madresfield, which would lead one to suppose that to soil, more than to any special treatment, must be attributed the freedom from cracking. However, we do not propose to discuss this matter, but to record our impression of the place generally, a visit to which we made on the occasion of the Cottagers' Show, lately held there, and which, by the way, we may say was in all respects the very model of what such a show should be, vegetables having the pre-eminence, next culinary fruits, then window plants, and last, though really deserving to be placed first, prizes for the best kept gardens—cultivation and neatness combined being the stand-points in making the awards.

Earl Beauchamp takes a personal interest in every detail of management, and, what is more, furnishes the "sinews of war," all the prizes and other expenses being paid by him, on learning which we could but exclaim, noble by name, and truly so by nature. The gardens at Madresfield have long been noted as amongst the best in the kingdom, and some eighteen months ago the gardening fraternity generally heard with sincere regret of the death of Mr. Cox, who had so long had the supervision, indeed the creation of the gardens, for the whole were entirely remodelled under his superintendence, and though it is always difficult to follow such a man, judging from present appearances, his successor, Mr. Crump, is likely to prove equal to the task, for there is no lack of produce, and every part betokens methodical working and high culture, and extreme neatness reigns throughout.

The Pleasure Grounds are extensive, but the ground formation is depressingly flat, except at the end next the Kitchen Garden, and there the undulations are varied and very beautiful, a trout stream and a grand Rock Garden—the feature of Madresfield—aiding and abetting the inclination we feel to disregard the Tenth Commandment; but there, if we covet this garden we are sure to be equally guilty with regard to the grand avenue of Abies nobilis, every tree of which, it is not too much to say, is as perfect as any that can be found

in the kingdom. They were planted in 1866, and now range from 40 to 50 ft. in height, their robustness and colour—a blue grey—betoken the care bestowed on the preparation of the ground prior to planting. There is also a fine avenue of Cedars, most of the trees in which are perfect specimens, but others have not grown so evenly, probably owing to their being seedling plants, which always vary more or less. But a greater evil than this is that the plants—unlike the Abies—are planted too near together, and a few years hence will injure each other, unless alternate plants are taken out, which will be heart-breaking work, whenever it has to be done, though better this than allow the whole to be spoiled for lack of space. Golden and Irish Yews are used about the grounds in immense numbers, and for the most part are exceedingly well placed, though were we disposed to find fault, we should say that planting had been overdone, and here and there a sweep of lawn, or a vista of turf, would be far more pleasing than the dotting about of plants —however rare—in every direction.

The Flower Garden occupies a site on the grand front of the mansion, which latter, being surrounded by a moat, the water in which being clear as crystal, helps to set off the gaiety of colouring, that Lord and Lady Beauchamp prefer to the quicter tints of foliage beds, and for such association—viz., large beds—a good distance from the windows, and the open expanse of country as a foreground, there can scarcely be two opinions but that flowers *en masse* is the best way to treat such a garden. The best beds that we noted were composed of the old Verbena venosa, Pelargoniums Waltham Seedling, Master Christine, Petunia Spitfire, White Viola Mrs. Grey, Viola Blue Bell, Calceolaries, and Lobelias. With an abundance of water close at hand there was no indication that we had recently had scorching days of 90 deg. in the shade, every bed being perfection, and the colours being arranged with due regard to the harmonizing of the whole, the most rabid opponent of bedding-out would be compelled to admire, if not to copy.

The Glass Department of the garden is on a very extensive scale, all the houses having been erected about eighteen years, and having all the modern appliances as to ventilation and heating, they have, and still do, answer their purpose in every particular; though, as might be expected after eighteen years' service, some few of the Vines show signs of decrepitude and need renewal, and this Mr. Crump has already began, having replanted one house, and others will follow as the young Vines come into bearing. The Madresfield Court Grape is the best in the whole of the houses, and there has been no cracking or any special preventative—a circumstance that puzzles the writer, as with the greatest care, and under every conceivable condition, it always cracks with him. Peaches are grown well; the soil is a strong loam, most unkindly to work, but it is the soil for this fruit, and also for Figs and Melons. Mr. Crump had the grandest lot of the latter fruit that it has ever been our privilege to see, the variety being Blenheim Orange, one of his own raising. Many of the fruits would average 5 lb. weight, perfect in shape, and most handsomely netted, and in no instance were there less than four fruits on a plant. Strawberries for forcing are grown largely, and by the appearance of the plants this would seem to be an especially favoured branch of fruit-growing with Mr. Crump; and this idea is strengthened by the fact that out of some old lights he has manufactured a perfect model of a Strawberry forcing-house.

Roses and Camellias are also favoured with a house to themselves, and are well repaying the attention thus paid them. Greenhouse and stove plants also come in for more than the ordinary share of attention; Crotone, Dracenas, Palms, and some few Orchids are grown exceedingly well, and in the greenhouse we noted the finest batch of the red Celosia Pyramidalis that it is possible to imagine, many of the plants being 30 in. high and as much through, and one mass of bright mauve-red plumes. Mr. Crump has saved his own seed of this plant for many years, and always selects the most bushy and floriferous for seeding purposes, hence the perfect strain he now possesses. Space will not admit of our entering into details as to out-door Fruits and Kitchen Gardening, and therefore it must suffice to say, that the most is made of every plot of ground or vacant bit of wall, the whole reflecting the greatest credit on its director, who deserves, and receives, every encouragement in his labours by the personal interest that Lord Beauchamp takes in all pertaining to his garden.—*H. W. W.*

ROOT PRUNING.

There are various opinions entertained and expressed as to the benefits or otherwise of root pruning, some contending that it is not necessary and does harm, while others again hold just the opposite views. The advocates for it have a good case, as there can be no question but that it throws young trees into bearing quick, and this says much in favour of the practice, as none of us care to wait long after planting before we get fruit. If trees could only be left to themselves and afforded an unlimited amount of room, root pruning would not be needed, as when they attain to a certain size and once get a crop on them, they become tamed, as it were, and bear in a more or less regular way ever after. In penning this I am referring chiefly to Apples and Pears where quantity is required, and they can have an orchard to spread and grow as they will; but there are few places where ground can be spared to such an extent, and instead of the orchard many of us have to be content with a garden; and yet we like variety, but to have many sorts the trees must be restricted in some way and kept small.

This can be done either by grafting on certain stocks or root pruning, the latter being requisite if the trees become too gross and strong, as when in that condition they seldom or never form flower buds, but continue to push out great numbers of shoots, and if these are stopped or cut out, others start again from the base. Transplanting has the same effect as root pruning, but in most cases the check is more severe than is necessary, and yet, if conducted carefully, it often does a great deal of good. For trees that have stood long and have not been interfered with below, it is a good plan to only go half round them one season, and leave the other half to be operated on the year after. This gives them a chance to get round and recover, as the several roots will have healed at the points and made a great number of fibres, which at all times it is desirable to encourage and increase, as they lead to the formation of fruit buds. To be of service, root pruning cannot now be commenced too soon nor pushed on to the end too quickly, while the weather is so favourable.—*Alpha.*

ANSWERS TO CORRESPONDENTS.

Books.—*P. Brewer.*—Dr. Lindley published besides *The Theory and Practice of Horticulture*, the *Vegetable Kingdom, Ladies' Botany, Elements of Botany, School Botany,* and *Descriptive Botany;* but the first named is the only one prized by practical men. *The Treasury of Botany*, by Dr. Lindley and Mr. Thomas Moore, is a work, however, which every young gardener should possess. It is published in 2 vols. by Messrs. Longmans.

Communications have been received, with thanks, from R. M.—J. J. W.—G. T. M.—W. W.—H. D.—E. J. P.—H. E. —T. M.—R. G.—H. W. W.—Alpha—W. E. G.—D. T. F.—W. S.

Trade Catalogues Received.

B. S. Williams, Victoria and Paradise Nursery, Upper Holloway, N.—Dutch Bulbs, Fruit Trees, Roses, &c.

H. G. Smyth, 21, Goldsmith Street, Drury Lane.—Price list of Garden Requisites.

Watkins & Simpson, Exeter Street, Strand, W.C.—Wholesale Catalogue of Dutch Bulbs and other Flower Roots.

H. Cannell & Sons, Swanley, Kent.—Plants to flower all the year round.

William Rumsey, Joynings Nursery, Waltham Cross, N. —Roses, Trees and Shrubs, Fruit Trees, &c.

Henry Bennett, Pedigree Rose Nursery, Shepperton, Middlesex.—Pedigree Roses for the autumn, 1884.

Geo. Cooling & Son, Bath.—Roses, Fruit Trees, &c.

James Cocker & Sons, Sunny Park, Aberdeen.—Dutch and other Bulbs for autumn planting.

NOTICES TO CORRESPONDENTS.

The Editor *begs to inform his readers that special attention will be paid in the columns of* The Gardening World, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

LONDON SEED TRADE.

October 1st.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report that owing to the forwardness of farm work the demand for present sowing has considerably diminished, small orders only now coming to hand. Winter Tares sell at prices slightly favouring the buyer. The very favourable reports from all the Clover seed districts checks speculative dealings for the present. Several parcels of English Red Clover have been shown this week, of good colour, but lacking size of grain. Canadian Red Clover is reported very fine. Blue Peas are firm; Canary unchanged. Hemp cheaper, and Rape very firm.

COVENT GARDEN MARKET.

October 2nd.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Melons, each	0 6- 1 6
Figs, per dozen	0 6- 0 9	Pine-apples, Eng., lb.	4 0- 6 0
Grapes, per lb.	1 0- 4 0	Peaches, per dozen	3 0- 8 0
Kent Filberts and Cobbs, per 100 lb.	50 0-60 0	Pears, French, p. doz.	1 6- 2 6

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Lettuces, Cabbage, per dozen	1 6- ...
Beans, French, lb.	0 4- ...	— Cos, each	0 2- ...
Beet, per dozen	2 0- 3 0	Marrows, each	0 3- ...
Cabbages, per dozen	1 6- 2 0	Mint, green, bunch	0 4- ...
Carrots, per bunch	0 8- ...	Mushrooms, p. basket	1 0- 2 0
Cauliflowers, English, dozen	3 0- 4 0	Onions, per bunch	0 6- ...
Celery, per bundle	1 6- 2 6	Parsley, per bunch	0 6- ...
Cucumbers, each	0 6- 0 8	Radishes, per dozen	1 6- ...
Endive, French, per dozen	2 6- 3 6	Small salading, per punnet	0 4- ...
Garlic, per lb.	0 6- ...	Spinach, per strike	2 0- ...
Herbs, per bunch	0 2- 0 4	Tomatos, per lb.	0 9- ...
Horse Radish, bundle	3 0- 4 0	Turnips, bunch	0 8- ...

Potatoes.—Kent Regents, 80*s.* to 100*s.* per ton; Kent kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lapageria, red, 12 blooms	1 0- 2 0
Asters, 12 bunches	3 0- 6 0	Marguerites, 12 bun.	3 0- 6 0
Bouvardias, per bun.	0 9- 1 0	Pelargoniums, per 12 sprays	0 6- 1 0
Carnations, 12 blooms	0 6- 1 0	Pinks, various, 12 bunches	...- ...
Chrysanthemums, 12 bunches	3 0- 9 0	Primula, double bun.	1 0- 1 6
— large, 12 blooms	2 0- 6 0	Pyrethrum, 12 bun.	2 0- 6 0
Cornflower, 12 bun.	2 0- 4 0	Roses, out-door, 12 bunches	6 0- 9 0
Dahlias, 12 bunches	3 0- 6 0	Roses, indoors, p. doz.	1 0- 3 0
Eucharis, per dozen	2 6- 5 0	Stephanotis, 12 spr.	4 0- 6 0
Gardenias, 12 blms.	3 0- 6 0	Sweet Peas, 12 bun.	1 6- 4 0
Gladiolus, various, 12 spikes	1 0- 3 0	Tuberoses, per dozen	0 6- 1 0
Heliotropes, 12 sp.	0 6- 1 0	White Jasmine, bun.	0 6- 1 0
Lapageria, white, 12 blooms	2 0- 3 0		

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ferns, in var., dozen	4 0-18 0
Asters, per dozen	3 0- 6 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Fuschias, per dozen	3 0- 6 0
Chrysanth., dozen	4 0- 6 0	Heliotrope, dozen	3 0- 6 0
Cockscombs, dozen	2 6- 4 0	Lilium, various, p. doz.	9 0-24 0
Coleus, various, doz.	2 0- 4 0	Marguerites, per doz.	8 0-12 0
Cyperus, per dozen	3 0- 9 0	Palms in variety, each	2 6-21 0
Dracæna term. doz.	30 0-60 0	Pelargoniums, scarlet per dozen	2 0- 6 0
— viridis, per dozen	12 0-24 0	Petunias, per dozen	3 0- 6 0
Evergreens, in var., per dozen	6 0-24 0	Solanums, dozen	9 0-15 0

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Border Carnations and Picotees, 5*s*. per doz.; 28*s*. per 100.
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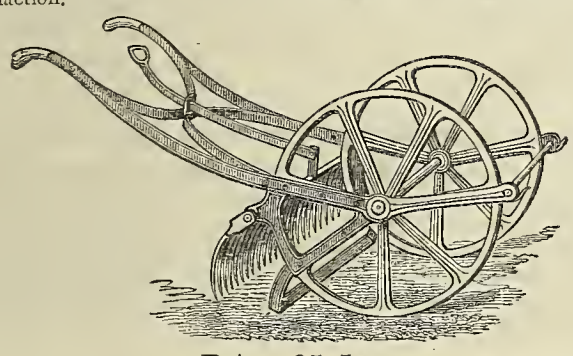

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OPINIONS OF THE PRESS.

From **THE GARDENERS' CHRONICLE,** *September 6th.*

"'The Gardening World.'—The world is a very big place, or a very little place, according to the standpoint of the observer. It is, therefore, both big and little, The centre of the gardening world seems to be comprised within a mile of Covent Garden, indeed, 17, Catherine Street, whence the new *World* starts on its career through space, is within a stone's throw of the market: but the circumference, who shall tell where this is? It is just that uncertainty, we suspect, that has led Mr. Brian Wynne to cast his stone into the pool in the hope that in the ever-widening circle he, too, may cast his net, and secure his share of the haul. Why not? Long practice in this office should render him an expert, and we have none but good wishes to offer him in his new career. He starts well, and doubtless in future numbers will break out into grooves not quite so much like the old ones. Matter, type, paper, are all excellent for the money."

From **THE GARDENERS' MAGAZINE,** *September 13th.*

"'The Gardening World' is the title of a new weekly horticultural paper published by Mr. B. Wynne. It treats, in an agreeable way, of the whole round of horticultural practice within doors and without, and contains a great bulk of practical information. It makes number four of the series of penny gardening papers, and number eight of the entire happy family."

From **THE GARDEN,** *September 20th.*

"Still they come.—Another gardening paper has just been issued. The appearance of three new journals on one theme within a few months is quite without precedent in the history of class journalism. There can be no doubt that the multiplication of journals in gardening is beneficial, and we may without affectation wish well to the best of the new comers."

From **THE AGRICULTURAL GAZETTE,** *September 15th.*

"'The Gardening World.'—We are interested in seeing that Mr. B. Wynne, who has long been an efficient member of the staff engaged on *The Gardeners' Chronicle*, has published (at 17, Catherine Street), No. 1 of a new gardening paper, price one penny, which well deserves the long and prosperous future, which we hope for it. There is such an immense constituency available for its success that it is hardly to be doubted."

From **THE LITERARY WORLD,** *September 12th.*

"Saturday last saw the birth of another popular horticultural journal, 'The Gardening World,' illustrated. The editor anticipates the exclamation, 'What! another gardening paper!' and proceeds to show that, 'in this newspaper reading nation, and amongst a rapidly increasing intelligent people,' of whom he reckons there are fully a million adults imbued with a love for gardening, there is room for his new venture. By a happy inspiration, the writer of the editorial notice describes gardening as 'the gospel of recreation,' and trusts that 'The Gardening World' will 'rank amongst the most successful of its evangelists.' The first number is a valuable pennyworth of horticultural lore."

From **THE WEEKLY DISPATCH,** *September 20th.*

"Numbers 1, 2, and 3 of 'The Gardening World,' illustrated, are before us, and, judging from the general get-up of the paper and the good sound common-sense quality of the matter covering the twelve pages of each number, the new venture is likely to take up an important position in gardening literature. The price of the paper being the popular penny will doubtless influence the sale largely, added to which the name of Brian Wynne, as manager, will go far towards the success of the journal, which first saw the light on Saturday, September 6, at 17, Catherine Street, Covent Garden."

From **THE KENTISH MERCURY,** *September 12th.*

"'The Gardening World.'—This is the first number of a neatly printed, carefully edited, and profusely illustrated paper of 16 quarto pages, devoted to the interests of horticulture, and sold for a penny. In a pleasantly written opening article the Editor calls to mind the immense increase of interest in gardening and in gardening questions that has taken place during the last twenty years, and declares his conviction that there are fully a million of adults deeply imbued with the love of horticulture, while the subject appeals to many millions more whose interests are identified with it more or less directly, and the number of those who take pleasure in the pursuit is constantly and rapidly increasing. The object of this publication is therefore fittingly declared to be not only to satisfy the existing demand, but to create a new demand, and no better course could be adopted to secure this end than to supply such a serial as the one we notice, which for a penny furnishes a great variety of useful and interesting instruction and information on all questions connected with gardening in its various branches and departments. The subject is of course literally exhaustless, and it is gratifying to know that it is every year growing more and more interesting and attractive to English readers. There is no taste more purifying or ennobling than the love of flowers. We heartily welcome the new periodical, and wish that it may secure, as it undoubtedly deserves, success."

From **THE NORTH BRITISH AGRICULTURIST,** *September 24th.*

"'The Gardening World,' Illustrated.—Such is the attractive title of another London weekly journal which has just made its *début* on the horticultural platform. It is published every Friday, by Brian Wynne, at 17, Catherine Street, Covent Garden, and has the hopeful appearance of being skilfully conducted. Beautifully illustrated with plants of various descriptions, and convenient in size, The Gardening World contains much useful information to the practical gardener, to whom it will be specially valuable. Too much instruction as to the proper cultivation and management of garden plants cannot be given, and all who desire to see additional light supplied where it is needed will gratefully welcome the subject of this notice. Its articles are indeed of the most practical kind, and obviously written by able authorities on gardening matters. The editorial ideas are conveyed in choice yet simple and explicit language, and cannot fail to be universally appreciated. As a whole, the newly-inaugurated journal looks like one that is destined to play an important part in encouraging the improvement and development of the more useful—though it by no means forgets the ornamental—departments of the garden. It augurs well for the future."

MANAGER:

B. WYNNE (Fifteen Years Sub-Editor of "The Gardeners' Chronicle"),

Honorary Member of the Cércle d'Aboriculture de Belgique.

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No. 6.—1884. SATURDAY, OCTOBER 11TH. { Registered at the General Post-Office as a Newspaper. } ONE PENNY.

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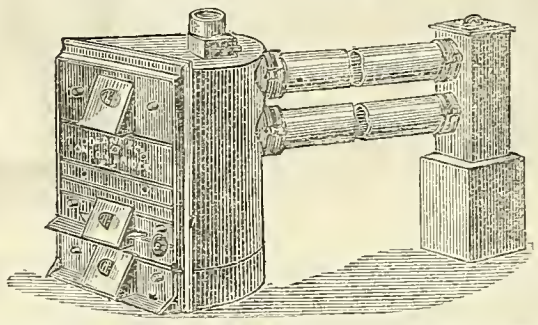

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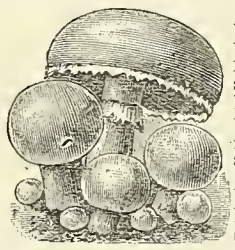

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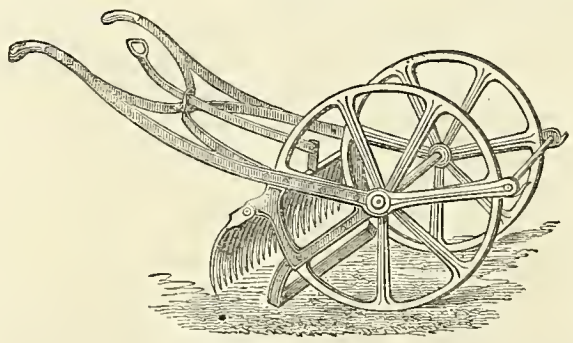

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The Gardening World.

SATURDAY, OCTOBER 11, 1884.

THE INTERNATIONAL POTATO EXHIBITION.—The remarkable display of such an humble and unpretentious exhibition element as Potatos, seen during the past week at the Crystal Palace, is but another tribute to the powers of the gardener to create charming displays out of comparatively crude materials, for few would imagine that such a subject, however it may be tolerated in ordinary Flower Shows, could of itself form an exhibition that should attract large numbers of people, and to the experienced gardener and practical horticulturist have so much of interest. Perhaps more than any other vocation (for we do not in this case include the fine arts) Gardening presents capacities to produce subjects of an attractive and interesting kind. And of all the subjects which come within the gardener's range of culture few can be held to possess less natural elements of beauty or of attractiveness than the Potato. It may be true that the exhibits of this favourite esculent seen at the Crystal Palace during the past week were on the whole not quite so smooth, clean, and handsome as we have seen in previous years, but that is but an accident of the seasou. There was, however, no lack of good form, evenness of size, and variety of shape and colouring. The fact is that the public have, except on such rare occasions as International Potato Shows, seen but little of the tubers they consume on their dinner tables, except at the market or in greengrocers' windows, or at length and finally in a cooked state, and therefore may probably have formed but an indifferent estimate of the merits of really good samples upon the exhibition tables. Of course the question is asked, and will be asked again and again, what benefit to Potatos and their culture results from exhibitions? To that we may plead that the same query might be just as appositely put with respect to all fruits, flowers, and vegetables that from time to time are exhibited; and if, as none doubt, good has resulted to all these things through the competitive stimulus administered, why not the same good to the Potato? Our leading exhibitors tell us indeed that since the establishment of the International Potato Show the tuber has undergone a wondrous change for the better; that we have now not only much handsomer, more even-sized, less wasteful, and better eating Potatos than in years past, but that, farther, we have kinds which are not only such great croppers, but so much resist the disease that we never had Potatos so abundant nor so cheap. Still farther, we have seen during the past ten years the Potato becoming more and more an important article of the people's food, standing as a vegetable product certainly next to Wheat, and at the same time it is so healthful and appetizing that scarcely anyone, rich or poor, can realize a satisfying mid-day meal that does not include a dish of Potatos. We have watched the progress of the Potato Shows from the first, and can bear evidence to their progressiveness on the one hand, and beneficial influence exercised on the cultivation of the esculent on the other. Seasons may, as this year, prove now and then antagonistic, but on the whole the advance is substantial.

DETACHED GREENHOUSES.—Under this heading *The Architect* records a decision recently given by Mr. Hosack, one of the London stipendiary police magistrates, in the Worship Street Police Court. The circumstances are set forth as follows:—"The district surveyor for East Hackney (North) summoned a gentleman for a fee in respect of a detached greenhouse, 16 ft. long and 9 ft. wide, which had been erected in a back gardeu. The person who erected tho greenhouse held the opinion that under the new regulations of the Building Act, the surveyor was not entitled to a fee. In giving his decision, the magistrate said that he would allow that a greenhouse attached to a building was not exempt; but thought one, which was detached, as in this case, was exempt, and therefore dismissed the summons." *The Architect* adds: "District surveyors will not approve of this opinion, but from an occupier's point of view it is satisfactory. The small greenhouses which are found in the gardens of London resideuts are often so simple that they hardly deserve to be called structures. But, like foul-houses, they have been brought within the terms of the Building Act. We know of a case where the flue in a small greenhouse, entirely constructed by an amateur, was treated by a surveyor as if it were a factory chimney; and many similar cases could be related." In reference to this matter, we have one word of advice to give to any of our readers whose love for plants may lead them to think of building a greenhouse, namely this, that if they live within the district of a Local Board of Health, or a Board of Works, they should endeavour first of all, to make themselves acquainted with the bye-laws under which the local authority acts. Bye-laws vary somewhat in districts; in some they appear to be very arbitrary, but they cannot have any legal effect until passed by the Local Government Board. A little caution may avert legal entanglements. Another point is that the system which prevails in some quarters of remunerating district surveyors partly by salary and partly by fees is a vicious one, and ought not to be tolerated. An official who is so paid, cannot be trusted in the matter of enforcing fees. It is to his advantage to endeavour to get them under the most frivolous protests. A surveyor should have a fixed salary, according to his work and ability; all fees legally chargeable should be paid directly to the Board whose servant he is, and they should never be a part of an official's salary.

WINTER PRUNING.—If we could do all the required thinning and pruning of our trees, no matter of what kind, whilst the leaves are still on them, no doubt very much more drastic cutting would be done than is the case when the pruning is done in the winter. The work recommends itself to gardeners as thoroughly winter work, because it can be done whilst frost is in the soil, and scarcely any other garden operations can be performed. But the result of pruning when the trees are leafless is too often seen in sparing growth that should be mercilessly removed. When the trees are leafless those look comparatively thin that before looked thick, whilst little account is taken of the inevitable re-thickening which will follow iu the next summer. As a rule, we prune to remove the density of the preceding year. Really we should prune to give the growth which is to follow ample space. But the chief resulting evil from hard pruning of robust trees is seen in the excessive new growth which breaks out around the severed branches, and which does but intensify the evil if left standing. If we made a rule to rub all these shoots off clean early in the summer, very much of the sap thus absorbed uselessly would be diverted into other channels, and would go to build up wood that is not densely placed and needs more invigorating. Without doubt a good crop of fruit is the best corrective of coarse growth in all fruit-trees, but for other trees the saw is the only means of securing evenness and regularity of growth and head. The geueral lack of fruit in all kinds of trees this season has given an impetus to woody growth that renders pruning essential, and the sooner it can be done the better; noue the less that matured wood shows such a promise of fruit-buds, that could we have a favourable spring in the coming year we shall have a magnificent fruit crop, and for that reason, if for no other, the trees will need thinning and relief.

POT WASHING.—What an obnoxious labour is the washing of pots at any time, and specially so if the weather be cold and the work has to be done in the open. Really in such case it is impossible to do the work well, especially if the pots be dirty, and for that reason it is always preferable to have an abundant supply of boiling water on hand, and to thoroughly scald the pots if possible before washing, so that the slime or conferva so commou on all dirty pots may be destroyed. Pot washing ranks amongst the elementary work of a garden; it is that to which the young neophyte is first put, and it is a task which perhaps not unnaturally helps to foster at the first a grave dislike for the duties about to be entered upon. Still, the rougher elements of gardening must be mastered before those of a more elevated and responsible kind can be attained to, for sorry indeed would be the knowledge of the gardener who in his haste to become accomplished had neglected to ascertain in early days and by rough practical experience how the most menial of garden duties should be discharged. The old story of the gentleman who, having fouud fault with a painter because his work was badly done, was retorted upon that he was known when he was but a drummer boy, and to which the gentleman with much force replied, "Aye, but did I not drum well," is one that has a wide application. If any head gardener of the present day should by some injudicious or envious acquaintance be charged with the remembrance of having once been a pot washer, we can imagine the pride he would feel if he could honestly reply, "And did I not wash them well too." That is a sort of feeling all should take a pleasure in realizing, for work of any kind, however deterring its nature, yet must be done well to give the worker any praise, and it is only worth doing well if done at all. For that reason we like to see pots well and thoroughly washed by neophytes, but none the less do we like to see those elements of good work and cleanliness provided—plenty of hot water, brushes, and sand, so that the willing worker may be encouraged to do his work well.

TOWN TREES.—It has just been announced that the authorities of the district propose planting trees in that now widened but still legally musty thoroughfare, Gray's Inn Road, and naturally it becomes a matter of considerable interest to learn what kind or kinds of trees it is proposed to plant there. Most unfortunately our list of really useful town trees is a very limited one. We may not plant Elm, Oak, Beech, Birch, Chestnuts, or many other of those noble forest trees that give such an air of majesty to our woods and parks. These trees if planted will thrive indifferently, indeed, will probably soon die. 'Tis true, we have the Lime, a noble and

handsome tree in our rural districts, which is largely planted in our towns, but hardly with happy results, for the arid atmosphere and soils of our streets do not favour that retention of foliage which is so desirable in town trees. Fortunately we have one truly grand tree that will thrive well in towns, and that is the Oriental Plane, a native of the dry East, which seems equally at home in London streets and squares, and by the margins of running brooks where the conditions of growth are so diverse. This Plane likes ample room, and must for a few years be subject to the pruning saw, still, in time, it will become very spreading and lofty, but as a London tree it so far remains unrivalled. For a dwarf and more compact tree, none can compare with the beautiful Robinia Bessoniana, the specimens of which in Sutton Court Road, Turnham Green, always commands admiration. For a narrow street, this tree is better adapted than is the noble Plane.

A Check for Slugs.—In the Right Hon. Joseph Chamberlain's garden at Highbury, Birmingham, Mr. Cooper, the gardener, employs a very good means of preventing slugs from eating the tender shoots of Lapageria rosea, Lapageria alba, the buds of Odontoglossum Alexandræ, and all those other tender things which they seem so fond of, but which is too costly a food to be accorded them willingly. The ordinary check arranged for them consists of a strip of cotton wool wound round the base of the shoot or flower-spike, but even this they get over. Mr. Cooper soaks the cotton wool in a solution of chloride of lime before using it, and he finds that it then forms a most effectual check, the slugs never crossing it.

Garrya elliptica.—A correspondent obligingly informs us that this fine winter-flowering plant has fruited this season in Mr. Andrew Kingsmill's garden at Eastcott Lodge, Pinner, near London, where the female plant is growing against a wall. The pollen for fertilizing it was obtained from a plant some distance away. It would be interesting to know (and to record) in how many other places the plant has fruited.

The Phylloxera.—M. Balbiani, Professor at the College de France, was commissioned a short time ago by the Minister of Agriculture to report upon the best mode of destroying the winter eggs of the phylloxera, as it has been found that it is in this way the progress of the parasite is very materially checked. M. Balbiani reports that three methods have been employed—the mechanical destruction of the eggs by barking the vines, boiling water, and rubbing the vines with preparations calculated to burn up the eggs. The first-named of these methods has been tried in several vineyards near Bordeaux, the workmen rubbing the stocks with a chain-steel glove, but the results are not satisfactory, as it is only the old wood which can be treated in this way. The use of boiling water would produce excellent results but for the fact that it is open more than any other process to carelessness in application, and that neutralizes all its good effects. The rubbing of the vines with a preparation composed of nine parts of coal-tar to one of oil was open to the objection that the coal-tar got so thick in cold weather, that it could not be applied, and the cost of heating it again was considerable. Several vine-growers tried to liquify the mixture by adding 15 per cent. of turpentine, but this, when applied, killed the vines altogether. M. Balbiani tried several fresh experiments, among others a mixture of oil, naphtha, quick-lime, and water. This mixture has been tried upon a very large scale in the vineyards of the Lot-et-Garonne and the Loir-et-Cher, and it possesses, according to M. Balbiani, the double recommendation of being effectual and cheap, as the cost is under a franc for a hundred stocks.—*The Times.*

Gardening Miscellany.

On Tuesday next the Fruit and Floral Committees meet at South Kensington, and on that and the two following days a large Fruit and Vegetable Show will be held in connection with the Health Exhibition. The classes for Apples, Pears, and Potatos are the special features of the Schedule. Messrs. J. C. Wheeler & Sons, Gloucester, also offer prizes for three dishes of Potatos.

On November 14th and 15th a Chrysanthemum Show will be held at the Crystal Palace, and good prizes are also offered for Hardy Decorative Shrubs, arranged in designs to illustrate their use for autumn and winter effect in the flower-garden. Ornamental berried plants, Variegated and other Hollies, and trained Ivies are also included in the prize list.

We are pleased to hear that the sea anemone, "Old Granny," which interested so many people at the Fisheries Exhibition, held in Edinburgh, and which was then in the custody of Mr. Sadler, passed on his death into the hands of his successor in the Curatorship of the Edinburgh Botanic Gardens, Mr. Robert Lindsay. "Granny" is still alive, and in good health.

Mr. C. M. Hovey of Boston, Mass., U.S.A., is contributing to *The Massachusetts Ploughman*, a series of notices of one hundred and fifty ornamental trees, under the title of "Arboretum Americanum."

It is proposed to hold a Forestry Exhibition at the Alexandra Palace next year, "to show forth the productions of the Forests of the World, from the Pine Forests of the far north to the Palm Forests of the tropics." Classes have been arranged to include Practical Forestry, Forest Produce, raw and manufactured, Scientific Forestry, Ornamental Forestry, Illustrations of Forestry, Forest Literature and History, Essays and Reports, Loan Collections, &c. The exhibiton is No. 1 of a series that will be held concurrently for six months, commencing at the end of March. Mr. J. Forsyth Johnson, 90, New Bond Street, W., is the Manager of the Forestry Exhibition.

The Executive Committee of the International Forestry Exhibition have issued a number of additional awards. Gold medals have been given to Messrs. Little & Ballantine, Carlisle; Messrs. James Veitch & Sons, Chelsea; and silver medals to Messrs. James Dickson & Co., Chester; and Messrs. Little & Ballantine. The exhibition closes to-day.

We are pleased to be able to announce that at a Meeting of the Executive Committee held on Monday last, His Grace the Duke of Westminster, K.G., was elected (and has since accepted) the office of President of the Gardeners' Royal Benevolent Institution; and Mr. George Lambert, F.S.A., Coventry Street, W., in consideration of valuable services rendered to the Institution, was unanimously elected a Vice-President. At the same meeting it was resolved that there should be an election of Pensioners in January next, but the number will be small, owing to the few casualties that have occurred during the year. Those, however, who are seeking election, and who have been subscribers for fifteen years, will, we believe, be placed on the list without the trouble of an election. The Pension Augmentation Fund has reached the sum of £715, leaving only the sum of £420 to be raised before the end of the year, in order to secure the £500 promised at the beginning of the year, should the other sum be raised by subscriptions.

Mr. George Syme who several years ago left Messrs. Barron & Sons' nursery at Borrowash, to take charge of the Botanic Gardens at Castleton, Jamaica, has returned home, and will not go out again. Mr. Syme, we believe, is seeking another engagement.

The Chrysanthemums in the Manchester district are coming along so fast, that the bloom will be somewhat earlier this year, and the Manchester Botanical Society have decided to hold their exhibition a week earlier than the date originally fixed.

At the Dairy Show which has been held at the Agricultural Hall during the week, very interesting stands of Roots, Cereals, and Grasses were exhibited by Messrs. Sutton & Sons, Reading; Messrs. James Carter & Co., High Holborn; and Messrs. Webb & Sons, Wordsley.

HOME MANURES FOR THE GARDEN.

At a meeting of agriculturists a short time ago, one of them acutely remarked that, "we farmers are just beginning to get into our heads the idea that we must feed our plants as we feed our animals. We have always had the notion that to get good crops we had simply to make our soil rich, and have not stopped to think how the manure helps the plant to grow. But we have got to learn that the main use of fertilizers is to feed our plants, and that we must adapt the manure to the needs of our crops and soils, just as we adapt the fodder to the wants of our stock. We have got to learn how to make the most of the plant-food that our soils may furnish of themselves, and to supply in manures what our soils lack."

This was practical sense, and it was sound scientific theory as well, and its truths are just as applicable to the garden as they are to the farm.

First, then, we observe that "plants, like animals, require food for life and growth." Secondly, in order that our plants may grow and thrive, they must have at the disposal of their roots in the soil a sufficient quantity of each of a number of substances needed for their food. Thirdly, that the object of manuring land is not only to restore the ingredients taken out of the soil by the growth of plants, but to increase the quantity of plant-food so as to make it more productive.

Our present object, however, is not so much to consider the whole question of manuring theoretically, as to bring before our readers a few practical remarks respecting the treatment and use of some of the more easily obtained, or what we have termed Home Manures. What constituents does a manure contain? How does the manure operate? How quickly does it act? How long does its action continue? These are some of the most important questions which the gardener has to answer.

Manures work only by means of the chemical substances they contain, and of these the chief and only ones we need consider now are nitrogen, potash, lime, and phosphoric acid. The value of any material used as a fertilizer must depend upon the proportion of these four ingredients, and the ease with which they become soluble, so as to be readily taken up by the growing plants. But a manure that supplies one only of these important ingredients, unless the others are already present in an available form in the soil, will not produce a perfect and vigorous plant. Thus lime, potash, phosphoric acid, or nitrogen will not work alone, but supply them in combination, and healthy luxuriant growth will be the result.

The peculiarity of the manure obtained from our horse-stables, cow-sheds, and piggeries is that it contains all the substances we have mentioned as necessary to healthy plant-life; but at the same time it must be remembered that the manure will vary in value, not only with the description of animal from which it is obtained, but also on the character of their food, on the quantity of straw or other material employed as litter, and on its management when accumulating.

As the urine of our domestic animals has a higher value as a means of manure than the same quantity of solid excrements, it follows plainly that a well-managed manure-heap will be composed of a sufficient amount of litter to retain the greater part of the urine, and to admit of only a small proportion running to waste. Attention to this point is of great practical importance, as the quantity of liquid absorbed materially affects the fermentation of the mass.

Cow-dung is the most abundant and least valuable in composition of the animal manures, owing to its large proportion of water. On this account it decomposes in the soil but slowly, and becomes very slightly heated when lying in heaps. If permitted to accumulate for any length of time, it will be found to acquire a compact and soapy character, which renders its distribution in the soil extremely difficult. The most economic method of dealing with cow-manure for the garden, is to convert it into a compost with layers of pond or ditch-mud, the cleansings of streets, night soil, leaf-mould, or other coarse vegetable refuse, adding to each successive layer a good sprinkling of fresh burnt lime, the heap being repeatedly turned over and liquid manure poured in at the same time. This will convert the whole into a rapidly and powerfully acting manure, which may be used with advantage

for the growth of any of the numerous Cabbage tribe, or dug into the ground in the autumn for the sowing of Onions in the following spring.

Horse-dung is more valuable than the excrements of cows. It contains less water and is not so coherent. For this reason it may be readily distributed, and as its nature is to decompose very rapidly it is termed a "hot manure." It will be found a useful addition to cow-dung, as it renders the latter more friable, whereby it can be more equably distributed through the soil. In consequence of this facility of decomposition in horse-droppings, the fertilizing elements become sooner fit for absorption and digestion by plants, and therefore their effect is shown at a comparatively early period after application.

A word must be said with respect to the quantity and kind of litter employed in the stable or feeding-shed. Straw contains far fewer manuring ingredients than the excrements of animals. But, on the other hand, it importantly assists in forming a very energetic fertilizer from these excretions, because it absorbs and retains the urine—the more valuable part. Hence the manure will be strong or weak, in exact proportion to the quantity of liquid absorbed. Stable-dung rich in urine will pass more rapidly into fermentation, and become more quickly available as plant-food, than when poor in that constituent. When made from oat-straw, the manure will have a greater value than when wheat or barley-straw has been employed as litter, and wheat-straw stands before barley-straw in the amount of potash and nitrogen it will yield to the growing plant.

Gardeners who cart horse-manure upon their land in a fresh, unfermented, strawy state, just as under ordinary treatment it leaves the stable, turn it to a better account than by leaving it without further attention to rot or ferment upon the dung-clamp. When it is introduced fresh beneath the soil, decomposition takes place under a protecting cover, which like all porous bodies has the power of absorbing and retaining the gases thereby set at liberty, until they are taken up by the roots of plants. In this manner those manuring elements are placed at the disposal of plants which in the common dung-heap fly off during fermentation into the air, and are often lost in large quantity by being washed away.

(*To be continued.*)

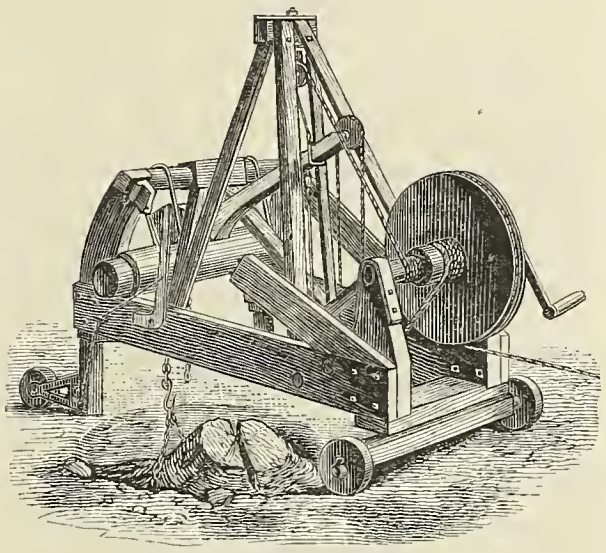
LEGENDS OF THE BRACKEN.

In Russia the belief in the midsummer-flowering of the fern is in full force, as may be seen in Professor De Gubernatis's *Mythologie des Plantes*. It is said that the man who finds the flower will acquire boundless wisdom, but the flower is only to be found for a single instant at midnight, and it is necessary to conquer the evil one himself before the blossom can be seen. This must be done in the following manner: on the appointed night he who dares to attempt the enterprise must select the particular fern which he desires to see flower, and must place near it the towel which he used on Easter-day. He must then, with a knife which he used on the same feast, trace a circle round the fern and round himself. At nine o'clock in the evening the devil will attempt to terrify the Christian, throwing at him stones, wood, and other heavy missiles; but the watcher is exhorted to remain calm and to show no symptom of terror, as the evil one has no power to enter the magic circle traced by the knife. At the hour of midnight the fern blossoms, and the flower falls upon the towel, which the Christian must instantly seize and conceal in his bosom. The fortunate possessor, thanks to this possession, will know things present and things to come, and will be able to discover hidden treasures or lost cattle.

In illustration of this belief a story is told in Russia of a countryman who had lost his oxen upon the eve St. John. In prosecuting his search for them he crossed a wood, and passed close to a fern at the very moment of its flowering, and the blossom fell into his shoes. He immediately became acquainted with the place where the cattle were hidden, and, going to it, recovered them, and took them with him. The fern-blossom still remaining in his shoes, he became aware of a certain place where a treasure was hidden, and told his wife that he would go and find it. "Change your shoes," said the good woman, seeing that his stockings were damp; he unfortunately followed this advice and took off his shoes; at the same moment the flower of the fern fell to the ground, and he forgot all about the discovery of the treasure! In another version of the same story it is stated that the devil, in order to deceive the peasant, offered to give his boots in exchange for the wretched shoes of the countryman; the latter consented to the bargain, and, giving up his shoes, lost all knowledge of the treasure he was about to seek.—*European Ferns.*

A TREE STUMP LIFTER.

The Stump Lifter, illustrated below, and which with the descriptive note we have copied from *The Scientific American*, is the invention of Mr. Charles A. Blume, of Union City, Indiana. The rear end of a strong frame is mounted upon two legs that are provided with caster wheels which shift up and down, in order that the legs may rest upon the ground while the stump is being pulled, and upon the wheels when the machine is to be drawn over the ground. The front of the frame is supported upon an axle furnished with wheels. Extending across the top of the rear end part, is a beam from which hang stirrups to support the centre of an axle having pivot bearings at the end of the side timbers. Resting on this axle is the pulling lever, which has a semi-circular block to



A TREE STUMP LIFTER.

work the chain—the block being placed a little eccentric to the axle for drawing up the chain quickly at the beginning, and for increasing the pulling effect when the greatest resistance occurs. The free end of the lever is suspended by a cord and pulley from a derrick mounted on the frame for raising the lever to lower the chain for hooking on to the stump. A strong rope, secured to the lever, extends down around a pulley in the end of the lever, then under a roller supported in the frame, and then around the axle of a powerful windlass. On this axle is a drum about which is wound the rope to which the horses are attached. The axle is also provided with a hand crank for unwinding the main rope, and winding up the other when the lever is to be set again. This construction gives great pulling power, since the force applied passes through, first, the windlass, second the cord and pulleys, and then the lever.

CANDYTUFTS.

The perennial types are best known under the name of Iberis, and the generic name comes from Iberia, the ancient name of Spain, where the species abound. The common name for the Iberis is Candytuft; it is also known as the Candy Mustard, a tufted flower brought from the Island of Candy or Crete, and named Iberis umbellata. This is the botanical name of the annual Candytufts, of which there is now a large group, some of them very handsome indeed. We may say of all of them that they are well worthy of a place in the garden, especially Dunnett's Dark Crimson, the Purple, the Giant White, and the giant flesh-coloured varieties sent out by Messrs. Vilmorin & Co., of Paris; the White Rocket, with its long white, rocket-like spikes of flower; and that great improvement upon it, Dobbies' Giant Rocket Candytuft, or as it is also known as Iberis umbellata Empress. The foregoing varieties are among the most showy and useful of hardy annuals; they have a compact, yet free-branching habit of growth and bloom profusely. In light free ground, if some of the annual Candytufts are sown in autumn they do surprisingly well in early spring, and flower more finely than when sown in spring. They are generally sown too thickly in spring, if gardeners would sow the seeds thinly in good soil, and then pull out superfluous plants, leaving the remaining ones 4 ins. or 6 ins. apart, they would be much finer in every respect.

Of the perennial or evergreen Candytufts there are many, and not a few of them are most useful, especially for covering rock-work and such places. A few of them are particularly well adapted for this, having a free-spreading growth which soon covers a large space of ground. One of the best is I. corifolia, a dwarf-growing kind, hardy, evergreen, and flowering profusely, producing handsome trusses of large, round stout flowers of snowy whiteness. Few Alpine plants are more worthy of general culture, either on rock-work or in the mixed border. It is a native of Sicily, easily propagated by seeds, cuttings, or division, and thriving in any soil, doing well in open sunny spots. I. Gibraltarica is the Gibraltar Candytuft, a native of the south of Spain, the largest and showiest of the genus, growing 12 ins. or so in height, vigorously and erect, large flowers, often reddish-lilac, arranged in close heads, and appearing in spring and early summer. If planted out-of-doors it must be in a warm and sheltered situation, as it is not hardy enough to stand exposure to the open-air; it is a good subject for culture in pots.

I. Gibraltarica hybrida is a beautiful garden variety raised by the late Rev. J. G. Nelson from I. Gibraltarica, and, it is said, one of the annual varieties. It has a close compact growth, and produces in early spring large symmetrical heads of sometimes white and sometimes pale purple flowers. It is a biennial, having to be renewed from seeds every year, and it does well in pots or in the open-air. I. Tenoreana is a good species not much grown in consequence of not being perfectly hardy, it should be planted on light, sandy soils, or in well-drained positions on rock-work, it has a neat habit of growth, and produces neat trusses of flowers, white changing to pale purple. It is a native of Naples, and can be increased by seeds and division. The old I. sempervireus—the evergreen Candytuft—is the common rock or perennial Candytuft of our gardens, it has a half-shrubby, dwarf-spreading evergreen habit, is perfectly hardy, and in April and May its neat tufts of dark green are transformed into masses of snowy-white; it is one of the best plants in the country for growing on the margins of the mixed border or properly finished off shrubbery, the rock-work, or for naturalization on bare rocky places and slippery banks. Like all its relatives it should be exposed to the full sun rather than shaded. It is a native of Greece, Asia Minor, Italy, and other places, and is readily increased by seeds, cuttings or division.

There is a very dwarf and early-flowered perennial Candytuft named I. Pruiti, a charming thing for cultivating in pots, and suitable also for rock-work; it bears white flowers. One named I. Garrexiana is but a variety of I. sempervirens, not sufficiently distinct, in fact this and several others prove to be mere varieties, and very slight ones, of the old evergreen Candytuft. While the perennial Candytufts do well in almost any soil that is fairly open, they like grit, and thus it is that they are so well adapted for rock-work. Their roots will travel for long distances, and it is of the greatest importance that the plants have ample space in which to root. We have seen the common evergreen Candytuft used with great effect in Lancashire, planted between large stones set one upon another in the form of upright rock-work, and the plants placed in good soil between the stones. Here they form dense, symmetrical, hanging tufts, looking like huge green tortoises, clothing bare places in winter and flowering in the most charming manner in spring.

THE GENUS EUCHARIS.

In the last number of The Gardening World (p. 69) an illustration of a somewhat remarkable spike of Eucharis candida was given, with an article on its culture by Mr. E. Dumper. Mention is there made of another plant which is cultivated under the same name, but which must in no way be confounded with the true E. candida. This, too, is a species of Eucharis—unless it be not the plant which I shall mention presently—and as all the species first become known through their introduction to gardens, and moreover are so ornamental, I have thought a short account of the genus would be of interest.

Eucharis, then, is an Amaryllidaceous genus of plants, which was founded in 1853 by Planchon and Linden, in the *Flora des Serres*. A single species was described, and well-figured (tab. 788); the coloured plate representing a leaf and spike, beside which a much reduced figure of a growing plant shows the habit. The species was named E. candida, and as the plant figured last week in these columns is identical, there is no question as to which is the original E. candida. In the following year, the same authors described and figured a second species, the well-known E. grandiflora (tab. 957 of the same work). In 1857, these authors described and figured a supposed third species under the name of E. amazonica (tab. 1216), but which subsequently proved to be nothing but E. grandiflora; hence the second name had to be dropped. After the introduction of E. candida, which seems to have been very rare in England, another plant began to do duty for it—a fact which for a time appears to have passed unnoticed. At length Mr. Bull introduced the true plant, and in 1867 figured it in his catalogue (p. xvi.), pointing out that the plant cultivated in gardens under the name was not the true plant. This false E. candida—for we may call it so—got into the hands of Mr. Baker, of Kew, who considered it to belong to the closely-allied genus Calliphruria, and described it as C. subedentata, in *The Botanical Magazine* (tab. 6289). This was in 1877, but Messrs. Bentham and Hooker, in their *Genera Plantarum*, have since transferred it to Eucharis, as E. subedendata. The remaining species, E. Sanderi, was described by Mr. Baker as recently as last year, and is well-figured in *The Botanical Magazine* (tab. 6676). These four species are all natives of the Andes of Columbia and New Grenada, and all of them are exceedingly useful plants when successfully grown.

In conclusion, it may be as well to point out the differences between E. candida and E. subedentata, as they have been confounded together. E. candida has ovate-oblong, long-necked bulbs, broadly elliptical and acuminate leaves with flat petioles, and nodding flowers. The slender decurved tube is about 2 ins. long, suddenly expanding into six spreading segments. The yellowish-tinted corona is composed of six large lobes, which are united only at the base. C. subedentata has globular, neckless bulbs, very similar but usually a little broader leaves, and much smaller flowers. The tube is much shorter and stouter, gradually expanding into a funnel-shaped flower, the segments not widely spreading as in the preceding. The corona, too, is very small and included in the flower, though the lobes are only united at the base. In E. grandiflora the pale green corona forms a complete ring, the lobes being united to the apex. In E. Sanderi the corona is yellow, adnate to the perianth segments nearly to its apex, where it forms a narrow collar-like free border or ring, on which the filaments are inserted.—*X.*

CAPE BULBS EASILY GROWN.

Some writers, no doubt without intending to do so, when treating of Cape bulbs, have made it appear as if there were great difficulty in cultivating them. Some of them are without doubt difficult to manage; but there are some others that can be successfully managed by reverting to simple means. Take the Freesias for instance, they are among the most beautiful of all Cape bulbs, growing about 9 ins. in height, and producing six to eight flowers upon a stem. Now as Freesias start early into growth, they must be potted early. There are two that are now grown, viz., F. Lechtlini, clear pale yellow, with a bright orange blotch on the lower petal; and L. refracta alba, or odorata, pure-white, and delightfully fragrant. Ixias and Sparaxis are also easy of culture. Of the former, special mention may be made of crateroides, bright scarlet; Golden Drop, gold and yellow; Hypatia, pure white and lilac; longiflora, buff; maculosa, bright rosy-pink; and viridiflora, pale sea-green with black centre, one of the most distinctive coloured flowers in cultivation. There are many others; but these make an ample selection for a beginner. Then of Sparaxis, the following are beautiful varieties: Angelique, pure white; grandiflora, bright crimson; Leopard, yellow shading to primrose; maculata, white spotted with purple; Tricolor, white, red, and yellow; and Victor Emanuel, red and yellow.

Anyone contemplating growing a few of these bulbs should obtain them without delay, especially the Freesias, which as above stated become active early. A compost made up of soft yellow loam, some peat, sand, and leaf mould; 5 or 6-in. pots should be used, well drained, and six to eight bulbs placed in each, allowing about an inch of soil to cover them. The pots can be placed in a cold-frame, or at this time of the year, in the open-air for a season; but they should be screened from heavy rains, and worms should not be allowed to make their way into the pots. The soil should be kept moist enough to keep the bulbs active in growth; when they have made a good growth and are on the point of throwing up their flower-stems, they can be taken into the greenhouse to flower. At no stage of growth is heat absolutely necessary, they will bloom nicely in a cold-house.—*R. D.*

MANURES FOR POTATOS.

Although I consider that the use of complete artificial manures involves too great a cost for their employment in the growth of ordinary farm crops, perhaps an exception may be made in regard to Potatos, a crop which requires a large supply of both potash and nitrogen. At Rothamsted we have grown nine crops of Potatos in succession upon land which for fifteen years previously had received no yard manure, and the average yield of the last three crops has been 400 bushels per acre, calculating the bushel to weigh 50 lbs. The manure used each year has been 300 lbs. of sulphate of potash, 350 lbs. of superphosphate of lime, and 400 lbs. of salts of ammonia; while in another experiment, instead of the salts of ammonia, 540 lbs. of nitrate of soda were applied. The produce from both manures has been almost identical.

The sulphate of potash supplies about 130 lbs. of potash—and we find very nearly the same amount in the crop. The phosphoric acid, on the other hand, is much in excess of the requirements of the crop, and it might be reduced one-half. The salts of ammonia and the nitrate each supply about the same amount of nitrogen—87 lbs.—and of this the crop does not take up more than 50 lbs.; there is, apparently, therefore, a considerable loss of this substance; but at the same time any reduction in the amount of these manures would be followed by a reduction in the crop. The loss of this costly manure ingredient is a most serious matter, as unfortunately there is but little prospect of recovering, in succeeding crops, any appreciable amount of the 37 lbs. not taken up by the first. By means of the same mineral manures alone we have grown—over the same period—one-half the crop we obtained by the application of minerals with nitrogen, the soil having supplied a sufficient amount of that substance to give a product of 200 bushels; but one-half of the minerals applied remained inactive in the soil; these, however, might be made available to the crop by an application of nitrogen.

The quantity of potash removed in Potatos is very large. In the 400 bushels it amounts to about 130 lbs. Compare this with the amount removed by animals. An ox, weighing 1,400 lbs., which was killed for the purpose of analysis, contained 2½ lbs. in the whole carcase and offal. Hay is another crop which takes a good deal of potash from the soil, and farmers in England rarely grow either Hay or Potatos for sale unless there are facilities for the purchase of town dung. Artificial manures are certainly not used alone by practical farmers in the growth of their crops.

In our experimental field the character of the manure is always represented in the stem and leaves of the plant. Ammonia and nitrate without minerals give a low stem and greenish-brown leaves, which in the evening appear almost black. Minerals without nitrogen give a thin, low stem and yellowish-green leaves, while minerals and nitrogen together give a luxuriant, and sometimes an over-luxuriant, stem, with leaves of a bright green. There is no difficulty in accounting for these peculiarities. A plant takes up whatever food is most abundant in the soil, with the hope, as I sometimes put it, that sooner or later it may find the food which suits it best. In the dark-green leaves the nitrogen is in excess, but starch cannot be formed without potash, and the supplies of potash are not sufficient to use up the nitrogen. It is far more easy to change the yellowish-green of the mineral-manured Potatos into a dark green than it is to lighten the colour of Potatos which receive nitrogen: a solution of nitrate of soda will effect the one in a very few days, but as potash and phosphoric acid insoluble compounds with the soil, they are much more slowly taken up by plants.

We always, however, obtain a larger crop of Potatos where we apply the mineral manures alone than where we apply the nitrogen without the minerals, though in the next field salts of ammonia, applied without minerals for thirty-nine years in succession, have grown larger crops of Wheat over the whole period than mineral manures without ammonia.—*Sir J. B. Lawes, in the Rural New Yorker.*

SHOVELS AND SPADES.

Mr. William Robert Lake, Southampton Buildings, London, has patented an invention in connection with the sockets of shovels and spades, and the method of attaching the same to the body or blade. In ordinary cone-rivetted shovels the handle is secured to the blade by means of straps, one being provided with a V-shaped flange, which extends downwardly, and is rivetted to the blade, and the other unprovided with a flange, but having its lower end also rivetted to the blade, both straps being rivetted to the handle, which is exposed on either side at its lower end. Another form of shovel, sometimes called the "Oxford," has its lower strap formed integral with the blade, and its upper strap provided with a V-shaped flange, which is rivetted to the blade of the shovel, thereby rendering it very costly to manufacture, and objectionable on account of the rivets which protrude on the underside of the blade.

In carrying this invention into practice, an A-shaped depression is formed in the lower side of the blade at its upper edge, and the socket for receiving and holding the handle and the flange by which it is attached to the blade of the shovel, are in integral, or formed of a single piece of metal, the flange being V-shaped, and struck up and bent or formed to fit the depression, but of such width or size as not to extend below the lower surface of the blade. The socket proper, or that portion of the socket which is designed to receive the handle of the shovel, is formed by curving or bending the sides inwardly at their centres and upper ends, and slightly curving them downwardly and outwardly at their lower ends, thereby bracing and greatly strengthening the socket at the point where it is subjected to the severest strain in using the shovel. The socket is also bent or curved to form a goose-neck, but this bend may be slight, or entirely omitted if desired. Both the socket and its flange may be made of cast-metal, either malleable or otherwise, if desired, although wrought-iron or steel is preferable.

The advantages claimed are—cheapness of construction; a slight saving in the material used; a great saving in valuable stock over the method described of forming the socket, or any part of it, integral with the blade; the handle does not necessarily require bending or rivetting; the heads of the rivets on the under side of the shovel being above the lower surface of its blade, and within the depression, are protected from wear, and not liable to be broken off. —*Agricultural Gazette.*

"Sapoline" is the title of a new insect-destroying compound introduced by Messrs. Brown, Martin & Co., 69, Chancery Lane, E.C.

"THE BOTANICAL MAGAZINE."

The October number of this work contains plates and descriptions of one or two exceptionally interesting plants. There are five coloured plates, which are noted below in numerical order:—

Hæmanthus Katherinæ (t. 6778).—This noble species is a native of Natal, and the plant figured was sent by W. B. Lyle, Esq., of the Kirkley Vale Estate, Natal. It flowered at Kew in May. The globose bulb reaches 3 ins. in diameter, from which proceed three to five large pale bright green leaves, which are 6 to 14 ins. long by 2 to 5 ins. broad, elliptical-lanceolate, with nine or ten longitudinal veins on either side of the mid-rib. These are connected by numerous transverse nervules. The umbel, which is 5 to 7 ins. in diameter, with very numerous scarlet flowers, considerably overtops the leaves. The perianth tube is 1 in. long, and the linear reflexed segments are a little longer still. The anthers are yellow, and much exerted beyond the flowers. It has also flowered in Mr. Gumbleton's garden, near Cork. It is named after the wife of Mr. Saunderson, a gentleman who first sent dried specimens to Kew.

Corylopsis himalayana (t. 6779).—A singularly elegant and graceful shrub, producing its pendulous racemes in February, while the leaves appear in June. It was first discovered by Griffith, in Bhotan, north of the Assam Valley, at an elevation of 5,000 to 8,000 ft., and has since been found south of this valley, in the Khasia Mountains, at from 4,000 to 6,000 ft. In its native home it is a nut-like bush or small tree, about 20 ft. high. The branchlets and peduncles are pubescent; the leaves broadly ovate, acute, finely serrate, rugose above, pale green, 4 to 6 ins. long, and nearly as broad. The dense-flowered pendulous racemes of primrose flowers are 1 to 2½ ins. long, and with several pale green concave bracts near their base. The flowers are ½ in. in diameter, with orange anthers, and a scent like primroses. It was introduced to English gardens by Dr. King, of Calcutta, in 1879; seeds having been sent to Kew.

Pyrus Maulei (t. 6780).—Flowers and fruit of this handsome plant are here represented. Introduced in 1874 by Messrs. Maule & Son, of Bristol, from Japan, it is one of the most valuable of recent additions to our shrubberies. With the exception of the fruit it is extremely like the well-known P. japonica. This latter is globose, with scarcely any angles, and bright yellow in colour; while the fruit of P. japonica is more ovoid, distinctly 5-angled, and with a different texture and taste. P. Maulei flowered at Kew in April, decidedly later than P. japonica.

Chrysanthemum cinerariæfolium (t. 6781).—This plant, which is a native of Dalmatia, yields the famous Dalmatian insect powder. The flowers are said to be the most valuable product of their native country, where it is also cultivated. This powder must not be confounded with the Caucasian insecticide powder of Pyrethrum roseum, which is cultivated in France. A valuable paper appeared in the Report of the United States Commission of Agriculture for 1881-82 (p. 76, tab. 4), by G. B. Loring, Esq., on the cultivation and production of both these insecticides in the United States, together with copious notes on their application to insects. It appears that especially in solution these powders are both valuable remedies, though far from infallible. If dusted on the insects with an ordinary bellows it is an excellent specific for aphides, house flies, mosquitoes, or gnats, and the commoner insects which infest plants in rooms and houses. It may also be burnt with good effect, and where the powder cannot be used dry it may be used in solution or decoction in water. The result, however, is said not to be permanent, the insects reappearing after half-an-hour unhurt. In the open-air the powder must actually touch the insects to have any effect. Another disadvantage is that no effect is produced on eggs, hairy caterpillars, spiders, beetles, and some other insects. To return to the plant, the leaves are very much divided into narrow segments, and the flowers—which are produced in July and August—are very similar to the well-known White Marguerite.

Streptocarpus Kirkii (6782).—A very elegant species from E. Tropical Africa, sent by Sir John Kirk. It appears that a Wardian case was packed with ferns, from the hilly country of the coast opposite to Zanzibar, and that various seeds were sown in the soil. This case arrived at Kew in 1882, and the present plant, which flowered in March, 1884, is one of the seedlings. It is 4 ins. to 6 ins. high, with opposite, broadly ovate, obtuse, crenate, and hairy leaves. The pale lilac drooping flowers are borne on slender branched cymes. The corolla-tube is curved, ¾ in. long, with rounded ciliolate lobes.

By the way, we do not notice any account of the Palm figured last month, and of which the name and description stood over till October.

ON RENOVATING VINES.

The present is a good time to examine the roots of Vines (from which the crop has been taken) which during the last year or two have shown signs of debility, with a view to ascertaining and correcting the cause of their unsatisfactory condition. But before proceeding with this operation, a sufficient quantity of suitable soil for carrying out the work should be got in readiness, so that the process of lifting and relaying the roots in congenial soil may be completed as quickly as possible. The compost should be in the proportion of five cartloads of calcareous loam, one load of wood-ashes, one load of lime-rubble, one load of horse-droppings, and about three barrowsful of soot, and the whole should be turned over two or three times to thoroughly mix the different ingredients before being used. This done, the lifting of the Vine-roots should be carefully proceeded with by removing the soil with the assistance of four-pronged forks and shovels, taking care to injure the roots as little as possible in doing so. The roots, as much to facilitate the work of lifting and re-planting as to prevent them from being injured, should be tied separately together in a damp mat to keep them fresh while the exhausted and, perhaps, sour soil is being removed from the drainage. The latter, if found defective, should be re-arranged and covered with a layer of turf, the grassy side down.

The process of re-planting may then be proceeded with, and as the soil will subside some 6 ins. or 7 ins. within a few months after planting, allowance to that extent should be made in forming the border. Then untie the roots and spread them out regularly over the surface of the border, at the same time cutting off any portion of the same that may have got damaged in being lifted, and shorten back the points of all the other roots more or less, according to their length and strength. Incisions should also be made with a sharp knife about the base of the individual Vines, and longitudinally on the strongest and somewhat bare roots, to encourage the emission of young fibrous roots, and, with the same object in view, cover the latter slightly with sand, then with 6 ins. thick of the same soil as that forming the border. This done, give the whole sufficient tepid water to settle the soil about the roots, and then put on a surface-dressing of 3 ins. thick of rotten dung, and over this, if the border be an outside one, 18 ins. to 20 ins. thick of Oak or Chestnut leaves as soon as they can be had. The leaves, in order to prevent them being blown about, should be covered with long stable dung.

From the time the lifting of the roots is proceeded with until they have been replanted and the Vines have shed their leaves they should be shaded—heavily at first—from bright sunshine, with a view to retaining the leaves on the Vines until they have performed their ordinary functions and the roots have taken to the new soil, and in furtherance of this object the Vines should be syringed, more or less, two or three times a day during the interval from lifting the roots until the fall of the leaf. Vines thus treated should be allowed to come on in their own time next year—that is, to start into growth naturally about the end of March or early in April, and, if managed with ordinary skill during the various stages of their growth, from the disbudding to the thinning of the bunches, &c., they will be capable of ripening a better crop of Grapes next autumn than they did this. But the Vines should be cropped lightly notwithstanding. In conclusion, we need only remark that if the supply of Grapes could be continued fairly well without the aid of those means we have been treating of, we should prefer planting young Vines either now or next April and fruiting every other one (supernumeraries) the following year. In either case the roots, assuming them to be confined to pots, should be disentangled and planted as above recommended, and, instead of making the entire border at one time, as advised for established Vines, we should make it in sections—about 6 ft. wide at first and 3 ft. afterwards—for young Vines.—*H. W. W.*

TOWN AND SUBURBAN PLANTING.

The season is now near at hand, indeed it may be said to be already at our door, when the question of planting will be agitating the minds of many. Before alluding to some of the subjects best suited for town and suburban planting, it may not be out of place to make a few remarks relative to the best time to plant. Very much has been said and written recommending autumn as the best time to transplant trees and shrubs, and no doubt if the conditions exist which are necessary to successful planting, *i.e.*, sufficient moisture in the earth and air, then and only then can it be said that the autumn is the best time to plant. In such a season as we are passing through the required moisture is wanting; there is no knowing how soon we may get rain in quantity, but until we do it will be impossible to transplant either trees or shrubs with safety. I believe the spring to be the best time to plant in all dry localities, independent of any consideration as to whether the season may be a dry or a wet one. Many instances could be adduced of autumn-planting being carried out with anything but satisfactory results, and where, when the planting was delayed until spring, the losses became infinitesimal. My argument in favour of spring as against autumn-planting refers more particularly to the planting of evergreens. Deciduous trees may be more safely transplanted in the autumn, just as the leaf is falling.

There appears to be a growing disposition on the part of planters to introduce a more liberal proportion of deciduous trees and flowering shrubs where they have the opportunity, and this can hardly be wondered at when we consider the charming variety from which a choice can be made. It should be borne in mind by those who may have planting to carry out in town or suburban gardens, that deciduous trees and shrubs are preferable to most of the evergreens, the former having an advantage over the latter, inasmuch as they yearly disrobe themselves, as it were, and by that means get rid of the accumulation of dust and smut which is so injurious to their health, leaving stem and branch free to be cleansed by passing showers. It is not so with the evergreen, however, for although equally hardy they wear the same garb all the year round, and so are, with few exceptions, unfitted for planting in towns. The exceptions are those which have smooth and shining leaves, such as the Aucuba, some of the Hollies, a few of the Rhododendrons, Euonymus, Ligustrum, Skimmia, and Laurels of sorts, the best being the variety called rotundifolia.

Trees for towns and suburban planting should be chosen more for their elegant and characteristic habit of growth than for their size. It is sometimes necessary to plant with the view of making a screen, or to shut out some offensive object, and in such a case no better tree for the purpose can be selected than the Canadian Poplar (Populus canadensis nova). It makes a handsome tree, and possibly grows more rapidly than any other. In my next I will give you a list of the trees and shrubs best suited for town and suburban planting.—*G. T.*

Salvia farinacea.—There is a delicate beauty about this autumn Salvia which makes it desirable. It is not showy, but the upper parts of its slender stems are covered with a white mealy substance, on which the purple flowers are thickly set. It is a Mexican species, not absolutely hardy, but one which succeeds well in the open border in the south. Mr. Crook brings us some fine spikes of it from the garden at Farnborough Grange, along with some robust spikes of Larkspur and tuberous Begonias from the open border; Salvia cacaliæfolia is also sent, but it is not nearly so showy as S. patens.—*The Garden.*

The Amateur's Garden.

Another Amateur's Garden.—Number two has been a trusted servant in the employment of a lady, now deceased, who left him the means to build a cottage and apportion a garden on one of the best sites of a splendid estate. It is only a small place, but "snug and cosy as a chaffinch's nest among the blossoming hawthorn." The cottage faces west by south. To the right, in a line with his garden, is a wooded slope stretching away from west to south, and one of the prettiest roads within half a score miles of the metropolis trends away on the east. Sitting on a rustic seat close by his garden-gate, but screened by a fence covered with the old Crimson Boursault Rose, he can scan the numerous passengers by foot or otherwise who are continually passing, or, when tired of the human interest, can turn his gaze sou'west and west to where, in the evening, the heavens are all aglow with ruddy light, and the crimsoned bolls of the Scotch firs cut the distant horizon. A silver thread winds its way through the valley below, and beyond of a hazy blue or purple, as the light changes, is the long line of the North Downs; such is a brief sketch of the outlook. But Amateur No. 2 is a Devonshire man, and therefore not unaccustomed to fine scenery and glowing sunsets over purple hills. On the left, just below his garden-gate, are two of the old-fashioned straw bee-hives, and towering behind them, tall spikes of stately Hollyhocks.

The garden is only twenty-five yards by twenty yards, but it is quite big enough for a man sixty-five years of age to manage well. A small plot of ground, thoroughly well done, yields more pleasure than one twice the size indifferently tended. The front of the cottage which is painted a light stone colour, is covered with green wooden lattice-work, on which is trained the variegated and common Honeysuckle, Clematis Jackmanni, Gloire de Dijon Rose, and Escallonia macanthra—the latter a most cheerful and effective covering all the year round. There are also two or three plants of the charming old monthly rose beneath the windows, and trained on each side just to peep in. By the way, cannot this rose lay claim of right to be the only real perpetual? The east end of the cottage abuts on the high road, and has only a covering of Irish Ivy. On the west end there is a carefully-trained Louis Bonne Pear, which has this year produced a splendid crop of highly-coloured fruit of large size, and with the peculiar fragrant aroma for which this fine Pear is remarkable. Room enough is found on the north wall for a Morello Cherry, which, year after year, produces a large crop of unusually fine fruit. Our amateur ascribes his success in fruit-growing to a plentiful supply of water during the fruiting season and occasional libations of weak liquid manure. He is careful also to strew a little long straw manure over the roots, and close round the collar of trees planted on the south and west aspects.

Roses, however, are our amateur's forte, and with these he spares no pains. There is a large bed of them on their own roots in front of his door and windows. Each plant is, of course, known by name, and has a separate individual history; no bedding or herbaceous plants are allowed to intrude on this border; every bush is allowed space enough to show its habit of growth, a matter to be taken note of by those who wish to grow a few things well. Most of the Roses in the front bed are teas; and for four months in the year furnish a far better display of flowers than the so-called hybrid perpetuals. It may be useful for amateurs to mention the names of a few of the best: Adam, Homere, President, Rubens, Catharine Mermet, and Souvenir d'un Amie among the flesh-coloured; Gloire de Dijon, Belle Lyonnaise, Étoile de Lyon, Madame Falcot, Safrano, and Isabella Sprunt among the yellows, orange, and buffs; and of whites, the charming though scentless Niphetos, Madame Willermoz, Souvenir d'Elise, and the grand and fragrant Devoniensis. His favourite hybrid perpetuals are John Hopper, Marquise de Castellane, Jules Margottin, François Michelon, General Jacqueminot, La France, Madam Lacharme, Marie Baumann, Monsieur Noman, Victor Verdier, and Xavier Olibo, all of them what may be termed old roses. Another pet flower is the sweet old crimson Clove, of which there is an entire bed. The Roses are liberally treated with top-dressings of manure, turfy-loam, and leaf-mould, which he is allowed to accumulate from beneath the elm, oak, and other trees on the estate. The Roses altogether number only 150, but such is the care and liberality bestowed on their cultivation that he can cut, and has repeatedly cut, a dozen blooms which have taken the first prize in an open competition at our local Show.

We noticed in July some excellent crops of Telegraph, Telephone, and Pride of the Market Peas, thinly set and well staked. The sticking is done immediately the Peas are above ground, so as to provide a slight shelter and avoid the liability of injuring the roots. There are the usual crops of winter stuff which were planted early and are now strong and vigorous, notwithstanding the dry summer. Strawberries, chiefly President, have a well-tended bed allotted to them, and the runners are removed before they have had time to impoverish the plants. A part of the sunniest border, sloping south, is reserved for salading, of which he grows a supply much beyond his personal needs for the purpose of making little presents to his friends. "You're fond of it," we remarked. "Yes," said he, with the peculiar intonation of Devonshire folk, "Ye see I can do a little when I feel disposed, and the smell of the earth does me good. It seems to have a deodorizing effect upon the stomach, leastwise it does on mine." Amateur No. 2 goes in for raising seedlings, perhaps the most attractive and fascinating pursuit of all gardening art. We have no doubt that the veteran and prince of florists, Charles Turner, still thinks so. Gardening is, as we said in a former note, one of the pleasures which "ne'er grow old." On another occasion, Mr. Editor, we shall endeavour to describe the most picturesque, interesting and attractive Amateur's Garden it has ever been our lot to see.—*Luke Ellis.*

A garden in the occupation of one of the assistant-masters here has presented an unusual display of bloom for two months past, and at the present time is really at its best. The garden is situated at the foot of the churchyard, along the western side of which is a row of ancient Limes; it stands on a steep slope facing east. The materials in use are of the simplest, and are arranged in three irregular zones. At the back, with thousands of cheerful white blooms, are a score or more strong clumps of a single Chrysanthemum, like the Ox-eye Daisy. Next comes a broad belt of Michaelmas Daisies, of a bright mauve colour, and in front Salvia fulgens and a dwarf pompon scarlet Dahlia.—*T. W., Harrow.*

Roses for a North Wall.—Will any gardener or amateur who can speak from experience kindly name half a dozen Roses suitable for training on a north wall? The desideratum is a green covering, but I don't want to limit myself entirely to the Banksias or other evergreen Roses. Which of the hybrid perpetuals would answer the purpose?—*W. Johnson, Petworth.*

CHOICE AND USEFUL FERNS.

Todea barbara.—Few, we suspect, who have admired the grand specimen of this fine South African Fern in the temperate house at Kew have any idea of its great usefulness for decorative work in a juvenile state. Plants obtained from spores, however, and grown on into 32-sized pots, until they become a foot high and as much in diameter, prove of the greatest value to the decorator, being very pretty and of a very robust habit, with a great capacity for standing "knocking about." At the Crystal Palace, than which no place is more trying to plants, Mr. Head has a fine batch of plants, which he values highly, so useful have the plants proved to him. We may add that two-year-old seedlings of Dicksonia antarctica are also found invaluable at the Palace for indoor decoration.

A new Fern, raised by Mr. W. B. Latham, Botanic Gardens, Birmingham, has been submitted to Mr. Thomas Moore, of the Chelsea Botanic Gardens, and by him has been named Gymnogramma Lathamæ, in compliment to Mrs. Latham. It is really a grand fern, and Mr. Latham recently pointed out to me the parent plants, G. decomposita and G. Schizophylla. It grows fully 2 ft. in height, with handsome fronds of an oblong-lanceolate form, which in a cut state will be valuable for decorative work. Mr. Moore in writing of this Fern in a recent number of *The Gardeners' Chronicle* justly describes it as "a very handsome plant, and will occupy quite one of the foremost positions in this most ornamental genus."—*W. D. W.*

Pteris serrulata cristata.—Of the many crested forms of Pteris serrulata we should select P. serrulata cristata major and P. serrulata cristata compacta, as two of the best and most distinct varieties. That which is known as the Chiswick variety of the former is the best we have seen. This can only be increased by division, as unfortunately it does not come true from spores. It is, however, of free growth, and makes a very handsome plant. P. serrulata cristata compacta, may be propagated from spores which germinate very readily, and the plants will be found to vary but little in form. It is one of the most useful varieties for small pots.—*H.*

Lastrea aristata variegata.—This is one of the best of the variegated Ferns, and it can be increased either by division or from spores. The spores, however, are very slow in germination, and it often happens that some other Fern will make its appearance in the pots some time before the right sort has had sufficient time to germinate; and these should be picked out as carefully as possible.—*H.*

Pteris argyrea is another very useful variegated Fern, especially in a young state. We have seen it used in combination with P. serrulata, one plant of each potted together in a 48-sized pot. In this state the effect is very pleasing, and it makes a beautiful object for table decoration.—*H.*

Adiantum mundulum.—This is a beautiful Maidenhair, very elegant, and worthy of being largely grown, standing well when cut, and admirably adapted for backing button-holes. Lovers of exotic Ferns should make a note of this kind, and add it to their collection.—*E. W.*

A CABMEN'S SHELTER.

Doubtless some will exclaim when they read the heading above—What next? and be inquisitive to know what possible connection there can be between a Cabmen's Shelter and the matter usually found in the columns of a gardening paper. Well, we are bound to confess that as a rule there is none whatever, but there are exceptions to every rule, and to this one in particular, as the sequel will show. During the last eight or nine years we have watched with pleasure the gradual extension of a movement which has for its object the erection of suitable shelters in the streets of London for the use and convenience of a body of men whose long and weary hours of toil, and precarious means of obtaining a livelihood, entitle them to more consideration than they usually get from their casual employers.

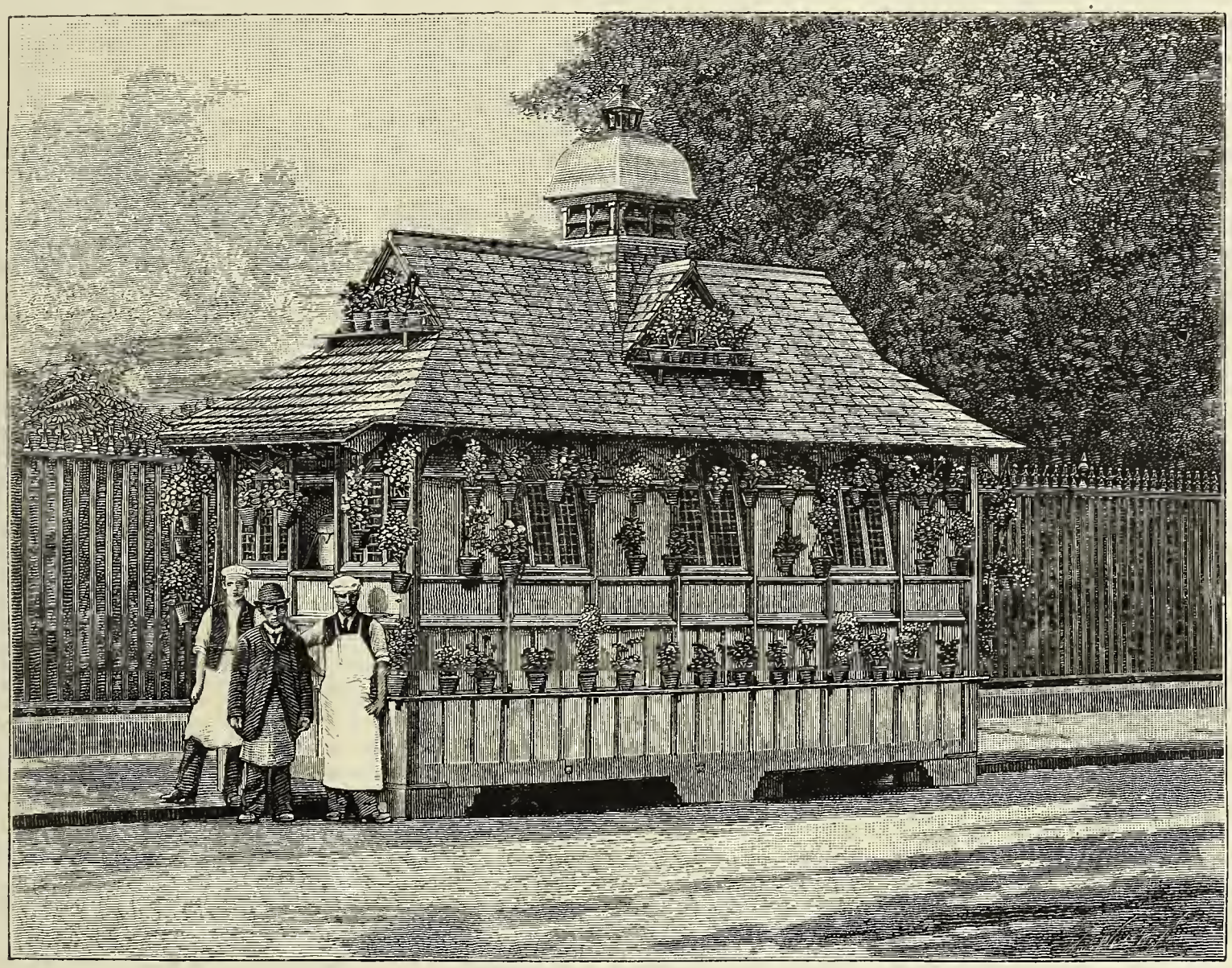
The erection of these Shelters in various parts of the metropolis has been a boon to thousands of men who can now obtain rest and refreshment away from the public-house, free from police or other hindrance, and at a cost that comes within the means of their, too often, very slender resources. Each Shelter is in charge of an attendant, who is responsible to a general superintendent and an inspector, for keeping them clean, and for providing or cooking food for the men using them, and for the due observance of other rules framed with a view to rendering the Shelters useful and popular.

In our perambulations through the streets, we have come across several of these Shelters which exhibited external evidence of the cook within being a man who was fond of flowers. We have stopped and admired the efforts of these men to make their Shelters attractive by means of plants in pots; we have taken stock of the subjects most favoured by the *chefs*, and made notes of the plants which seemed to do best under the particular conditions prevailing. We had hoped to have discovered that *chefs* had a "fancy," peculiar to their class, as the Lancashire weavers and other operatives have theirs in Auriculas or other Florists' Flowers. We regret to say, however, that we have made no such discovery at present. On the contrary, we have observed that our *chefs* floricultural

predilections are of the catholic order—anything that will grow at all is the plant for him.

The best decorated Shelter that we have seen, is the one of which we to-day give an illustration, faithfully prepared from a photograph, and which many will doubtless recognize as the handsome little structure designed by Mr. Maximilian Clarke, presented by Miss Holland and Miss G. Holland to "The Cabmen's Shelter Fund," and opened in July last in the Bayswater Road, near the Marble Arch. From the date of opening until we last saw it a few weeks ago, this Shelter has been a most attractive feature at that very busy spot—and the pride of every cabman using the rank.

The plants, which included most of the commoner sorts of summer-flowering things, have all been provided by the cook in charge, and by him most carefully tended. We should like to see more of these Shelters rendered pretty and attractive by means of flowers, but perhaps that is too much to expect while the men have to buy the plants themselves. There can be no reason, however, why they should not receive some assistance by the presentation of plants in the spring on the part of those who can afford to give them. May we hope that the hint will be taken, and that next season, by means of a distribution of strong well-rooted young plants of scarlet and other Pelargoniums, Fuchsias, Musk, Creeping Jenny, Balsams, and such like free-flowering plants, a healthy rivalry may be encouraged between the men in charge of the different Shelters, to the common good of the men themselves, and the edification of the public at large. Should any of our readers care to assist "The Cabmen's Shelter Fund" by means of a donation or subscription, the Honorary Secretary, Mr. Walter Macnamara, 15, Soho Square, will doubtless be very glad to hear from them.



THE CABMEN'S SHELTER, NEAR THE MARBLE ARCH.

GARDEN ALLOTMENTS.

I was very glad to see your remarks about garden allotments and small holdings, as I know from long experience what a boon they are to the working classes, too many of whom have no interest whateve in the soil beyond the feeling that in some way it produces their bread. The land in this country has, unfortunately, got into large holdings through owners letting buildings go into decay and adding all small farms to the large ones, which may, perhaps, have suited agents, who have less trouble about repairs, keeping accounts, and taking rents, but doing away with little holdings has most certainly not been for the good of the landlords, who are feeling the pinch, for now that corn is coming in vast quantities, as it will continue to do, from abroad and the price is so low, there is a great cry that farmers cannot meet their expenses and live. The why and the wherefore of this is that they have done away with the keeping of cows, fowls, and other stock, which were too much trouble, and taken to growing wheat, which, with present rents, does not pay unless the yield happens to be unusually good and the season for harvesting fine.

When we had more small farms, butter, meat, cheese, milk, and eggs were all plentiful, but now, speaking quite within the mark, they are double the price. Consumption cannot have increased to such an extent as to make the difference, which comes almost entirely through the falling off in production, for where one cow or hen is kept now, ten might be seen before, and no wonder then that eggs are not to be had, and beef and mutton is over a shilling per pound. The evil, bad as it is, does not end here, as the country is losing its backbone, the industrious, staid, hardworking middle-class man, who could take his plough, harrow, drill, or rother implement, and use any of them, and train his sons to do the same, while the daughters were being made useful in the house and fitted to become wives and mothers later on; but such girls or men are nowhere now to be found. Even labourers are being driven into the towns, where they are far too thick already and only become a burden on the ratepayers, whose cry, like the farmers, is, "How bad the times are!"

To remedy this most unsatisfactory state of things the land must be split up into smaller holdings, and the sooner proprietors are brought to learn this the better will it be for them and their fellows. The Act which Mr. Jesse Collings got passed will do much good as soon as it becomes known that charity lands are to be let for allotments if asked for and the same rents offered, but as yet those concerned and for whose benefit the Act was passed, seem to know nothing about it. Cannot those who have the management of village clubs, spread the news and let poor struggling labourers with families know what has been done for them, and that they can hire a bit of land without going hat in hand or fearing any refusal? What a glorious thing for artisans in towns if they could only have their plots, but there it is too valuable to cultivate and soon gets built over.—*Omega.*

Count Festetic.—We learn that Mr. H. E. Milner has been entrusted with the laying out of Count Festetic's grounds in Hungary. The works consist of an English park on one side of the palace, and on the other side the ground is to be treated in the formal French manner (as at Versailles) with a complete system of waterworks, &c.—*Gardeners' Chronicle.*

FRUITS.

Golden Noble Apple.—Those of our readers who have scanned the interesting list of classes which constitute the schedule of prizes for the Fruit Show at South Kensington, on Tuesday, Wednesday, and Thursday next, can hardly fail to be struck with the fact that Golden Noble and Waltham Abbey seedling Apples are coupled together, and leading to the belief that the authorities regard them as one and the same variety. That assumption, however, would be a mistake, as we learn that the reason for this coupling is not to be found in the belief that the two kinds are the same, but simply because they pass under the same names in many localities. That the Apples are singularly distinct any one who has the least acquaintance with them knows, but when the kinds were first put into commerce they seem to have got a little mixed. Golden Noble is always to be distinguished by reason of its handsome rounded, smooth form, and when ripe its rich yellow spotless skin. The eye is small and closed, yet prominent. The habit of bearing on the part of the tree resembles that of the Yellow Ingestre, that is, at the points of the shoots rather than from side buds. On the other hand, Waltham Abbey Seedling is a semi-conical Apple, of rugged or angled outline, and somewhat russetty skin, has a large open eye, and softer flesh than that of the other. Both are excellent keepers, but the latter is by far the most productive; indeed it is one of the most regular and freest-bearing Apples in cultivation. The habit of the tree is compact and drooping; much like that of the Maux Codlin, but it gets larger. We should say that for ordinary kitchen purposes, and specially for cottagers' gardens, it is hardly possible to find a kind more profitable or suitable. We shall look for this class on the 14th with much interest, because both are first-rate Apples, and merit high encouragement.

Melons swelling their fruits should now be pushed on with all possible despatch, by maintaining a bottom heat of from 80 deg. to 85 deg., a night temperature of 70 deg. and 75 deg., running up by day 10 deg. or 15 deg. higher, with sun heat. Give plenty of atmospheric moisture at closing time—say about 2 P.M.—until the fruits begin to ripen, when the distribution of water in the house should be gradually discontinued and air be admitted more freely. Keep the pipes sufficiently warm to sustain a buoyant atmosphere during the time the fruits are ripening, and until they have been removed from the plants as required for the table. In order to assist the swelling of the fruits one or two good soakings of tepid diluted liquid manure should be given to the roots when necessary, but after the fruits show signs of ripening only sufficient clear water to prevent the plants from flagging should be given, and with a view to securing high flavour in the fruits, a chink of air should be left on the top and bottom ventilators all night.

Autumn-bearing Raspberries.—These should find a place in every garden in which dessert in variety is a *sine quâ non*, inasmuch as they come into bearing just as the summer-fruiting variety has gone out of season, and, unlike that kind, bears on wood of the current year's growth until the fruit is destroyed by frost. This is a good time to obtain canes and to plant in liberally-manured ground, in rows 4 ft. apart, and 12 ins. or 15 ins. asunder in the rows, in a sunny border, securing the individual canes to a short stick or a couple of strings strained to a series of upright posts, to prevent them from swaying. After planting, lay on a couple of inches thick of short dung between the plants and rows as a winter dressing. About next February these canes should be cut down to within a couple of inches of the ground, after which, in due time, a series of suckers will spring from the old "stools," which, according to the strength of the latter, will be more or less strong. Hence the necessity of getting the canes planted early in the autumn, so that the roots may have time to take well to the soil before they shed their leaves. The strongest of the young canes should be trained, as above recommended, during the summer about 6 ins. apart, and all superfluous shoots should be cut out as soon as they appear, so as to concentrate the energies of the plants in the development of stout, short-jointed canes. Belle de Fontenay is one of the best autumn-bearing varieties that I am acquainted with.—*H.*

Hardy Fruits at the Crystal Palace.—It was a happy thought of the Directors of the Crystal Palace Company to arrange for a display of hardy fruits simultaneously with the exhibition of "the noble tuber," organized by the International Potato Committee, and the results fully justified their expectations, for of Apples and Pears especially, notwithstanding the paucity of the crop this season, the display was a thoroughly good one, and the fruits and Potatos combined made an exhibition of great practical interest. The whole of the exhibition was contained in the central transept, the various products shown being staged on long tables conveniently arranged to allow of a free passage between each, with a row of well-grown, medium-sized decorative plants placed in the centre of each table to relieve the monotony of the straight rows of plates. This feature of the show was remarkably well carried out by Mr. Head, the garden superintendent at the Palace, and bore witness to his skill as a grower of plants, as well as to his good taste as a decorator. In point of numbers, and also in quality, the Apples took a considerable lead of the Pears, and the Kentish samples again stood out pre-eminent. In the larger classes, Mr. Haycock, gardener to Roger Leigh, Esq., M.P., Barham Court, Maidstone, held his own against all comers, his examples of both Apples and Pears being simply magnificent. Of Apples he had no less than ninety-five dishes, and attention was irresistibly drawn to his culinary varieties by reason of their remarkably fine size, and rich colour in the case of those sorts, which possess this element of beauty. Messrs. Rivers & Sons, Sawbridgeworth, Mr. A. Waterman, and Mr. Goodacre, were the other prize winners, and a fine collection from Mr. Sidney Ford, gardener, Leonardslee, Horsham, was unnoticed, a fact which says much for the quality of the fruits of those placed before him. Mr. Haycock's Pears were unusually fine for the season, and his nearest opponent was Mr. G. Goldsmith, gardener at Hollanden, Tunbridge Wells. The other successful competitors were Mr. Waterman and the Messrs. Rivers. Mr. Goldsmith was also second to Mr. Haycock for twelve dishes of Pears; and first for the same number of Apples. The Miscellaneous Class brought out some very fine trade collections. Messrs. James Veitch & Sons had a collection of no less than ninety dishes, and received a first-class certificate for the variety named "The Sandringham," which came to the front at the Apple Congress last year. Messrs. Cheal and Sons, Crawley, had a very extensive assortment of Apples and a few Pears, all nice clean samples. The Messrs. Rivers sent a collection of Peaches and Plums, and Mr. J. Butler, Orchard Lane Gardens, Sittingbourne, sent a fine lot of Pears, specially noticeable in this exhibit being superb samples of the Pitmaston Duchess. Messes. Richard Smith & Son, Worcester, sent some splendidly coloured examples of their New Worcester Pearmain.

Nova Scotian Apples formed a striking and most interesting feature of the same exhibition. These were arranged on a long table immediately in front of the grand orchestra, and being shown in considerable numbers, and in good condition notwithstanding their long journey, made a most imposing display. The finest samples shown, however, were not equal in size and weight to the produce of some of our Kentish gardens, but for the most part they were highly coloured, and most attractive in appearance. The exhibitors to whose enterprise we owe this fine display were Mr. R. W. Starr, Starr's Point, Port William; Mr. E. E. Dickie, of Canard; Messrs. E. & O. Chase, of Cornwallis; Mr. H. Duncanson, of Falmouth, Hants County; Dr. H. O. McLatchy, Wolfoille, and the Fruit Growers' Association of Nova Scotia. The varieties most known in this country which were best represented were Gloria Mundi, Gravenstein, Rhode Island Greening, Cox's Orange Pippin, Blenheim Orange, and Emperor Alexander; while of the purely local sorts, the most conspicuous for their fine size and other good qualities were the Chebucto Beauty, Fallawater, and Pewaukee. The interest in this fine display was increased by the exhibition of some well filled barrels, showing the method of packing adopted for sending the fruits to the London market.

FLOWERS.

Autumnal Crocuses.—Several of these pretty little plants have already been noticed in these columns, and in addition the following may now be seen at Kew:—C. iridiflorus, a fine Transylvanian species with large flowers, the outer segments rich purple, and inner segments pale lilac.—C. asturicus, a beautiful Spanish species with lilac-purple flowers.—C. Salzmanni, a pretty North African species, with flowers and leaves appearing together; the lilac flowers are elegantly feathered with purple lines.—C. Clusii, a Portuguese species with purple flowers which appear with the leaves.—C. Cambessedesii, from the Balearic Islands, has the outer segments pale buff with beautifully feathered purple veins, and white inner segments.—C. longiflorus, an Italian species with pretty lilac flowers.—C. Boryi, an Eastern species with rather small white flowers.—E. cancellatus, an Asiatic species, with white flowers, and some forms with feathered purple markings. In the wild garden, too, a number of species are planted in the grass, several of which are flowering, the grass forming a very pretty background.

The Thrifts.—Many of our readers will be acquainted with the common Thrift (Armeria vulgaris, known also as Armeria maritima), for it is found on the shores of the British Isles, and on the tops of the Scotch mountains. Thrift is the passive participle of *threave* or *thrive*, press close together, and meaning the "clustered" pinks. So called from its growing in dense tufts. There is now in cultivation a charming group of Giant Thrifts, producing from a crowded tuft of leaves, varying in size and colour, numerous heads of large flowers; these are produced in great abundance, and they are not only most attractive, but very useful in a cut state. There are A. cephalotes rubra, a red-flowered form of the round-headed Armeria; A. plantaginea rubra, a finely-coloured form of the plantain-leaved Thrift from the South of Europe, There are also in cultivation a few fine varieties of the common Thrift; the white-flowered form is very good. The Thrifts do best in well-drained deep sandy loam. and they can be increased by division of the roots, which it is desirable should be done once in every two or three years, as old plants do not bloom so freely as young ones. The common Sea Thrift (A. vulgaris) makes a very good and serviceable edging to garden paths.

Salvia farinacea and S. Greggii.—These two fine species are just now flowering in gardens, and very effective they are at this comparatively dull period of the year. Both of them are natives of Texas, and of somewhat recent introduction; the latter especially is still very rare. S. farinacea has shiny green, oblong-lanceolate, obtuse, coarsely and distantly serrate leaves, which are 2 ins. to 3 ins. long, and long racemes of violet-blue flowers. The calyx is almost truncate, and covered with dense white tomentum, and the corollas, which have usually a white throat, are ¾ in. long. It grows to about 2 ft. high, and is very effective. S. Greggii is of dwarfer and more compact habit, and is closely allied to the better known S. Grahami. The leaves are ¾ in. to 1 in. long, elliptic-oblong, obtuse, entire, and shining green in colour. The flowers, which are bright carmine in colour and nearly 1 in. long, are borne in graceful racemes. The calyx is three-toothed, and green with brown nerves. It has a scent somewhat resembling Rosemary. Both species succeed well under similar treatment to S. fulgens, and their native country would indicate them to be still hardier than that well-known Mexican species.

Choisya ternata.—Too much cannot be said in praise of this charming flowering-plant. It is well managed by Mr. J. Roberts at Gunnersbury Park. He keeps his plants in small pots, plunges them in cocoa-fibre or some such material in the open-air during summer when they set their buds; and when in flower they receive liberal supplies of liquid manure.—*E. W.*

Arum Lilies.—These are remarkably well grown by Mr. Cooper, gardener to the Right Hon. Joseph Chamberlain, M.P., at Highbury, Moor Green, Birmingham, where they form fine handsome plants sending up a continuous succession of spathes for use all through the dull season. Mr. Cooper's plan is to plant them out in a well-manured part of the open garden in the end of May, keep them well watered all through the summer, and lift and pot them in the middle of September. They are then placed in a cool vinery until they show flower, when they are brought on for use as required. Plants so managed are very different from the weak ones cultivated in pots which one sees in many places, as they produce much larger flowers, and a much longer succession of them.—*J. B.*

Eucharis amazonica is also grown into large specimens by Mr. Cooper, and his plants supply plenty of flowers the greater part of the year. His treatment of them is to give them heat, moisture, and shade while growing and flowering, and as they go off blooming to give them a rest in a cool house for a time, but not to quite dry them off. The rest is required in the end of the summer and autumn, and before the cold weather comes they are returned to the warm-houses.—*J. B.*

Monster Lily Bulbs.—Messrs. Collins Bros. & Gabriel, 39, Waterloo Road, S.E., have submitted for our inspection a very remarkable sample of home-grown bulbs of Lilium auratum. The largest weighed 1 lb. 8½ ozs., and measured 16 ins. in circumference. Another turned the scale at 1 lb. 5¾ ozs., and was only a quarter of an inch less in girth than the first, while two others were only three-quarters of an ounce less in weight than the last mentioned bulb. The Messrs. Collins have exhibited large bulbs before, when a doubt was expressed as to whether the accident of seasons rather than any particular method of treatment had not been the cause of the wondrous development. However, here they are again, and larger than before, so that there is no longer any room for doubting the possession by the Messrs. Collins of a "wrinkle" in cultivating Lily bulbs that other growers would like to know. Owing to the heat and drought home-grown Lily bulbs are reported to be small this year in most parts of England.

Crocus speciosus.—This can be seen just now in perfection on the rock-work in the Chiswick Gardens of the Royal Horticultural Society. It has been planted, and let alone, and the result is many flowers of a rich bright violet hue. It is one of the best of the autumn-flowered Crocuses.

Rondeletia speciosa.—This is one of the somewhat limited number of autumn-flowering stove plants. It is of moderate size, with small elliptical leaves, and red corymbs of verbena-like flowers at the tips of the young shoots. It may be propagated by cuttings of the well-ripened wood, and does well in a mixture of peat and loam. It commences flowering earlier in the season, but continues to do so for about two months. It was introduced from the West Indies in 1830.

Tuberous Begonias.—The value of these charming plants, for autumn as well as summer decorative purposes was well illustrated at the Crystal Palace during the past week, where Messrs. John Laing & Co. had a fine collection of medium-sized specimens most profusely bloomed. The colours for the most part consisted of scarlet and crimson shades, such as will not be produced by any other plants until the winter-blooming Zonal Pelargoniums come into blossom, hence their value to gardeners who have to make a display while shooting parties are the order of the day.

Mutisias.—By an unfortunate slip the descriptions of the two new Mutisias figured "Regel's Gartenflora" this work, and noticed in last week's issue, were transposed. The first description applies to M. versicolor (fig. 2) and the second to M. breviflora (fig. 1). If readers will kindly transpose the names and numbers of the figures this will meet the case.

VEGETABLES.

Tomato Golden Queen.—This Tomato is the finest and richest coloured of all the yellow section, and is the product of a cross between Green Gage and the large red Stamfordian. Curiously enough we learn that the cross gave both red and yellow forms, of which the one named above is the finest. It is really a yellow form of Perfection, which is perhaps the finest and handsomest of all the Excelsior type. Why yellow Tomatos should not be as well favoured as red ones we fail to understand, for except in colour of skin it would puzzle the severest Tomato critic to tell in what respect a red form differed from a yellow one. Still further, we think rich, clear, golden tints to be preferable to some of the sickly red hues that are occasionally seen in Tomatos. The Golden Queen is wondrously prolific and handsome. It is in the hands of Mr. B. S. Williams, of Holloway, who will send it out.

Mulching Garden Crops.—The value of mulching garden crops is, I think, very little understood, and often when attempted is not half done, and done in many instances too late. As I have during the past season put the practice to a practical test, a few lines on the subject may not be out of place in your columns. We have here a sharp shallow soil, resting on a subsoil of sand and pea gravel. Our average rainfall is one of the smallest in the country, so that in a season like the past the utility of the mulching where adopted is proved in some instances in a very striking manner. The most successful results are seen here in some rows of Peas which were sown immediately after a shower of rain in June, and a good mulch of long litter put on each row at the time of sowing. The litter was never taken off, but the Peas were allowed to come up through it, and were not moulded up in the usual way. Shortly after they came up the entire surface of the soil was thickly strewn with litter, and the Peas had but one watering. We have been gathering through August and September from the rows so treated the best Peas of the season; and they are still in flower, and all being well will continue to flower for some time to come. Although quite satisfied with the result in this instance, there is not the slightest doubt but that it would have been far better if, having had the ground in readiness for some time beforehand, instead of mulching after the seed was sown it had been done some six or eight weeks previous so as to keep the moisture in the ground. That, I think, should be the practice of all who are similarly situated to myself. Another advantage connected with mulching is that if laid on pretty thick it is a great check to the growth of all small annual weeds.—*W. B. G.*

Cauliflowers.—It has been well said that there is little except capacity to withstand hard weather to distinguish the Broccoli from the Cauliflower. It is true that the latter has, as a rule, a shorter season, indeed there are no exceptions, for the Autumn Giant, perhaps the kind which of all others needs a long season, is yet much more precocious than is the earliest of Broccolis. There is with this variety in all its characteristics such near approach to any early kind of Broccoli that some of refined taste decline to admit it to be a cauliflower, though in that respect, perhaps, they are a little too epicurean. What is the fact in relation to this Cauliflower is that, owing to its rapid development when its season arrives and the moderate price at which seed in quantity may be obtained, it has become, more even than Broccoli of any kind, a people's vegetable, for rare indeed is the season when the markets are not almost glutted with its huge heads. Just now it is very cheap, indeed we hear of heads selling as low as 1*s.* per dozen, really a price that can pay no one, but is most unreproductive. Still, whatever may be said as to the flavour of the Autumn Giant, it is a great advance upon the old Walcheren Cauliflower for autumn work, and is for tenderness and flavour an equally long advance upon the best of true Broccolis. There are three good Cauliflowers which may be sown during the year. Early London now, to winter in frames; Snowball, or Early Dwarf Erfurt, to sow in January for planting out early in April; the same kind sown again in April for later summer cutting; and the Autumn Giant in both March and April out in the open for early and late autumn use.

Vegetables at the Crystal Palace.—In connection with the Show of Hardy Fruits, and the grand exhibition of the International Potato Committees (reported in another column), held during the past week at the Crystal Palace, there was a small display of Vegetables, which merits a brief notice in these columns. The first prize offered by the Palace Company for a Collection of Vegetables arranged for effect, and not including more than four dishes, distinct, of any sort, was won by Mr. Waterman, gardener to H. A. Brassey, Esq., M.P., Preston Hall, Aylesford, with a most creditable assortment of about thirty sorts, including salading materials. Another Kent man, Mr. Neighbour, gardener at Bickley Park, was an excellent second, and Mr. J. H. Goodacre, of Elvaston, was third. Mr. Neighbour was an easy first with a collection of twelve dishes, beating Mr. C. J. Waite, The Gardens, Glenhurst, Esher, the only other prize winner. The Amateurs' Class was poorly contested, the samples exhibited being, in quality, a long way behind those shown some time ago at the Health Exhibition. The prize winners were Mr. T. Beckett, Cole Hatch Farm, Penny Amersham; Mr. L. Harris, Braddenham, High Wycombe; and Mr. W. Patehell, Bandon Hill, Beddington; and the best samples shown were of Carter's Champion Runner Bean, Moore's Cream Vegetable Marrow, Snowball Turnip, and the Trentham Fillbasket Tomato. Messrs. Sutton & Sons' prizes for a Collection were won by Mr. Meads, gardener to Viscount Barrington, Becket Park, Shrivenham, with a particularly good lot; Mr. C. J. Waite; and Mr. C. Osman, South Metropolitan Schools, Sutton. Some very fine Onions, the Rousham Park and the Anglo-white strains of the White Spanish Onion, the latter distinct from the former in its more rounded base, came from Mr. H. Deverill, seed merchant, Corn Hill, Banbury.

Ornamental Gourds were largely exhibited on the same occasion, forming a display which for numbers and variety we have rarely seen equalled, and which were a great source of attraction to the visitors. Mr. Barron sent from the Royal Horticultural Society's Garden at Chiswick a very interesting collection, which included a specimen of Vilmorin's Yellow Mammoth, weighing 74 lbs.; large examples of the Variegated Turban, a striking variety by reason of its strange form; the Red Etamp Mammoth, the Canada Crook Necked Squash, the Negalston Gourd, the Bush Scollop, the Messina Gourd, and the Valparaiso Squash. Among the smaller sorts are the prettily stripped Coloquinte Plate Rayee, the Early Bush Crook-neck, Coloquinte poire blanche, Coloquinte pomme hative, and Coloquinte Galense. Very fine collections of ornamental Pumpkins and Gourds were contributed by Mr. C. Osman, and Mr. T. Glen, gardener to Mrs. Montefiore, North Park, Crawley; but the heaviest Mammoth Gourd shown was a monster weighing 80 lbs., sent by Mr. George Sturgess, gardener to Dr. Freshfield, Mint House, Redhill.

New Vegetables.—Cabbage, Earliest Vesuvius: A short-stemmed Italian variety, with flat and very firm heads and few loose leaves, of a bluish-grey colour, somewhat resembling the Brunswick in shape and colour, but superior in flavour. It is said to be the earliest and most productive variety known.—Early Mongibello: A short-stemmed Cabbage, with the green leaves traversed by violet-coloured veins, and forming solid heads in three months; a very distinct Cabbage, much appreciated in Italy, and there preferred to any other, being particularly adapted for spring culture.—Lettuce, Potenza Cos: A very distinct variety for spring sowing, and the earliest of all Cos Lettuces, of Italian origin and grown almost exclusively in some parts of Italy, it grows nearly two feet high, forming very solid, self-folding heads surrounded by brownish-bronzed leaves, and stands long before it runs to seed. All introduced by Dammann & Co.—*Florist and Pomologist.*

THE

Orchid Grower's Calendar.

Ventilation of Orchid-houses.—We may fairly claim to have made great and important improvements in the ventilation of Orchid-houses of late years, and also that the importance of a careful use of the means provided for the admission of pure air receives more attention than it formerly did. In fact, the subject of ventilation has become more scientifically studied among gardeners, and consequently the horticultural builder has been induced to relinquish the old styles of ventilation, and a better system has been adopted. Hence we can hardly forbear a smile when we come across those cumbersome structures with their complicated arrangements of ropes, weights and pullies for sliding down the top sashes, and their swinging front lights for giving air where front ventilators was provided at all, which we see in most old places, and which, with a very small outlay, might be made much better houses for plants if they were taken in hand by any ordinarily sensible man.

While coaching the builder into better notions, gardeners also forgot some of their own traditional whims. Who among us, who have served in large gardens in our young days, cannot remember many a sound rating for not immediately shutting off all the air when it began to rain? The rule was merely established by the custom of one practitioner following in the steps of another, and in many cases becoming more strict in his notions, and thus the advisable regulation of restricting the quantity of air admitted in dull weather got corrupted into a mischievous whim, for I never found one of its upholders who could advance a reasonable excuse for it.

Wholesome air at all seasons of the year, and at all hours of the day and night, is the one thing above all others needful for the successful cultivation of Orchids—given that they thrive under all reasonable circumstances, and without it they languish. Often to my remonstrance at the close, impure air in an Orchid-house, it has been urged that ventilation was not more freely given in order that the temperature might be kept up. This is no valid excuse, as the temperature, as marked by the thermometer, is but of secondary importance, even heat-loving Orchids thriving better in a healthy atmosphere of 65 deg. than in a close one of 80 deg.; indeed, in impure air an excessively high temperature acts on the plants in precisely the same manner as an excessively low one—it stunts them and prevents them either growing or flowering satisfactorily.

The system of ventilation now generally in use in all good collections is simple, and not only does it answer the purpose for which it is intended, but it is a great saving in the wear of the structures over that of the old plan of sliding lights, which also often caused great damage by slipping down in the night in frosty weather. The method of opening the ventilators now in use varies according to fancy, but the plan of giving air is much the same in principle, viz., the placing of ventilators at intervals in the ridge at the highest point, hinged on the upper side so that when open the movable part still almost covers the aperture in case of rain, and of small traps, with sliding covers, in the brickwork at the base of the house as near the ground as possible, and below the hot-water piping where practicable. The top ventilation is also supplemented in many houses by a small movable sash at either end of the house at the highest point, and a great improvement has been made in many cases by leaving an ⅛-in. opening between the last pane of glass and the wall plate, and thus providing a means of ventilation which cannot be closed at any time or season;—indeed, for that matter, all who wish their plants well should leave a little air on at night top and bottom in summer, and at the bottom in winter, not quite closing the ventilators at any time, unless in towns when smoky fogs prevail.

The doing away with the front swinging ventilators on a level with the plants was one of the best moves made in connection with Orchid-growing, as with them when air was given the plants near the openings were practically out-of-doors, and those further removed were not benefited. The greater number of properly-placed ventilators there are in an Orchid-house the better, but it must be understood that they are to be carefully used, an inch or two of air on each being given instead of putting a few wide open and leaving the others closed. The object is to allow of the ingress of pure air and the egress of that which has become vitiated in such a manner that the wholesome quality of the atmosphere throughout the house is maintained without causing currents, and this is only to be secured by regulating the top and bottom ventilators so that they balance, even the quarter from which the wind comes being studied, so that on that side of the house the ventilators may be kept closer than on the other.

This matter requires particular attention in keen dry east winds, at which time but little air should be given on the side from whence it comes. In bad weather the bottom ventilators are the most in use, and hence the importance of having them as near the ground-line as possible. In some houses difficulties in the way of carrying out this plan are met with, and brick chambers and drain pipes are used to conduct the air into the houses; but let the difficulties be what they may they are worth coping with, and the inventive genius I have known many gentlemen display in the matter proves to me that no obstacle is insurmountable if it be carefully considered. The necessity of leaving a little air on at night, as is well known to those who have practised it, cannot be too strongly urged, as it acts beneficially in at least two ways—it ensures the healthful quality of the air in the house at night when the heating apparatus is often most employed, and it also prevents that excessive night temperature which goes further to destroy the health of Orchids than anything else, and is so favourable to the spread of insect pests. The regulation of the ventilation according to the state of the weather and according to the season of the year should be a pleasant study to the Orchid-grower, and the sooner he makes it one the better for his plants and for his own peace of mind, if he has their interests at heart.

But not alone is it necessary to see that pure air is admitted into the house, but that there are no causes of impure air inside it. Sometimes it happens that imperfectly trapped drains admit noxious gases, and at others sulphur and other bad vapours find their way into the house along the course by which the piping enters from the stoke-hole. In these and all other such like cases great care and attention should be given to the curing of the evil, for if allowed to continue the results are most lamentable. Twice lately have I seen houses of Orchids reduced to the most unsatisfactory condition, notwithstanding the great care bestowed on them, by bad vapours passing into the houses in this way.

Every grower of Orchids ought to have a correct notion of the proper principles of ventilation, and apply his knowledge to his own houses, regulating them as his experience may prompt him; for there is as much difference between houses built by the same builder on the same plan as there is in ships built on the same lines or violins made by the same maker—some houses have a stuffy air about them for which one cannot well account. When such is the case the best thing to do is to slip strips of lead between the laps of the lowest two or three rows of glass, causing permanent openings between them, so that a little fresh air can get in to displace the bad at all times. In this manner I have known the closest and most unmanageable houses to be perfectly cured and rendered good for Orchid culture. Messrs. F. Sander & Co., of St. Albans, who have built largely lately, have adopted many new devices in ventilation worth copying, notably their admirable system of permanent bottom-ventilation by arranging openings in every other brick at the base of the house, the current being checked inside by a hot-water pipe placed so as to run over all the openings.

In gardens where slugs are troublesome, it is necessary to protect the bottom ventilators with perforated zinc or some other material, but if possible it is better to do without it. In towns, too, cats are wont to getinto the houses, and rather than risk damage to the plants by them, it is wise to cover the bottom ventilators with wire netting.—*James O'Brien.*

ORCHID NOTES.

Oncidium incurvum.—A most pointed instance of the beneficial effects of cold-house treatment on this plant is to be seen at Woolton Wood. Mr. Gaskell having a large plant of it some time ago which had become very sickly and spotted in a warm-house, Mr. Davies, the gardener, placed it in the cold-house, where the Masdevallias are grown. Soon the plant exhibited great improvement in its condition, and now it is one of the greenest and healthiest-looking specimens in the house, and sending up a great quantity of flower-spikes.—*J. B.*

Sale of M. Oscar Lamarche's Collection.—This fine collection of plants, which had been brought over from Liège for sale by Messrs. Protheroe & Morris, came under the hammer on Tuesday last, and good prices, as a rule, were obtained. An unrivalled example of Vanda Lowi, from the collection of Mr. Schiller, of Hamburgh, measuring 4 ft. 6 ins. in height, with thirty-two leaves and two young growths, was "the plant of the day," and realized £68 5*s*. Other good prices obtained were £14 14*s*. for a grand mass of Anguloa Clowesii; £21 for Cattleya labiata; £24 3*s* for C. labiata Pescatorei; £8 10*s*. for Cypripedium caudatum roseum; £18 18*s*. for Epidendrum prismatocarpum, a specimen with over 100 bulbs; £9 for Cattleya Gaskeliana; £32 11*s*. for a fine young plant of Vanda Lowi; and £10 for Vanda tricolor Wioti.

FLORICULTURE.

Hyacinths in Water.—"Perhaps," states Miss Maling, in her useful book on *Indoor Gardening*, "there is no pleasanter way of beginning gardening than setting up a range of Hyacinth bulbs in glasses. The time of year for beginning—just in the closing autumn—the easy and cleanly work, the absence of blight and insects, and the really magnificent flowers which are by all attainable, combine to make the business a thoroughly attractive one; so that perhaps more than half of those who practise it become thenceforth 'plant fanciers.'" This is an excellent introduction to our subject. But some might be induced to say, why write about a subject with which every one is acquainted? My reply is, that every one is not acquainted with the practice; and any one walking about those parts of London in spring where private houses abound, they will see Hyacinths in some windows looking of all things most miserable. This would not result if they were properly managed. They appear to be cared for up to a certain point, and then they are neglected. Let us lay down a few simple rules for the growth of Hyacinths in water; and if they be followed, I am certain something very near to success will be achieved.

To those contemplating growing Hyacinths in glasses, I would say purchase some nice ornamental but inexpensive glasses, in the way of Tye's Registered. They have flat bottoms, they cannot topple over from the weight of the Hyacinth in them, as the old-fashioned tall glass is apt to, and the grower can have nicely-fitting useful supports with them that a child can manage. Put in each glass three or four lumps of charcoal about the size of a filbert—they tend to keep the water sweet, and they may have some little manurial value. Then fill up to within an inch of the top with clear soft water, let them stand two or three days; then the charcoal will become saturated with the water and sink to the bottom. Now place the bulbs in the glasses, and let the water just touch the base of each. Then place them away in a cool, dry, dark closet for six weeks or so; meanwhile the bulbs will root deeply down into the water. The middle of October is quite soon enough to put bulbs into the glasses. The best sized Hyacinths are medium bulbs; they are more likely to throw one good spike, not two indifferent ones. It is well to look at the bulbs once a week to see that they are going on all right.

If the water in any glass becomes offensive to the smell, turn it out; cleanse the glass thoroughly in tepid water, and very carefully the roots of the

Hyacinth also, and put the bulb back into the glass again. But this very seldom happens if charcoal be placed in the glasses. When the bulbs have nicely rooted, and they show signs of starting into an upward growth, they should be brought to the light and placed where they will not become drawn. The aim of the cultivator should be to encourage a stout sturdy growth, and good blooms can scarcely fail to result. When the flower-stem begins to ascend the support can be placed in position, and the hook which grasps the stem of the spike be gradually raised as required. When the glasses are in a sitting-room where there is a fire, some of the water will escape by evaporation, and care should be taken to keep the glasses filled as required.

Some persons grow Hyacinths in glasses in a mixture of cocoa-fibre and fine charcoal. This is mixed and sold by sundries' men. As a matter of course this mixture has to be kept quite moist. Last spring I filled my glasses with sand from a charcoal-burner's fire. The sand had been burned, and it had mixed with it a large quantity of very fine charcoal. Into this they rooted freely, grew amazingly, and threw up very fine spikes of flowers as highly coloured as when grown in pots. It is not every one who can procure this sand, but by means of it many bulbs might be grown in glasses with great success.

Let me conclude by naming a few Hyacinths that generally do well in glasses:—Single red: Cosmos, pale rosy pink; Emmeline, pale rose; Gigantia, delicate rose; Macaulay, rose; Norma, delicate waxy pink; Queen of Hyacinths, rich rosy-scarlet; and Robert Steiger, bright crimson. Single white: Alba Superbissima, pure white; Anna Paulovna, shaded white; Grandeur à Mervielle, pale blush; Mont Blanc, pure white; Paix de l'Europe, snow white; and Seraphine, creamy blush. Single blue: Argus, rich deep blue; Baron von Tuyll, dark blue; Charles Dickens, lilac and pale blue; Grand Lilas, pale greyish-blue; Leonidas, clear bright blue; Mimosa, dark purple; Marie, dark lilac-blue; and Orondates, porcelain. I leave all the double varieties out, and the yellows also, singles included. To my mind yellow Hyacinths are only worth looking at when they are well grown in pots.

There is one advantage in having handsome ornamental Hyacinth glasses. They are very useful for ornamenting a mantelpiece or any part of a sitting-room; and they make capital receptacles for cut flowers in summer, and up to the time they are required for the Hyacinth bulbs.—*Quo.*

EASTNOR CASTLE, LEDBURY.

Eastnor has long been a household word amongst gardeners, so much so, that, like the writer, from the repeated descriptions given, many others have doubtless by imagination pictured what the place is like, which picture in their case is just as likely to be deceiving as it was in his, and they would do well to copy his example and go and see the original. Grapes, Peaches, Figs, Melons, Pears, Apples, &c., they will see in abundance—as per expectations—and, good as they are, they will see much more and grander and rarer sights than these. The first is the most magnificent ground formation conceivable; for the undulations seem to roll about at random, and every one of them has been made the most of by widening a vista here, lengthening out one there, placing a grand tree as a central object in a third, and making use of another of the gradients to get a peep of the lake, and in this way, natural beauties assisted most wonderfully by art, and art by nature, goes on *ad libitum* throughout the entire domain.

Then there's the trees, why Conifers are—I was going to say—the weeds of the place; and they are too if rapid growth, and numbers count for anything. Pinus insignis may be seen by the score. "Why, that's insignis?" "Yes," was the reply, "we have plenty of trees finer than that if you come up here," but I had almost said, which was natural enough for a cripple, it is *all up hill*, however there is loadstone "up here," and we mount, and oh! how well are we re-paid, by splendid scenery alone, there being thrown into the bargain, a sight of such trees that are worthy of travelling a long distance to behold. Pinus insignis, from 30 to 60 ft. high, and almost as much through, jolt together with each other, a pity they are so near. Pinus austriaca, P. Cembra, P. Engelmannii, P. excelsa, P. Jeffreyana, and P. Lambertiana, Abies, Albertiana, A. canadensis, A. cephalonica, A. Douglasii, A. Hookerii, A. lasiocarpa, A. Morinda (Smithiana), A. nobilis, A. Nordmanniana, A. Pinsapo, and A. Webbiana, Cedrus Deodara, and Lebanon, Thujopsis borealis, T. dolabrata, T. dolabrata variegata, Thuja gigantea and Lobbiana, Cryptomerias, Cupressus Lambertiana, C. macrocarpa, C. Lawsoniana, C. Lawsoniana erecta viridis, Junipers', Retinosporas, and Golden Yews are planted in every direction, and without exception all are doing well, and for the most part are perfect specimens of their several varieties.

Then there is the lake, extensive and free from weeds, with irregular and most natural-looking boundaries, and planting of banks adjoining, that ever a lake had; and the fine massively-built Castle stands, as it were, viewing the whole, with an air of repose suggestive of perfect contentedness, because in its right place. Of flower-gardening, in the strict sense of the term, there is comparatively very little, but what there is receives its full meed of attention. The beds on the lower terrace which forms a foundation for the Castle, were at the time of my visit (August 25th) extremely effective, all the more so by reason of the simplicity of both the designs and the plants used, Pelargoniums for the most part were the ground-work plants, and to break their monotonous flat form of growth, as well as to tone down the colours, standard plants of Yuccas, Palms, Agaves, large Echeveries, &c., were freely employed.

An Iresine, of the Lindeni stamp of growth, though dwarfer and much brighter, having stems and leaf-markings of a brilliant crimson-mauve, Mr. Coleman employs largely as a foliage bedder, it is a plant of his own raising, and at present has not been seen outside Eastnor, but in the interest of gardening, and of flower-gardeners in particular, it is to be hoped he will shortly put the plant in commerce. As seen from the upper terrace, in the beds below, its brilliancy was most remarkable, and as a further proof of its value, Mr. Coleman informed me that it was equally brilliant as a pot-plant for the conservatory in winter and spring. Hardy flowers in variety are grown in great numbers all about the place, and there is an extremely good arrangement of them in the borders adjacent to Mr. Coleman's house.

Now as to fruits and cabbages, I shall settle the last first, by saying that that department is the best of all kitchen-gardens I have yet beheld, certainly not in size, as it is smaller than expected, but for high culture, and extreme neatness of the whole, it far transcends all that was expected. Perhaps the feature of both this, and the fruit department (indoors and out), is the fact, that must be apparent to the most casual observer, that the most is made of everything, for there is not a yard of ground, or a foot of space on the walls, or a corner in any of the houses, but is utilized for something,—and not content with doing this the "Master of Arts" of Eastnor, actually creates space by raising the garden walls in a very original way, that is, by use of planks placed edgeways on top of the brick walls, a make-shift of the most profitable kind, as was proved by the fine crop of Peaches with which the trees were covered. Pears, and all other hardy fruits, are just as well cared for in the matter of pruning, thinning, and feeding, as are Grapes, Pines, Peaches, and Figs indoors, which is saying a lot.

No note was made of the number or extent of the houses, but they are numerous though not of the most modern construction, but the contents being sufficiently modern to maintain Mr. Coleman's reputation as a fruit-grower of the first order, the shape and size of the houses does not much matter. Grapes are grown more extensively than any other fruit, the earliest were over at the time of my visit, but the Vines indicated their fertility, whilst in later houses there were splendid examples of Muscat of Alexandria, Kempsey Alicante (Black Morocco, Black Alicante, Gros Maroc, Lady Downes, Geo. Colmar, and Black Hambro. The Vine I was most anxious to see, viz., the oldest of all, and which fills a large span roof house, was not in its usual form, *shanking* (only fancy Mr. Coleman being troubled with *shanking* like the rest of us) had been prevalent, and the why, and the wherefore, was a puzzler to its honoured custodian, the most favoured, and, I think, the most probable cause being, that there having been occasion to drain very deeply in the immediate neighbourhood of the border, or rather in ground near where the best roots are situate, some principal root, or roots that were gathering nourishment a long way from home, had been severed, and supplies being cut off, the check had caused shanking; but from appearances of both wood and foliage the injury will not be visible next year.

Peach cultivation heads the list at Eastnor, no trees can be finer, training is faultless, and fruit and foliage perfection, and they are grown in such numbers, that even the roof of an old shed has been utilized as a foundation over which to fix some old lights, which by courtesy we must call a *Peach-house*, and it is one too, if good trees and better fruit be taken into account. Figs are grown extensively, and no fruit better illustrates the economy of fruit culture at Eastnor, than an example to be seen in one of the houses, which is literally feeding off the back wall, moss, peat, turf, charcoal, mortar scraps, are all packed into wire net-work, and the roots are to be seen ramifying in these materials, and clinging to the wall just as vigorously as if they were in the best soil.

There are also trees in pots, or tubs, and being portable, they can be forced or retarded as may be desired; indeed, this seems to be why several other fruit trees are honoured by pot or tub culture, *i.e.*, to get a dish of fruit just in the nick of time, for certain occasions. Not having written any memoranda when on my visit, these notes are necessarily imperfect, and only include the most striking features of what was seen and profitably enjoyed by *W. Wildsmith.*

THE INTERNATIONAL POTATO EXHIBITION.

This annual and most popular Potato Festival was held as usual at the Crystal Palace on Tuesday last and two following days. The Exhibition derived all the prestige that it was possible to secure from civic patronage, having the Lord Mayor of London, though unhappily shorn of the gorgeous habiliments of office, to open the display, and to preside at the luncheon. From the first the Potato Show has enjoyed large civic patronage and support, Mr. McKinlay, who is the soul, as well as the hon. secretary of the Show, labouring most effectually to secure the support of his fellow City Dignitaries. The prize list, which comprised some twenty classes, is materially helped by the donations of various Aldermen and other City people, so that the recent tendency on the part of raisers to name some of their best novelties after Lord Mayors, Aldermen, and other official personages, is not at all unjustifiable. Then the Show has derived much assistance from some of our eminent seed firms, who have offered valuable special prizes, notably Messrs. Sutton & Sons, of Reading; Messrs. Jas. Carter & Co., Holborn; Messrs. Brickworth, Reading; Messrs. Harrison & Sons, Leicester; Mr. C. Turner, Slough; Mr. R. Dean, Ealing; Mr. C. Fidler, Reading; and others. The prize list amounted to some £150, and showed a liberality in the sums allotted such as is seldom found associated with Potatos.

With respect to the general features of the Show, we may remark that the average quality ruled higher than was anticipated, though not a few samples were rough in the skins. Drought has favoured the production of a very clean crop of tubers this year, but whilst size has not been wanting, the coats have, as a rule, shown an unwonted degree of roughness or rust and scab, and thus many good growers found their products below their customary average quality. Perhaps it was due to that circumstance that, for the first time in the history of the Show, one grower should have succeeded in taking all the leading prizes and thus becoming for the year the champion exhibitor in the most pronounced fashion.

This exhibitor was Mr. Hughes, gardener to Colonel Cartwright, Eydon Hall, Byfield, whose success was marvellous, as he exhibited some eighty or ninety dishes, and all first rate. In the class for twenty-four kinds, and which is the premier class of the Show, Mr. Hughes was first; a famous grower, Mr. Ellington, of Mildenhall, coming second; another good grower, Mr. W. Kerr, of Dumfries, coming third; and other leading

growers coming fourth, fifth, and sixth. In this class were found some, indeed, perhaps all the best, kinds in commerce; for it is an admirable rule that only kinds in commerce may compete for prizes.

A splendid selection of the best kinds taken from the collections run as follows:—White Kidneys, Cosmopolitan, Recorder, Snowdrop, Edgcote Seedling, Woodstock Kidney, Chancellor, Sanday's Seedling, and International. Coloured Kidneys, Cardinal, Mr. Brezee, Prizetaker, red; Beauty of Hebron and Queen of the Valley, pink; Edgcote Purple and American Purple; and Lifeguard, mottled red and white. Of white rounds, Prime Minister, Primrose, Excelsior, Filbasket, Schoolmaster, Bedfont Prolific, Early Border, and Harvester. Of coloured rounds: The Dean and Vicar of Laleham, purple; Reading Russet and Adirondach, red; Blanchard, purple mottled; Radstock Beauty, carmine mottled; Beauty of Kent and Matchless, pink. There were twelve competing collections. A wondrously clean, bright lot, which was placed fourth and came from a new exhibitor, Mr. G. Alleu, gardener to Sir F. Burdett, Hungerford, was, perhaps, one of the freshest and brightest lots staged, and was only, in the judge's esteem, lacking size to have secured the first place. We hope Mr. Allen will be encouraged to try again, for in this his first effort he has won high praise. Turning now to the Messrs. Sutton's special prize class of eighteen kinds for gardeners and amateurs only, we find Mr. Hughes again to the fore, whilst in the persons of Mr. C. Holt, Wakefield Park, Mortimer, who was second with a handsome lot of tubers, Mr. Wiles, Edgcotc Park, Banbury, and Mr. Jas. Lye, Market Lavington, growers of good reputation, whose success out of the fourteen competitors in the class deserves special mention. It is interesting to find how well as exhibitors of Potatos gentlemen gardeners can hold their own. A class for twelve kinds aud another for nine kinds still found Mr. Hughes leading, with most of the growers previously named in close company, and the kinds rarely varying from those named. But in the class for six varieties, Mr. R. Dean, of Ealing, broke the spell with some beautiful tubers, and Mr. Hughes had to take second place.

Classes for three dishes of kinds in sections were not so well filled as in previous years, for the reason that to encourage other growers, some similar classes were this year made for all who had not previously taken first prizes. In these there was good competitiou, the selections being always known good Show sorts, such as we have named above. Vicar of Laleham, and Reading Russet, showing prominently in coloured rounds, Schoolmaster and Excelsior, in white rounds; International and Snowdrop amongst white kidneys, and Mr. Brezee and Edgcote Purple amongst coloured ones. The Messrs. Sutton & Sons offered prizes for single dishes of twelve tubers each of white and coloured rounds, and white and coloured kidneys, in four classes, and it was interesting to find that in the white kidney class, International took the first place, and Edgcote Seedling the second; in the class for white rounds, Schoolmaster was first, and Porter's Excelsior, second; of coloured kidneys, Prizetaker was first, and Defiance, second; and of coloured rounds Vicar of Laleham was placed first and second also. Classes for the best white kind and the best coloured kind put into commerce last winter were well contested. Chancellor, a grand new white kidney raised by Mr. Dean of Bedfont, was first and third, Welford Park, a kind much like Woodstock Kidney, coming second, and Fidler's Prolific, fourth; and of coloured kinds, The Dean, a handsome purple round kind, also raised by Mr. Dean, was first, second, and third, and Edgcote Purple was fourth.

We cannot farther particularize the various classes, but must be content to refer to the seedlings certificated, of which there were several promising ones, all having during the summer been grown, tested, and cooked at the Royal Horticultural Society's Gardens, Chiswick, so that the *bonâ fide* novelty of each kind might be assured. The following kinds were awarded the highest number of marks for cropping and table quality, and received first-class certificates: London Hero, handsome white flat round; Harvester, white round, very prolific; Chancellor, fine white kidney, all raised by Mr. Dean; M.P., a fine white round, raised by Mr. Ross, Welford Park, Newbury; Pride of Croydon, handsome white kidney, raised by Mr. Hughes; and Miss Fowler, also raised by Mr. Ross, a flattish large round kind. Mr. Robert Fenn had a first-class certificate for James Abbis, a handsome long red kidney; and Mr. Ellington for his mottled red and purple kidney Ellingtonia, and Mr. Holmes received a like award for a flat long white kind named Suketra. All these certificated kinds will doubtless appear in commerce next winter. Amongst kinds of great promise were Rufus, flat red; Rosebud, flattish rose; and Bedfont Rose, pale red, raised by Mr. Dean, and all handsome kinds.

This report of the Show would be incomplete without a brief notice of the trade collections, which though not of the same interest to many as the competitive collections, yet always have an interest peculiar to themselves in the eyes of those looking out for something new. Messrs. Sutton & Sons had a fine display of clean, well-shaped, tubers in many varieties, including some thirty-five seedlings, which are still under probation. The same firm had also with their Potatos a fine sample of the new Chiswick Red Tomato, grown in the open-air, and which still further illustrated the wonderful prolificacy of this variety. Mr. C. Fidler, Friar Street, Reading, had a large and very meritorious assortment of Potatos; and Messrs. Harrison & Sons, Leicester, had a large collection, remarkable for the great size of all the varieties shown. A smaller lot came from Messrs. James Carter & Co.; and from the Royal Horticultural Horticultural Society's Garden at Chiswick were contributed samples of all the varieties grown there this season for the Committee.

The Luncheon.

The Lord Mayor presided at the luncheon, and after the usual loyal toasts had been given, his lordship in proposing the toast of the International Potato Exhibition dwelt upon the importance of exhibitions which he said had now become a great feature in our national life. He was glad to see such a large company present and he hoped that the popularity and importance of the exhibition would increase, as nothing could be of greater value than an institution which developed food resources for the people.

Mr. Alderman de Keyser, who replied to the toast, said he was no doubt selected by Mr. McKinlay for the reasou that knowing but little of the subject he must necessarily be brief. He was delighted with what must be called a fine show, and he wished to propose the Executive Committee and Judges, coupled with the names of Mr. Richard Dean and Mr. Wm. Early.

Mr. Dean in response said that the exhibitors had had exceptional difficulties to contend with, but the exhibits were not near so rough or scabby as from the season might have been anticipated. He had seen what had been done in the North of England, in Scotland, and in the West of England, and he felt proud that at this Exhibition such a fine selection of tubers had been staged. He was not himself a leading exhibitor, and would suggest that Mr. Hughes should offer a few words. Mr. Hughes, who had won the proud distinction of taking the first prizes in classes A, B, C and D, had really staged sixty-three dishes of Potatos, all of excellent quality. That one man should be able to do this was a splendid proof of that man's care and forethought, and whilst such men were to be found, there need be no fear for the future of the Potato.

Mr. Hughes, who said he was a better Potato-grower than a speaker, in a few well chosen words responded.

Mr. Early, in responding for the judges, paid a tribute to the Lady Mayoress for the practical and intelligent interest she had displayed in the Exhibition.

Mr. Shirley Hibberd next proposed "The Lord Mayor and Corporation." He said if they were merely a body of "fanciers" interesting themselves in studying the varieties of the Potato, he should not have expected his lordship to be present, but they were more than that—they were a body of men seeking the best means of developing important food resources, and so conferring a benefit on the whole community. Some forty years ago the Potato famine had caused much suffering, and endangered the lives of many of Her Majesty's subjects. Since then much interest had been manifested in the best systems of Potato-growing, and there had been a thorough study of the composition, nature, properties, and anatomy of the Potato. They had combined scientific study with methods tending to make the study popular. Prizes had been offered for new varieties. That was good. Prizes had also been given which extended a knowledge of the best means of resisting the Potato disease, and that was good also. Knowledge on this subject, as on many other subjects, was accumulated slowly. They had to build up bit by bit, and not infrequently they had to pull down what they had built. During forty years' study of the Potato they had to unlearn a good many things, but they had benefited on the whole, and by patient industry they would continue to benefit. Those who had made the Potato a study had found out that it was a very delicately organized and sensitive being. It might be said to have a vertebral column, joints, muscles, aud sinews—they all knew it had eyes. From its heel, where it imbibed moisture, to its crown, where appeared most of its buds, it was built up wonderfully of a system of starch cells. It had, in fact, a perfect anatomy. The cook knew this, for when Potatos were boiled to a pulp, its anatomical structure could be drawn out in a thread. Gentlemen who wished to properly study the Potato must not disdain to go into the kitchen. The Potato was like Achilles in this respect, that its most vulnerable point seemed to be its head. Then it was attacked by a subtle enemy, the Potato fungus *Peronospora infestans*, and which were the varieties best able to resist this enemy, which were the best conditions, the best soils and the best seasons, were the questions they had to study. There were Potatos which had great vitality, and could survive attacks under which others succumbed. The thick-skinned Potatos like the thick-skinned politician, seemed the most impervious to outside attacks. If the ladies could only see the solemn conclave of Potato-tasters, they would have a very good lesson in cookery. They had their Potatos cooked in their jackets, and there was quite a scramble to get them hot, because Potatos spoiled by keeping, loosing their native aroma and most characteristic properties when cold. He held in his hand a "Queen of the Valley," a variety which a distiller would quickly turn into "Cream of the Valley," as it was rich in starch. This, with sugar and gum, was what Potatos were grown for, and financial reformers had only to properly cultivate certain varieties of Potatos to settle the vexed question of the Sugar Bounties. In concluding an interesting and excellent speech, Mr. Hibberd reiterated his opinion that the cultivation of the Potato was of growing importance, and he thanked the Lord Mayor for his presence, which certainly gave *éclat* to their Exhibition.

The Lord Mayor responded on behalf of himself and the Corporation, and said that doubtless future Lord Mayors would attend the opening of the Exhibition, which would become quite a national institution. Other toasts followed, and Mr. Sheriff Phillips, in the course of a very neat speech, said that his health was very dear to him, very dear, perhaps, to those immediately connected with him, but the community at large would feel naturally far more interest in the health of the Potato. He was himself very fond of Potatos—cooked ones. His physician had once asked him, "Do you know that the Potato is composed of merely starch, glutin, and water?" He replied that if Dame Nature had combined starch, glutin, and water in such a palatable form he would like those ingredients served up to him at least twice a day, and he was not particular how the "harmless, necessary Potato" was cooked so that it was cooked well.

ANSWERS TO CORRESPONDENTS.

Euphorbia.—*W. B. G.*—Appearances strongly favour the supposition that the plant had been dosed with urine, but without actually analyzing the soil we cannot say what was the cause of the mischief.

Names of Plants.—*E. Bishop.*—Your plant is the beautiful Lychnis coronaria, native of South Europe, West Asia, and North India. The Rose blooms were too much withered when received to identify positively, but we think there is little doubt but what it is Caroline Kuster.

Bulbs, &c.—*D. Cartwright.*—All the plants you name like a good sandy loam, for choice, but do well as a rule in any good garden soil. The Crocuses, Hyacinths, Leucojum, Scillas and Jonquils, should be planted soon where you desire them to flower. You may either plant them in small groups or clumps, or in rows, just as you please. The Crocuses would make a good line along the front of your flower border, but we should ourselves prefer to plant the others in patches. Plant them all 3 to 4 in. deep, and if you can put a little sand about them, so much the better. The Irises like a light sandy soil, and a warm sunny position, and should be planted in masses, as soon as possible, and not so deep as the others.

Communications have been received, with thanks, from F. M.—E. D.—G. Brown—W. Wilson—T. W.—F. C.—W. E. G.—H. B.—C. B.

Trade Catalogues Received.

JOHN LAMONT & SON, 2, Hope Street, Edinburgh.—Dutch Bulbous Roots.

A. M. C. JONGKINDT CONINCK, Dedemsvaart, near Zwolle, Netherlands.—General trade list.

LONDON SEED TRADE.

October 8th.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small attendance at this day's market. Winter Tares and Rye are in fair request at prices ruling last week. American Red Clover is quoted 1*s.* per cwt. dearer, and White Clover and Alsike continues firm. New English Red Clover and Alsike are offering more freely. Rape and Mustard are unchanged, Canary and Linseed are finer, and Blue Peas meet a slow sale.

COVENT GARDEN MARKET.

October 9th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Melons, each	0 6- 1 6
Figs, per dozen	0 6- 0 9	Pine-apples, Eng., lb.	4 0- 5 0
Grapes, per lb.	1 0- 4 0	,, St. Michael's ea.	3 0- 6 0
Kent Filberts and Cobbs, per 100 lb.	55 0-57 6	Peaches, per dozen	3 0- 8 0
		Pears, French, p. doz.	1 6- 2 6

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Lettuces, Cabbage, per dozen	1 6- ...
Beans, French, lb.	0 4- ...	— Cos, each	0 2- ...
Beet, per dozen	2 0- 3 0	Marrows, each	0 3- ...
Cabbages, per dozen	1 6- 2 0	Mint, green, bunch	0 4- ...
Carrots, per bunch	0 8- ...	Mushrooms, p. basket	1 0- 2 0
Cauliflowers, English, dozen	3 0- 4 0	Onions, per bunch	0 6- ...
Celery, per bundle	1 6- 2 6	Parsley, per bunch	0 6- ...
Cucumbers, each	0 6- 0 8	Radishes, per dozen	1 6- ...
Endive, French, per dozen	2 6- 3 6	Small salading, per punnet	0 4- ...
Garlic, per lb.	0 6- ...	Spinach, per strike	2 0- ...
Herbs, per bunch	0 2- 0 4	Tomatos, per lb.	0 9- ...
Horse Radish, bundle	3 0- 4 0	Turnips, bunch	0 8- ...

POTATOES.—Kent Regents, 80*s.* to 100*s.* per ton; Kent kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lapageria, white, 12 blooms	2 0- 3 0
Azalea, 12 sprays	1 6- 2 0	Marguerites, 12 bun.	4 0- 9 0
Asters, 12 bunches	4 0- 9 0	Pelargoniums, per 12 sprays	0 6- 1 0
Bourvardias, per bun.	0 9- 1 0	Pinks, various, 12 bunches	...- ...
Camellias, 12 blooms	3 0- 6 0	Primula, double bun.	1 0- 1 6
Carnations, 12 blooms	0 6- 1 0	Pyrethrum, 12 bun.	-
Chrysanthemums, 12 bunches	3 0- 9 0	Roses, out-door, 12 bunches	9 0-12 0
— large, 12 blooms	2 0- 6 0	Roses, indoors, p. doz.	1 0- 3 0
Cornflower, 12 bun.	2 0- 4 0	Stephanotis, 12 spr.	4 0- 6 0
Dahlias, 12 bunches	3 0- 6 0	Sweet Peas, 12 bun.	1 6- 4 0
Eucharis, per dozen	3 0- 6 0	Tuberoses, per dozen	1 0- 1 6
Gardenias, 12 blms.	3 0- 6 0	White Jasmine, bun.	0 6- 1 0
Gladiolus, various, 12 spikes	1 0- 3 0		
Heliotropes, 12 sp.	0 6- 1 0		
Lapageria, red, 12 blms.	1 0- 2 0		

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ferns, in var., dozen	4 0-18 0
Asters, per dozen	3 0- 6 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Fuschias, per dozen	3 0- 6 0
Chrysanth., dozen	4 0- 6 0	Heliotrope, dozen	3 0- 6 0
Cockscombs, dozen	-	Lilium, various, p. doz.	-
Coleus, various, doz.	2 0- 4 0	Marguerites, per doz.	-
Cyperus, per dozen	3 0- 9 0	Palms in variety, each	2 6-21 0
Dracæna term. doz.	30 0-60 0	Pelargoniums, scarlet per dozen	2 0- 6 0
— viridis, per dozen	12 0-24 0	Petunias, per dozen	-
Evergreens, in var., per dozen	6 0-24 0	Solanums, dozen	9 0-15 0

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OPINIONS OF THE PRESS.

From **THE GARDENERS' CHRONICLE,** *September 6th.*

"'The Gardening World.'—The world is a very big place, or a very little place, according to the standpoint of the observer. It is, therefore, both big and little, The centre of the gardening world seems to be comprised within a mile of Covent Garden, indeed, 17, Catherine Street, whence the new *World* starts on its career through space, is within a stone's throw of the market: but the circumference, who shall tell where this is? It is just that uncertainty, we suspect, that has led Mr. Brian Wynne to cast his stone into the pool in the hope that in the ever-widening circle he, too, may cast his net, and secure his share of the haul. Why not? Long practice in this office should render him an expert, and we have none but good wishes to offer him in his new career. He starts well, and doubtless in future numbers will break out into grooves not quite so much like the old ones. Matter, type, paper, are all excellent for the money."

From **THE GARDENERS' MAGAZINE,** *September 13th.*

"'The Gardening World' is the title of a new weekly horticultural paper published by Mr. B. Wynne. It treats, in an agreeable way, of the whole round of horticultural practice within doors and without, and contains a great bulk of practical information. It makes number four of the series of penny gardening papers, and number eight of the entire happy family."

From **THE GARDEN,** *September 20th.*

"Still they come.—Another gardening paper has just been issued. The appearance of three new journals on one theme within a few months is quite without precedent in the history of class journalism. There can be no doubt that the multiplication of journals in gardening is beneficial, and we may without affectation wish well to the best of the new comers."

From **THE AGRICULTURAL GAZETTE,** *September 15th.*

"'The Gardening World.'—We are interested in seeing that Mr. B. Wynne, who has long been an efficient member of the staff engaged on *The Gardeners' Chronicle*, has published (at 17, Catherine Street), No. 1 of a new gardening paper, price one penny, which well deserves the long and prosperous future, which we hope for it. There is such an immense constituency available for its success that it is hardly to be doubted."

From **THE HUDDERSFIELD EXAMINER,** *October 4th.*

"In view of the fact that within the last few months two horticultural journals have been started, it will be matter for surprise that another venture should have been made in the same direction. Such, however, is the case, and we believe that it will meet with the success it merits. 'The Gardening World' is a penny weekly paper of sixteen large pages. The journal is altogether very nicely got up, the paper is good, the printing is good, the front page is very neat, the illustrations, of which there are two and three to each number, very well executed. It is published every Friday, and the first four numbers augur well for its success."

From **THE FLORIST AND POMOLOGIST,** *October.*

"'The Gardening World.'—Under the title of 'The Gardening World,' Mr. Wynne, who was for many years associated with *The Gardeners' Chronicle*, has commenced a weekly penny horticultural newspaper. It is well done so far, and we wish it the success which it deserves, and which the well-known energy of the editor will go far to secure for it. This makes the fourth penny gardening weekly, and truly the constituency is large enough to support them all, if they can but make themselves sufficiently widely known."

From **THE EUROPEAN MAIL,** *September 26th.*

"'The Gardening World' is the title of a new caterer for public favour. It is well printed, freely illustrated, and contains a large amount of varied information, suitable alike to amateur and professional gardeners. The price is only 1*d*."

From **THE CROYDON REVIEW,** *October.*

"'The Gardening World.'—This is a new journal published weekly, at one penny, under the very able management of Mr. B. Wynne, who for fifteen years was connected with *The Gardeners' Chronicle*. From a brief perusal of the pages of the numbers before us we have no hesitation in saying that the information seems of that class which is not only easy to read but also reliable, and should further increase interest and pleasure in what is becoming so fashionable—'My garden.' It is by reading and studying such books as 'The Gardening World,' that enables the amateur to become well acquainted with the treatment of the flowers and vegetables which he is cultivating. We think we can safely say Mr. Wynne's new enterprise is a very meritorious one, and that it will find an appreciative public in that wide area for which it professes to deal."

From **THE BISHOP AUCKLAND (DURHAM) CHRONICLE,** *October 3rd.*

"'The Gardening World.'—This is a new illustrated publication on gardening, and from the opening weekly numbers which have been supplied us, it should have a place in the affections of the increasing class who cultivate the soil, whether in an obscure attic flower-pot or in a garden of the greatest size."

From **THE PADDINGTON MERCURY,** *October 4th.*

"'The Gardening World' is the latest tree that has shown itself in the forest of literature devoted to horticulture, and if the forthcoming numbers will be as laden with good things as the first four issues now before us, there will be many anxious to enjoy its weekly store of fruit. The literary style is superior, and the variety of the subjects cleverly dealt with are such that no gardener, whether in cottage or mansion, can take up a number and fail to find some article that will prove both interesting and instructive. The illustrations are excellent, and the printer deserves the congratulations of the editor and his subscribers for having brought out the floral and other engravings with such success. Mr. B. Wynne, who has been sub-editor of *The Gardeners' Chronicle* for fifteen years, is at the head of the editorial department. The publishing offices are 17, Catherine Street, Covent Garden, and copies can be obtained through any newsagent."

MANAGER:

B. WYNNE (Fifteen Years Sub-Editor of "The Gardeners' Chronicle"),

Honorary Member of the Cérele d'Aboriculture de Belgique.

PUBLISHING OFFICE—17, CATHERINE STREET, COVENT GARDEN, W.C.

Printed by G. Norman and Son, Hart Street, Covent Garden, and Published by Brian Wynne, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex. Saturday, October 11th, 1884.

THE GARDENING ILLUSTRATED WORLD

No. 7.—1884. SATURDAY, OCTOBER 18TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

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All Subscriptions must be prepaid, and where convenient, Money Orders or Postal Orders will be preferred to Stamps.

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All communications relating to the supply of the Paper should be addressed to The Manager, 17, Catherine Street, Covent Garden, W.C.

ROYAL BOTANICAL AND HORTICULTURAL SOCIETY OF MANCHESTER.

CHRYSANTHEMUM SHOW in the Town Hall, Manchester, on TUESDAY, November 18th next. For Schedules apply to the undersigned,

BRUCE FINDLAY.

Royal Botanic Gardens, Manchester.

NATIONAL CHRYSANTHEMUM SOCIETY.

The ANNUAL EXHIBITION will be held at the ROYAL AQUARIUM, WESTMINSTER, on WEDNESDAY, November 12th. (Part cost of cartage will be refunded to Plant exhibitors.)

Schedules free on application to WILLIAM HOLMES, Hon. Sec., Frampton Park Nurseries, Hackney.

The National Chrysanthemum Catalogue (price Sixpence) may also be had on application.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

NOTICE IS HEREBY GIVEN that an ADDITION will be made to the LIST of PENSIONERS of this Institution in JANUARY NEXT.

All persons desirous of becoming Candidates are requested to send in their applications and testimonials to the Committee, on or before the 10th November next, after which day they will not be received.

Preference (in accordance with Rule No. 6) will be given to those applicants who have been Subscribers for Fifteen Years and upwards, or their Widows. Should their not be sufficient of this class of candidates to fill the Vacancies, then the applications of those who have not subscribed so long, or not at all, will be considered.

Printed Forms of Application may be obtained from the Secretary.—By order,

E. ROGER CUTLER, *Sec.*

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MESSRS. PROTHEROE AND MORRIS beg to announce that their NEXT SPECIAL SALE of FLOWERING ORCHIDS will take place on TUESDAY, October 28th, and they will be glad to receive notice of entries in the course of the ensuing week.

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Fifth and Final Great Clearance Sale, by order Messrs. Ewing & Co., who have discontinued their business at Eaton, near Norwich, the Land having now been Sold. Highly important Sale of the Fifth Portion of the extensive, well-grown, and thriving young NURSERY STOCK, in excellent condition, comprising 10,000 Roses of the choicest exhibition kinds of Teas, Noisettes, and Hybrid Perpetuals, &c., in and out of pots. Many thousand Fruit Trees, Bushes, Raspberry Canes and Culinary Roots, Nut and Filbert Bushes, &c. 100,000 Ornamental and Forest Trees, many of them of suitable sizes to produce immediate effect—clean, stout, and well rooted, having been frequently transplanted and skilfully pruned. A large quantity of Deciduous Flowering Shrubs. 1000 Clematises, in choicest and newest variety; also some Evergreens and Conifers, and a large stock of Ivies and other Climbers, both in and out of pots.

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May now be viewed. Catalogues on the Premises, and of the Auctioneers, Estate Agents, and Valuers, 67 and 68, Cheapside, London, E.C.

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MANCHESTER.—IMPORTANT SALE of VALUABLE STOVE and GREENHOUSE PLANTS (except Orchids), being the Choice Collections (including many Exhibition Plants) at Gorse Hall, Staleybridge, and Oakley, Fallowfield, the property of W. Leech, Esq., who is leaving the district.

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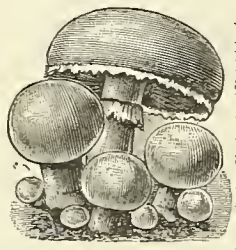

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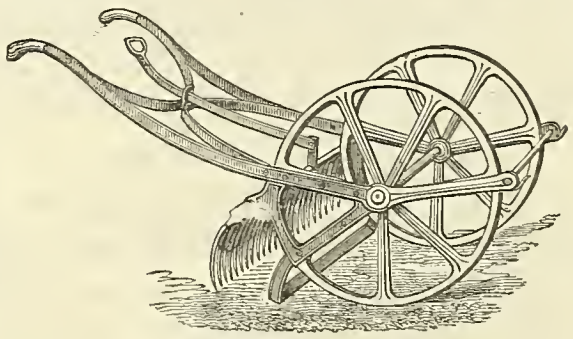

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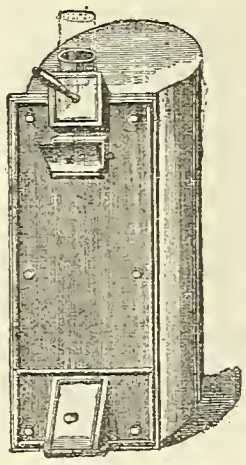

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COARSE SILVER SAND, 1*s.* 9*d.* per bushel; 15*s.* per half ton; 26*s.* per ton; in 2-bushel bags, 4*d.* each.

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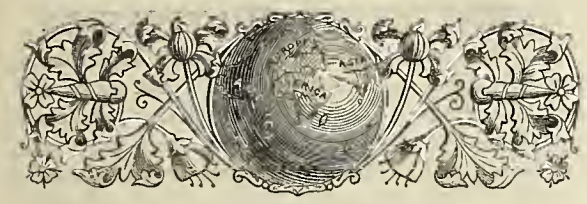


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, OCTOBER 18th, 1884.

The Chrysanthemum Season.—The fall of the leaf, a change now so sadly apparent in the face of nature, reminds us that the Chrysanthemum season is close at hand. Not but that the real season of our Queen of Autumn flowers now begins very early and ends only in the new year, and is, therefore, a long one. Still the real season—the gay time when the Chrysanthemum may be said to hold its court, is a short one, and is compressed into but two or three weeks. The ball will open with the first week in the coming month somewhat quietly, but during the succeeding week it will become exceedingly lively, and will die off with gentleness about the close of the third week in the month of November. Thus to growers, judges, visitors, and not least, to the horticultural press, the show season, if short, is a busy one, and it is difficult to compress into the limited time at disposal all that we would like to accomplish. Our *confrères* of the gardening papers, in their anxiety to serve all alike, run hither and thither, gleaning reports here and there, all, alas! too much alike to become very interesting reading; and all has to be centred into so short a time and into space so limited that doing justice to all is a physical impossibility. Would that some of the floral charms which gladden our eyes in November so abundantly could be carried over into the following month! A show of Chrysanthemums with other decorative plants about the middle of December would indeed be a novelty, but one so desirable that it is to be regretted no encouragement has ever been given to growers to cultivate specially for late flowers. We pay a heavy penalty in that respect for the pleasure of seeing monster blooms by the hundred, just for a week or two in what is called the Chrysanthemum season.

Ornamental Gourds.—It is not intended to present an invidious comparison if we say that in the family of Cucurbitaceæ Gourds play the part of drones, for they are big, showy, very absorbent of good food, and yet after all are useless. Yet they find their admirers just as many another useless thing in common life finds admirers, simply because it is big and pretentious, plays perhaps a showy pompous part, and there its existence ends. How many an one is there who has produced a gigantic Pumpkin, so big as perhaps to excite the wonder and admiration of bumpkins, and to outvie the famous big Gooseberry in local interest, that has not presently come to regard this vegetable monstrosity as a species of white elephant or old man of the sea, for its existence after the wonder of neighbours is exhausted is apt to cause the grower to think that the fame attached to the production of a mammoth Pumpkin is of a dubious and transitory kind, and that he is but little better than a fool for his pains. Some small solace may be afforded when he learns that Pumpkin makes a very nice substitute for Apples in the family pies, just as Mangel Wurzel in seasons of scarcity may make excellent jam, but a powerful imagination is needed notwithstanding to make the palate a willing partner in the little deception that is being practised. We fear that after all the Pumpkin has little to recommend it beyond its common monstrosity of character. Many an one who has gazed with exceeding pride and anticipation upon the gradually increasing monster has finally concluded that one small but succulent Marrow would give more satisfaction. But all Gourds are not big Pumpkins, though all Pumpkins are Gourds. There are many of curious and interesting shape, some indeed are very handsome, but still few are worthily edible. The Turk's Cap is curiously coloured and varigated; the Orange is the very personification of an Orange, but is rather larger and worthless. Some are bottle-shaped, others pear or egg-shaped, others warted all over and the variety is remarkable. How few gardeners after all grow Gourds, they do not care to bother with what is so worthless, but they will cultivate the best varieties of the Marrow and produce great quantities of those each summer, for the obvious reason that the fruits are pleasant eating, and as a vegetable are almost universally appreciated. We may be told that Marrows are Gourds also, and that much we admit, but they are not so regarded or classified in common nomenclature. The term Gourd seems to be applied almost exclusively to all those huge fruited or otherwise curious or ornamental kinds that are not esteemed edible. The term Marrow or perhaps Vegetable Marrow seems to have been adopted almost as generally for that particular branch of the Gourd family, which we cultivate exclusively for edible purposes, and thus custom has drawn a distinctive line that is clear and expressive. Across the Atlantic, from whence so many of these big Gourds have come to us, the familiar term applied to them is Squash. It is to our ears far from being pleasant or expressive, even Pumpkin is better than that. The Ohio Squash, a huge round variety, is in its early stage pleasant eating, though perhaps to most English tastes a little too strong-flavoured.

Late Peaches.—As compared with a respectable Pear how stands the merits of an October Peach? This question is worth asking, because in not a few gardens Salway and other of the very late Peaches are still grown, and it would be interesting to learn how far as compared with any decent ripe Pears such Peaches were appreciated. It must be admitted that it is a great "come down" from a Royal George or a Gros Mignonne to a Salway, and it is worth while asking whether it is desirable to injure the reputation of one of our grandest and most luscious of wall fruits by offering as dessert such parodies as October Peaches present. The real fact is that there are few fruits which need ample light and warmth to ripen them fully so much as Peaches, and those conditions cannot be had in October, simply because the light and sunshine of summer has passed away. Whether even so good a late Peach as the Salway—for it is as good as can be looked for in its season,—would be much the better were it artificially ripened in August, is doubtful; but then it may be that were some of the best early autumnal kinds such as those named above to be retarded so as to ripen in October, we should find very much better fruit than the Salway can give. It is somewhat instructive to find that whilst human ingenuity has been so largely diverted to the acceleration of growth in plants, by forcing, and even to the application of electricity for that purpose, nothing seems to have been done to ensure retardation beyond what an ordinary cool house or the north side of a wall will ensure. But science has constructed such mechanical appliances in the form of cold rooms and refrigerators that almost any amount of cold may be maintained. What would be the result were a greenhouse in a north aspect erected, the temperature of which could be maintained by mechanical appliances to about freezing point even during the summer, and in which plants might be kept in a state of rest for weeks and even months beyond their natural time? If such a house were practicable, we might have high-class Peaches in pots so retarded that the fruit would ripen under glass in October instead of in July, and thus ensure a lengthened season with the finest and best fruits.

Outdoor Grapes.—Although we cannot say with the poet Longfellow, that now has returned the old Salernian reign of warmth and fruitfulness; at least we have had a summer such as the oldest inhabitant cannot recall the equal of, for ripening Grapes in the open-air. If in many localities the resulting crops are not so good as might have been looked for, the lack is to be accounted for solely by want of thorough ripening of the wood of the vines last autumn, or else in the exceeding drought at the roots this year. One most remarkable feature found in relation to outdoor vines is the apparent entire absence of mildew, and that is the more remarkable inasmuch as we have not infrequently associated that pest with dryness of soil. After the present season's experience, we may now assume that cold, especially cold draughts of air, are the chief elements in producing mildew in the open-air, whilst heat, and especially such continuous heat as we have had this season, serves to hold it in check. Perhaps if we could have a series of hot summers, the vine mildew might presently be exterminated. Whilst outdoor vines have well-ripened fruit this year, they have also wonderfully well-ripened their wood. We have seen the season's growth on a good aspect, ripened grandly, indeed, equal in colour and hardness to the best wood in any vinery. Farther, we have seen such *bonâ fide* house Grapes, as Frankenthal and Madresfield Court, very finely ripened on a south wall, and scarcely troubled by flies and wasps, which prove, as a rule, sadly destructive to Grapes when they can get at them. For that reason, it is always well when outdoor Grapes are really good, to protect them with some very thin cotton netting, lest the season's produce be spoiled.

American Potatos.—It is interesting to note that very few novelties in Potatos are now being introduced to this country from America. It cannot be clearly assured whether this comparative decadence of popularity for strangers that once were the rage and were purchased rashly at fabulous prices, is due so much to lack of quality on the one hand, as to the greater popularity of home-raised kinds on the other; but it is certain that for one new American sort put into commerce here at least half a dozen English or Scotch-raised kinds are offered and the more readily purchased. It is worthy of remark in connection with this consideration that we never find any new Potato coming to us from Ireland, although there can be no doubt but that new forms must be raised there. Perhaps raisers are very far in the background in respect of quality. In any case an Irish kind on an English show-table is a rarity. We hope our compatriots of the Emerald Isle will not regard that as evidence of the common hatred by the Saxon for everything Celtic. We should think genuine Irish patriots might do their beloved country good service by introducing into it for common cultivation many of our best Potatos. If we do not now introduce American novelties in Potatos, at least we have not been slow in the past to utilize the more desirable features of that strain by employing

the best kinds as seed-parents, the blooms being fertilized with a strong infusion of English pollen. Hence the splendid sorts which now decorate our show-tables, and have made our garden crops so abundant. The American blood in Potatos is said to be largely inherited from Solanum Fendleri, whilst the British tubers have more of the original S. tuberosum blood in them. Now, home raisers by intercrossing American with English kinds not only marry very distinctive strains, but also the products of distinctive species; hence we find splendid results. We have now a race of Anglo-American Potatos so fine, handsome, productive, and of superb quality, that neither our old sorts nor pure Americans have any chance for present popularity. Raisers still continue their efforts, and we are lost in wonder as to when and where their labours will end.

The Mountain Ash.—The singularly attractive manner in which trees of the Mountain Ash are this season crowded with bright scarlet berries, to such an extent indeed that the branches are borne down by the weight they carry, is worthy of comment. It is a tree that is much planted in forecourt gardens in London and its suburbs, and whether in flower or bearing its brilliant fruit it is of great value as a decorative agent. The Mountain Ash is Pyrus Aucuparia, and it is the Rowan or Roan-tree of the Northern Counties. The name is supposed to be derived from the Danish or Swedish *rönn*, a charm, from its being supposed to have power to avert the evil eye. "The most approved charm against contrips and spells was a branch of the Rowan tree planted and placed over the byre. This sacred tree cannot be removed by unholy fingers." The French call this tree the *bird sorb*, its fruit being a favourite fruit of many of the winged inhabitants of the air. In some parts of the North of Europe, the berries, bruised in water and fermented make a rather pleasant drink, from which it is said to be possible to distil a kind of brandy. No tree, stands rough winds better than the Mountain Ash, hence it is well adapted for exposed situations and to afford shelter for other trees.

The Spyers' Memorial.—As the result of this fund, of which Dr. Maxwell T. Masters, F.R.S., was Treasurer, and Mr. James O'Brien, Secretary, £218 was obtained. A substantial freehold seven-roomed house has been built for the widow at St. Albans, under the supervision of Mr. Sander, the Orchid Importer. Only about £50 has been expended beyond the sum originally subscribed, and a good part of this has been promised by members of the Committee. It speaks well for the Orchid-growing fraternity that they should so kindly join in conferring a lasting benefit on the widow and children of one who was such an enthusiastic worker among them.

National Auricula and Carnation and Picotee Societies.—At a meeting of the Executive body of the Southern Section of these Societies, held at South Kensington on Tuesday last, the officers and committee for 1885 were elected as follows:—Francis Whitbourn, Esq., Great Gearies, Ilford, President of the Auricula Society; and J. T. D. Llewelyn, Esq., Penllergare, Swansea, President of the Carnation Society; Mr. Rolt, of Wimbledon, Treasurer, and Mr. James Douglas Secretary of both Societies, with the following gentlemen as members of the committees:—Dr. M. T. Masters, F.R.S., Dr. Hogg, Thomas Moore, Esq., Shirley Hibberd, Esq., James McIntosh, Esq., Mr. Charles Turner, Mr. B. S. Williams, Mr. J. James, Mr. T. S. Ware, and Mr. Hill, Tring Park, with power to add to their number. Mr. Hibberd and Mr. Turner were appointed to draw up a set of rules for the government of the Societies, with a view to providing them with what they have not yet had—a proper constitution.

Gardening Miscellany.

The Floral Committee of the National Chrysanthemum Society, will meet at the "Old Four Swans," Bishopsgate Gate, E.C., on October 30th, November 27th, and December 11th, at 7 p.m., to adjudicate upon the merits of any new varieties of Chrysanthemums which may be sent for that purpose.

We regret to hear that Mr. Harrison Weir, the well-known artist and naturalist, met with a serious accident on the night of the 8th inst. While passing along the Strand he was knocked down by a cab, and was so seriously bruised that he was taken to Charing Cross Hospital. Mr. Weir is now progressing satisfactorily towards recovery.

Mr. W. Leach being about to leave Oakley, Fallowfield, all his stove and greenhouse plants, except the Orchids, will be sold by auction on the premises on the 29th.

"The Chrysanthemum: its history, culture, classification, and nomenclature" is the title of the latest addition to horticultural literature from the pen of Mr. F. W. Burbidge. It is published at *The Garden* office.

The Annual Chrysanthemum Exhibition held in Finsbury Park will be opened to the public to-day.

The Monthly *Journal of Forestry* has changed hands, and will we believe in future be published in Edinburgh.

A new Chrysanthemum Society has been formed at Havant, in Hampshire, of which Sir Frederick Fitzygram is President. The first Exhibition will be held on November 7th and 8th in the Town Hall, under the management of a General Committee composed of eighteen gardeners and nurserymen.

A "Life" of the late Charles Darwin is in preparation by his son, Mr. Francis Darwin, and will be published by Mr. Murray, probably in the course of next year.

The Commissioners of Her Majesty's Works and Public Buildings intend to distribute this autumn, among the working-classes and the poor inhabitants of London, the surplus bedding-out plants in Battersea, Hyde, the Regent's and Victoria Parks, and the Royal Gardens, Kew, and the Pleasure Gardens, Hampton Court. If the clergy, school committees, and others interested will make application to the superintendent of the park nearest to their respective parishes, or to the director of the Royal Gardens, Kew; or to the superintendent of Hampton Court Gardens, in the cases of persons residing in those neighbourhoods, they will receive early intimation of the number of plants that can be allotted to each applicant, and of the time and manner of their distribution.

Meissonier as a Horticultural Joker.—The following story in connection with the painter, Meissonier, reminds one of the joke of Congressman Welsh, in planting a real rat for a specimen of the rat-tail cactus, now many years ago. In his employ, not many years back, he retained a middle-aged gardener, who was a remarkable botanist, but was an incorrigible wag. He piqued himself on his knowledge of seeds, and Meissonier was always trying and always failing to puzzle him. "I have got him now!" said Meissonier to some friends at a dinner party; and he showed them a package of the roe of dried herrings. He sent for the gardener. All the guests smiled. The gardener arrived. "Do you know these seeds?" Meissonier asked. The gardener examined them with great attention, "Oh, yes!" said he, at last. "That is the seed of the polypus fluximus, a very rare tropical plant." "How long will it take the seed to come up?" "Fifteen days," said the gardener. At the end of fifteen days the guests were once more at table. After dinner Jean was announced. "M. Meissonier," he said, "the plants are above the ground." Fully anticipating the success of his joke, but a little bewildered, the great painter and his guests went into the garden to behold the botanical wonder. The gardener lifted up a glass bell, under which was a little bed, carefully made, and in which three rows of red herrings were sticking up their heads. The laugh was against Meissonier. He discharged the gardener, but took him back the next day.—*Gardener's Monthly.*

HARDY FRUIT CULTIVATION.

Planting.—One of the chief causes of failure in the cultivation of hardy fruits in olden times was, and unfortunately is still, the injudicious selection of unsuitable sites for Orchards. In former days, when safety and not suitability had first to be considered, when from necessity rather than from choice, Orchards were planted in the cold damp valleys near to residences, there was a reasonable cause for so doing; but that cause no longer exists, and yet the same foolish practice is still pursued, either because we do not estimate the value of the produce of our hardy fruit trees sufficiently high, to afford them the best soil and site, or else because we are satisfied to copy and repeat the mistakes made by our forefathers without having their reasonable excuse for wrong-doing. In saying this I do not wish it to be understood that I would hastily condemn all low and sheltered positions, except where they are naturally cold and damp, and which can be easily determined beforehand by a few simple observations. Nor would I, on the other hand, advocate as the most suitable site for an Orchard, a very elevated position, where the trees would be constantly exposed to rough winds; but even this would be preferable to the former position, because protection might in many instances be easily provided by planting trees and shrubs, but to improve a low-lying, cold and damp valley is almost impossible.

In the Midland, Western, and Southern Counties a gradually-sloping hill-side, inclining towards the east, is unquestionably in most cases the most favourable aspect and position, but in the Eastern and Northern Counties a southern or south-western slope would, I think, prove more satisfactory. There may exist in some instances local conditions which would tend to modify these conclusions; but they are not likely to be numerous nor so complex as to prevent even the most casual observer from understanding and taking advantage of them. In respect to soil our hardy fruit-trees do not appear to be at all particular, provided the situation is favourable. Whether planted on the old or new red sandstone, the London clay, the Kentish rag, the chalk, or the green sand formation, they nearly all of them succeed well, provided the climate and seasons are favourable. To stone fruits, however, there is no doubt that a soil containing a large proportion of calcareous matter is advantageous, and where a soil is found to be naturally deficient of it, means must be taken to remedy the defect.

A deep rich, somewhat adhesive loam, resting upon a moderately porous subsoil, is perhaps the best calculated to produce health and fertility, but unfortunately there are so few proprietors and occupiers of land who can be induced to believe in the real value of hardy fruits, that they refuse to appropriate their better lands to this purpose, but still prefer to grow wheat or other comparatively unprofitable crops on the whole, while the despised orchard-trees are consigned to the worst possible soils and situations. A short time ago, I was consulted by a large occupier of land as to the best and most profitable kinds of fruit to cultivate, his intention being to destroy six acres of moss-covered, cankered, and otherwise diseased Cider Apples, and other fruit-trees occupying a piece of poor land nearly level with a river, and to replant the same with the best kinds for the benefit of himself and future generations. I ventured to suggest (for I was not consulted on this head) that the old Orchard should be in future appropriated to roots, and the new Orchard formed on a rich piece of sloping land at a higher elevation then occupied with corn. This suggestion was ridiculed at first, but after considerable discussion and delay, I was gratified to see the suggestion had been accepted, the Orchard was planted, and although but few years have elapsed, a very fair return has already been made on the outlay, and the trees are annually increasing in fertility and value, and bid fair to be in a few years time the most profitable crop on the farm.

Having selected the proper site for an Orchard, the next thing is to arrange the proper distances at which to plant the different kinds of trees, and to arrange them in such a manner as to prevent any injury from shading each other when they eventually become fully developed. In deciding this, not only will the nature of the soil and its tendency to produce exuberant growth have to be considered, but what

is more important, the habits and comparative sizes of the different species and varieties of trees it is intended to plant must be fully understood beforehand.

To ascertain the effects of the soil and climate on the trees, it is only necessary to observe the growth of aged trees in the immediate locality, and to learn the habits and proportionate sizes of any special variety, the best Nurserymen's Catalogues and Hogg's *Fruit Manual* may be consulted with advantage. It is always advisable to allow too large rather than too limited intervening spaces, because the Kentish method of cultivating small bush fruits, potatos, or other crops between them will, for at least some years, not only prevent waste of ground, but also prove advantageous to the trees.—*Scribo.*

SCHIZOSTYLIS COCCINEA.

Though introduced some twenty years ago this fine plant has not yet found its way into many gardens. During my stay in North-west Lancashire I have not seen a single specimen beyond those under my own care, but westward, on the borders of Cheshire, I saw it about this time last year growing by the dozen in a shrubbery border in the garden of S. Williamson, Esq., M.P., Copley House, Neston. The plants were as tall as any I have seen, and well furnished with flower-spikes. As this garden is on the red sandstone formation, where the soil is comparatively shallow, perfect drainage and an augmented temperature of the soil are secured at all times. Stagnant water is one of the greatest enemies of plants of doubtful hardiness. When I first made the acquaintance of the Schizostylis it was regarded as half-hardy, but in the South it has been planted out of doors for years, and I never recollect an instance of its having suffered in the least. It would be interesting to know if since its introduction it has succumbed to the rigours of our winters. If any of your correspondents would kindly relate their experience of it, it might inspire confidence in numbers who may wish to plant it out, but are at present hesitating. From two clumps received here three years ago we have two dozen good pots, and this number being sufficient I planted some out in front of a vinery last autumn, and the others last March. All are showing spikes, but last winter cannot be considered a fair test of the hardiness of any plant.

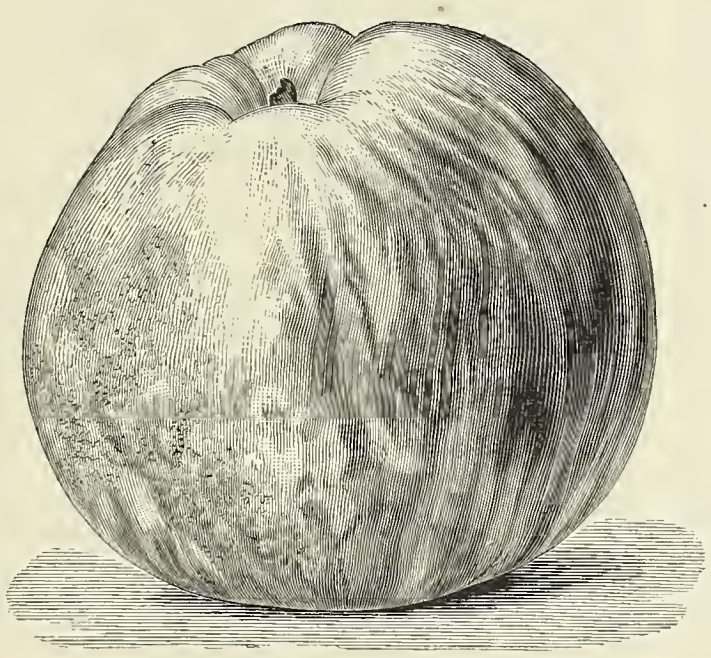
Pot Culture.—In pots the culture of the Schizostylis can be safely conducted with certainty of success by any one possessing a cold frame that can be used for the purpose of sheltering them in order to secure fine blooms, as well as to afford assistance to the plants after they are potted, which should be done before the end of March. We pot ours in February by inserting about a dozen of its tuberous roots in a 7-in. pot, and we are rewarded by as many promising spikes not yet expanded. We have already given them the protection of a cold pit, as we had a fall of snow on the 9th inst. which, however, disappeared as fast as it descended. This snow was succeeded at night by 11 degs. of frost. This was a warning to get other things beside the Schizostylis under cover.

Hitherto our plants have been plunged in ashes in a south aspect since they were turned out of the pit early in May. I am not prepared to say which is the best sort of soil to use for pot culture, but we use the same as that mixed for Pelargoniums, except that we allow more loam. We have found it best to give them fresh soil every year, which involves shaking the plants out and dividing them, as the pots become a mass of roots in one year. I find the plant will bear slight forcing, and if there is a dearth of flowers we have only to introduce some of the plants into heat and they quickly respond to our wishes by throwing up successional spikes, as well as developing those already formed and the plant's flowering-season may be said to cover a period of four months, which should command for it a place in every garden in the country.—*R.* [This showy plant flowers so freely during October and November, and is so easily grown, that it well deserves more attention.—*Ed.*]

JACOBS' STRAWBERRY APPLE.

We are indebted to Messrs. G. Bunyard & Co., Maidstone, for some specimens, one of which is here illustrated, of a most valuable early Apple either for the table during August and September, for marketing or for exhibition purposes. It was exhibited under the name of "Jacobs' Strawberry" in both the months named, before the Fruit Committee, and received a First-Class Certificate. The fruit is above medium size, of a lemon-yellow ground colour, shaded and streaked with various tints of crimson, and the flavour all that can be desired. Without doubt, it is one of the handsomest and best-flavoured early Apples known, and will doubtless become a great favourite.

Of its origin but little is known, and the only information we have been able to glean respecting it is contained in a letter from Mr. Arnold, of Petworth, published in *The Garden* of Saturday last. Mr. Arnold states that he has seen the two trees which Mr. Jacobs possesses bearing fruit for the last seven years, and has come to the conclusion that too much cannot be said as regards its excellence, either as a dessert or exhibition Apple. "It begins to colour beautifully in the latter part of July, and in August it comes into use, some of the fruit ripening in the first week of that month, and others lasting till the first week in October. It is a very prolific bearer, indeed I have never known it to fail. Both trees are handsome, the largest covering a space of twelve square feet, and, although so heavily laden with fruit this year, they are full of bloom-buds for next season."



JACOBS' STRAWBERRY APPLE.

TUBER-BEARING SOLANUMS.

At this period of the year when Potatos engage so much attention, and when disease-resisting kinds are —in bad years at least—eagerly sought after, an epitome of a paper recently published in *The Journal of the Linnean Society*, by Mr. J. G. Baker, of Kew, may interest readers of The Gardening World. It is entitled "A Review of the Tuber-bearing Species of Solanum." We give the introduction in full:—

"The subjects of the differential characters, the relationship to one another, and the climatic and geographical individuality of the numerous types of tuber-bearing Solanums are of great interest both from a botanical and economic point of view. As there are many points which are still to be unravelled, I propose in the present paper to pass in review the material which we possess in England bearing on the question. It was at the instigation of Earl Cathcart that I undertook the inquiry; and in carrying it out I have gone through all the dried specimens at Kew, the British Museum, and the Lindley Herbarium, have carefully studied the wild types which we grow in the herbaceous ground at Kew, and have visited the extensive trial-grounds of Messrs. Sutton & Sons at Reading, whose collection of cultivated types in a living state is probably the most complete in existence, and to whom I feel much indebted for their kind aid. I propose in the first place to deal with the species and varieties in detail geographically, then to summarize them from the point of view of the systematic botanist, and finally to make a few general remarks on the economic bearing of the facts."

Mr. Baker then passes in review each of the supposed species which have been described, in the following order:—1. Species from Chili; 2. Brazil, Uruguay, and Argentine Republic; 3. Peru, Bolivia, Eucador, and Colombia; 4. Mexico; and 5. South-Western United States. He then says:—

"So far as I can judge from the material and information which we possess in England, out of twenty species which have been named, six, viz., S. tuberosum, S. Maglia, S. Commersoni, S. cardiophyllum, S. Jamesii, and S. oxycarpum, possess a fair claim to be considered as distinct species in a broad sense; and of the others, eleven, viz., S. etuberosum, S. Fernandezianum, S. imminite, S. colombianum, S. Otites, S. Valenzuetæ, S. verrucosum, S. debile, S. stoloniferum, S. utile, S. squamulosum, and S. Fendleri, are certainly, or probably, mere forms or varieties of S. tuberosum, and S. Ohrondii and S. collinum of S. Commersoni."

The following are the habitats of the six species:—

1. S. tuberosum.—Andes of Chili, Peru, Bolivia, Ecuador, and Columbia; also in the mountains of Costa Rica, Mexico, and the South-western United States.
2. S. Maglia.—Shore of Chili, down south as far as the Chonos Archipelago; also likely Peru.
3. S. Commersoni.—Uruguay, Buenos Ayres, and Argentine territory, in rocky and arid situations at a low level.
4. S. cardiophyllum.—Mountains of Central Mexico, at an elevation of 8,000 ft. to 9,000 ft.
5. S. Jamesii.—Mountains of South-western United States and Mexico.
6. S. oxycarpum.—Mountains of Central Mexico.

An excellent figure of each of these six species is given.

The following are Mr. Baker's "Economic Suggestions":—

"What Lord Cathcart asked for were any suggestions that a botanist might be able to give, founded upon his knowledge of the Potato-plant and its geographical distribution, that were likely to be of practical value to cultivators. In reviewing the subject, the considerations of this character that occur to me are these:—

"In the first place, it always seems to me that cultivators work upon the tacit assumption, if I may so express it, that the one object in life of the Potato-plant is to grow potatos, and that this assumption has no sound foundation in fact or reality. Solanum is one of the largest genera in the vegetable kingdom. About 900 names stand in the botanical books as species, and Bentham and Hooker estimate that probably 700 of these are really distinct. Of these 700, it is only six that grow Potatos at all, and the remainder all maintain their hold in the world as most plants do, by means of their flowers, fruits, and seeds. I do not think that the Chilian S. etuberosum and Mexican S. suaveolens, are more than mere forms of S. tuberosum, and they are said to be quite destitute of tubers; and there is the fact noted by Sir J. D. Hooker, that when S. Maglia was first grown at Kew, for two years it did not yield any tubers. A great many of the cultivated varieties rarely produce flower and fruit. Any plant brought to the tuber-bearing state is in a disorganized unhealthy condition, a fitting subject for the attacks of fungi and aphides.

"The great difficulty with which we have to contend in fighting disease is that in the Potato, as in other cultivated species, we grow in great masses plants which in a state of nature are scattered amongst others. The relationship of tuber to fruit is so clearly shown by one of the experiments of Mr. T. A. Knight, that I will cite it in this connection. 'Every gardener knows' (he writes in *Philosophical Transactions*, 1806, p. 297), 'that early varieties of the

Potato never afford either blossoms or seeds; and I attributed this peculiarity to privation of nutriment, owing to the tubers being formed preternaturally early, and thence drawing off that portion of the true sap which, in the ordinary course of nature, is employed in the formation and nutrition of blossoms and seeds. I therefore in the last spring planted some cuttings of a very early variety of the Potato, which had never been known to bloom in garden-pots, having heaped the mould as high as I could above the level of the pot, and planted the portion of the root nearly at the top of it. When the plants had grown a few inches high, they were secured to strong sticks, which had been fixed erect in the pot for that purpose, and the mould was then washed away from their stems by a strong current of water. Each plant was now suspended in air, and had no communication with the soil in the pots, except by its fibrous roots; and as these are perfectly distinct organs from the runners that generate and feed the tubers, I could readily prevent the formation of them. Efforts were soon made by every plant to generate runners and tubers, but these were destroyed as soon as they became perceptible. An increased luxuriance of growth now became visible in every plant, numerous blossoms were emitted, and every blossom afforded fruit.'

* Secondly, a suggestion as to what might be done towards widening the power of climatic adaptation of the cultivated Potato. There are certainly six distinct species of tuber-yielding Solanum, each with its own distinctive climatic peculiarities. I went to Messrs. Suttons' trial-grounds specially to investigate this point, and came away fully satisfied that all the numerous varieties in cultivation had originated from S. tuberosum, as here defined. As far as climate is concerned, it cannot be doubted that Solanum Maglia (or the Darwin Potato, as we might suitably christen it in English), would be better fitted to succeed in England and Ireland than S. tuberosum, a plant of a comparatively dry climate. We have indisputable testimony that S. Maglia and S. Commersoni yield readily an abundant supply of eatable Potatos. What I should suggest is that these should be brought into the economic arena, and thoroughly tested as regards their economic value, both as distinct types and when hybridized with the innumerable tuberosum forms."

The foregoing conclusions seem to us extremely suggestive. Firstly, it would appear that in any attempt to improve tuber-bearing species with a view to raising good disease-resisting kinds, which shall be at the same time good croppers and palatable when cooked, it will be advisable to exclude altogether those supposed species which are now considered as only wild forms of ordinary tuberosum. This experiment has already been tried. M. Alphonse De Candolle has recorded, in the *Revue Horticole* and elsewhere, how S. verrucosum was cultivated for many years by peasants in the neighbourhood of Geneva, and how the cultivation was finally abandoned on account of the smallness of the tubers, and because they did not, as was hoped, resist the disease. There had then been no Mr. Baker to tell them that they were only trying to raise improved Potatos from the wild stock.

A second consideration is that Sabine's paper "On the Native Country of the Wild Potato," which has been considered as referring to S. tuberosum, must now be understood as referring to S. Maglia, to which species Mr. Baker satisfactorily shows Sabine's plant belongs. Again, the origin of our cultivated Potato has been frequently referred to as a vexed question. But if all the eleven names which Mr. Baker has referred to S. tuberosum are really "mere forms or varieties of that species," there need be no further difficulties on that score, as a reference to the wide range of that species abundantly demonstrates. Finally, without expressing any opinion as to the possibility of raising useful kinds from any of the other five species, it should be borne in mind, before dismissing the idea as impossible, that our excellent esculent has been improved by degrees from the wild stock, and that the species in their wild state are very closely allied.

In conclusion—this paper is more lengthy than we intended it to be, but the subject is so interesting that further condensation seemed impossible without leaving out some important point—we append a few remarks on what is known of the tubers of these other five species and their habitat, as compared with S. tuberosum.—S. Maglia has been grown for upwards of twenty years at Kew, small tubers were given to the Garden by Dr. Sclater in 1862, and grown in the arid, sandy-soil of the nursery-ground they produced no tubers in 1863 or 1864. In its native home it occurs in the near neighbourhood of the coast, while S. tuberosum is a plant of the hill of the interior. The history of Sabine's plant (mentioned above as S. Maglia) briefly is:—Two tubers were sent to Chiswick, grown in richly-manured soil, and the produce was most abundant. They yielded in a single season about 600 tubers, a few as large as pigeon's eggs, the remainder like the originals, globose and under an inch in diameter. The flavour, when boiled, was like a young ordinary Potato.—S. Commersoni. Of S. Ohrondii, said to be the same, we learn that tubers have been grown at Brest, where it is quite hardy. Each year, at the end of June or the beginning of July, the tubers have been collected, some having attained the size of small hen's eggs, though not larger than walnuts when received. No disease has been noticed, and the plant grows of itself from small tubers accidentally left in the ground. The tubers may be boiled or baked: the latter are preferable, and have a taste like chestnuts, but leaving in the mouth a slight acidity. It will be noticed that the habitat is different from the preceding species and from S. tuberosum.—S. cardiophyllum produces white, watery tubers an inch in diameter, and is, perhaps, not now in cultivation.—S. Jamesii. A good supply has been grown at Kew from tubers furnished by the Agricultural Department at Washington. The tubers are not above the size of marbles.—S. oxycarpum. Not in cultivation. The tubers are small, and commonly called "Papa cimarrona" by the natives.

Another season has now rolled round, and we should be glad to hear the results of the harvest, as some of the above we assume are in cultivation.—*X.*

ON PLANTING ROSES.

The season is at hand when Roses are planted. The best time of the year to do this is up to the end of December; and anyone contemplating planting a collection should endeavour to obtain them from a nursery in which the soil is somewhat similar to that in the garden in which they are to be planted. Generally speaking, Roses will thrive in any good garden soil, but as it has a decided preference for that which inclines to clay or heavy loam, it is advisable in planting where the soil is not of a suitable nature, to make for each plant a hole of about 18 ins. in diameter, removing a sufficient quantity of the old soil to admit of about a bushel of good rough loam with the addition of a fair quantity of well-decayed stable-manure well mixed in with it. If planting be done during dry weather, the plants should have a thorough soaking at the roots at the time, and standard plants should be firmly staked to prevent them being blown about by the wind. In selecting plants at a nursery, see that they are well furnished with fibrous roots; these are much less likely to throw up suckers than those having a few thick fibreless roots.

Selection of Hybrid Perpetuals.—We will assume that Roses are wanted for garden decoration, and consequently the varieties we are about to name are vigorous, free-growing sorts, just adapted for the purpose. They are Anna Alexieff, rose colour; Edward Morren, deep cherry-red; Jules Margottin, cherry-red; Comtesse de Chabrillant, pink; Glory of Waltham, crimson; Lord Clyde, rich scarlet-crimson; Madame Jules Grevy, light salmon-pink; Madame Louise Vigneron, bright rose; Mrs. Harry Turner, dazzling crimson-scarlet; Princess Louise, white, with a slight tint of flesh; Princess Louise Victoria, light pearl; and The Shah, pure red, very bright.

It will be found of great advantage to mulch each with manure after planting, and this can be lightly pricked in about March. Then, in regard to pruning Roses used for garden decoration, this operation should be regulated by the growth of the individual varieties, the weak shoots being cut in close, the stronger, sucker-like shoots being left longer. The strong-growers form good pillar, pyramid, or climbing Roses; and for the latter purpose nothing can be better than the climbing forms of Captain Christy, Edward Morren, Bessie Johnson, Comtesse d'Oxford, Mdlle. Eugenie Verdier, and Victor Verdier.

Show Roses.—Here are the names of some very fine show Roses, should any one contemplate trying his luck at the next local show:—Alfred Colomb, A. K. Williams, Annie Wood, Baroness Rothschild, Beauty of Waltham, Charles Lefevre, Comtesse d'Oxford, Comte Raimbaud, Duchess of Bedford, Duke of Edinburgh, Dupuy Jamain, Emilie Hausberg, Fisher Holmes, Francois Michelon, Helen Paul, Horace Vernet, Jules Finger, La France, Le Havre, Madame Eugène Verdier, Madame Gabriel Luizet, Madame Hippolyte Jamain, Madame Nachury, Madame Victor Verdier, Marie Baumann, Marie Verdier, Merveille de Lyon, Mons. E. Y. Teas, Mrs. Jowitt, Mrs. Laxton, Pierre Notting, Pride of Waltham, Rosieriste Jacobs, Reynolds Hole, Senator Vaisse, Star of Waltham, Ulrich Brunner, and Xavier Olibo.

Tea Roses.—Some Tea Roses must of course be included: of those having yellow-buff and sulphur shades: Gloire de Dijon, Marechal Niel, Devoniensis, Perfection de Mont Plasir, Madame Falcot, Perle de Lyon, Perle des Jardins, and Safrano. White Teas:—Niphetos, Alba rosea, Marie Van Houtte, and Madame Willermoz. Blush pink and flesh shades: Souvenir d'un Ami, Rubens, President, Letty Coles and Catherine Mirmet. Rose and crimson in shades: David Pradel, Duke of Edinburgh, and Cheshunt Hybrid.

Polyantha or Pet Roses.—These are well-named Pet Roses. They are a somewhat new class, easily grown, and flowering autumnally, even through the depth of winter if grown in a house, and producing heads of from thirty to over one hundred flowers on strong plants. Rosa polyantha was introduced from Japan by the late Mr. Robert Fortune, about twenty years ago. It is distinguished from every other type by its painted blooms. It is the only section exhibiting this peculiarity, which it would be interesting to find reproduced in other sections of the Rose. From its seeds several fine varieties have been produced, such as Anna Maria de Montravel, white, produced in clusters, very double and sweet, and a very pretty dwarf Rose, Jean Driven, white, edged with rose, very novel and pretty; Madame C. Brunner, light pink or blush, charming; Parqueritte, pure white, flowering in large bunches, and very continuous in bloom; Mignonette, rosy-pink, very fine and the most pleasing of miniature Roses; and Perle d'Or, nankeen-yellow with orange-centre, novel and distinct. Some of these can be had as standards, and we think they would be very pretty in this form.—*Quo.*

AUTUMN IN THE FLOWER GARDEN.

The garden referred to in the following paper is situated in the southern part of Surrey:—

How enjoyable are these early October days in a garden where plenty of good hardy flowers are grown! The sun is still hot, while the air is keen and crisp; summer flowers are over, but those of autumn are in full swing, with a prospect of unceasing interest till the middle of November. Even then we shall not be flowerless, nor indeed at any time throughout the winter, and by mid-February there will be a hundred plants in bloom again. The chief border of hardy flowers had a trying time during six weeks of drought, but recent rain has given it fresh life, and all that now remains to record the dry season is a general dwarfing of the taller plants; Michaelmas Daisies of the bigger sorts being six feet high instead of eight, and so on. The earlier kinds are in full beauty; we only grow the very best, perhaps fifteen varieties, all chosen for some conspicuous merit out of the great number that exist, many being hopeless rubbish for garden purposes. With the Michaelmas Daisies are groups of the great marsh ox-eye, closely followed by another grand Daisy, the great ox-eye (Pyrethrum uliginosum). Then come groups of the best kinds of perennial Sunflowers and Coneflowers (Rudbeckia) in rich variety, with the primose-coloured annual Sunflower, a more manageable plant in a mixed border than the coarser deep yellow-flowered kind. The great autumn Monkshood is a noble plant, and groups finely with some of the large white Daisies. Its deep green foliage comes finely out of a carpeting

group of the large-flowered Plantain Lily (Funkia), with its important leaves and pure white flowers.

The border has been arranged with some care in such a way as to get the plants in picturesque masses, both as to form and colour; for form's sake, in masses of varying heights, not a regular shelving upward from front to back, but rather like a mountain range, with occasional spurs coming towards the front, and valleys of lower growth running well back among the taller groups. As to colour, the main feature is a treatment in broad masses and simple harmonies, with the occasional variety of a striking contrast, avoiding, above all things, the usual spotty speckling of the same single plant often repeated. They are put in good groups of, say, six or eight together, either close or straggling, as their nature requires.

The early Chrysanthemums are useful September flowers: a bright yellow one about two feet high is now very effective. We make careful use of grey and silvery-foliaged plants, grouping them with purple and lilac flowers; among the larger flowers, the silvery-leaved Cineraria of the Mediterranean shores, and with the smaller, neat carpets of the Alpine Cud-weeds, Wormwoods, and Yarrows.

The great autumn Stonecrop is in full beauty, with its large heads of flower 6 ins. across, always covered with humble bees and butterflies, a special resort of red-admirals and painted-ladies. Dahlias, single and double, are in profusion. We find them by no means easy to place picturesquely; there is a want of interest in their foliage which makes them unsatisfactory in large masses alone. We like them best either two or three of a colour, or one alone, among young or low shrubs. The late drought has suited the handsome scarlet Cactus Dahlias, for, whereas the flowers are usually overgrown by the foliage, this year, the latter being stunted, the blooms rise clear above it. There is a heavy crop of Sweetbriar berries, now rapidly colouring, and making an important effect of garden decoration. White Japan Anemones are so complete a feast of flower beauty by themselves that we like best to isolate them (though they also group finely with other flowers), and have them in quiet nooks, where they reign alone, only accompanied by dark foliage. One such group is at the foot of a large Holly, whose deep-green foliage is a good ground for the pure white flowers. Another group is backed by a dark bay, and rises from a bed of Plantain Lily and broad-leaved Saxifrage. These large-leaved Saxifrages are most important plants, seldom used as thoughtfully as they deserve; for grouping round the base of steps or other masonry they are excellent, and their grand massive foliage is in beauty all the year round.

The warm late autumn sun brings out in profusion the clear white flowers of the Peruvian Swamp Lily (Zephyranthes candida), one of the loveliest of garden plants, but only suitable for warm soils in the southern parts of England. Near it, a clump of Belladonna Lilies throws up its large flowers of loveliest pink and white on purple-crimson stalks, covered with a delicate bloom. South European Cyclamens are in full beauty; a little later we shall be consoled for losing their flowers by the development of their delicately marbled leaves, that will endure throughout the winter. The later-planted Gladiola are now out, and the tiger-flowers give a daily-renewed crop of gorgeousness. Of plants of large foliage, Cannas and Maize are our favourites, besides the permanent groups of Bamboos and the great reed (Arundo). Meadow Saffrons gape wide open in the bright sunny mornings. They have a queer old name, now obsolete but interesting—the Son before the Father—so called because the pods of seed come in early summer with the handsome broad leaves, apparently before the flowers, which are due in autumn. We are gathering the first flowers of Czar violets, and shall have them in all open weather during the winter and until March.

These are only a few out of our many points of flower interest. Those whose chief idea of a garden is a gaudy glare of bedding "stuff" of some ten weeks' duration (which, by the way, needs all the rest of the year for its preparation), know very little of what a garden really is, or of the healthful happiness that rewards practical workers among hardy flowers.—*Pall Mall Gazette.*

Mr. Elliot Stock has arranged to publish a book on Roses, upon which "E. V. B." is engaged.

TOWN AND SUBURBAN PLANTING.

In the first portion of these notes, published last week at p. 87, it was stated that trees and shrubs could not be transplanted with safety while the dry weather continued. Since then rain has fallen, but not in such quantity as we could desire, still the weather has so entirely changed that more rain may soon be expected. It now remains for me to give the promised selection of a few trees and shrubs suitable for town and suburban planting, but before doing so I should like to make a few remarks on the present appearance of some of the trees seen in London and the London parks. The most verdant are the Plane, Poplar, common Acacia, Ash, the Elm, Ailanthus, and the Mulberry. The latter, although of slower growth, is a fit companion to the above, for it thrives in the most densely populated parts of London, and quite a grove of them may be seen near to Nine Elms. The Plane (Platanus occidentalis) is the London tree, *par excellence*, but it does not follow from this that it is the best tree everywhere, not even in the suburbs of London. Can this arise because soot is essential to its health, and that it gets more of it in London than anywhere else? Many persons have a notion that they must plant a variety when they plant at all, but while variety is no doubt charming, I consider it preferable in town planting to have a quantity of handsome trees like the Plane, rather than a variety of things which will thrive only for a few years.

The Canadian Poplar has been previously mentioned as the tree best suited for planting to hide unsightly objects, and it is also in my opinion the one tree, next to the Plane, that is best suited for general planting in London. There are but few trees which one dare recommend for the purpose. Possibly there are more Elm trees of a large size in and around London than specimens of any other tree, yet it would be unwise to say that it is a good London tree. The majority have been planted many years—a century or more—but those planted at a more recent date are not in so satisfactory a condition, and every day are getting less so.

The Horse Chestnut (Æsculus Hippocastanum) is looked upon as next in usefulness to the Plane, and it is so for general planting, but not as a London tree, except where variety is insisted upon. We know that it is the admiration of everyone who visits Bushy Park while it is in flower, but the avenue of Horse Chestnuts planted in Regent's Park cannot be looked upon as a success, and if we may judge from their present appearance they do not seem to improve with age. The Scarlet Chestnut will be found useful for general planting, especially in small enclosures where the common Horse Chestnut might be thought to grow too large.

The Lime (Tilia europæa) is a very handsome tree, and is extensively planted in town gardens. When in flower its perfume is delightful, but the great drawback to planting the Lime as a street tree in the suburbs is the early period at which it loses its leaves. In a hot summer like the past, when shade was so desirable, the Lime, in many places, was no sooner in leaf than it began to drop them.

In Robinia Pseud-Acacia we have one of the most useful of deciduous trees for town and suburban planting, it does not grow too large, and can be planted in front gardens, as heat and dust do not appear to affect it. The varieties R. Bessoniana, R. umbraculifera, and R. monophylla, are also deserving of extensive use.

The Acers (Maple) are very interesting trees, and many of them only require to be known to be appreciated. Acer Negundo and A. Negundo variegata are both useful trees for small shrubberies, particularly the latter, the silver variegation of which mixes so well with evergreen shrubs. It is a plant that can be kept within bounds as easily as a Standard Rose, indeed it is improved by annual pruning. Acer dasycarpum is one of the most ornamental trees grown, and some good specimens of it may be seen in Regent's Park. There are also some newer varieties which deserve the attention of of planters—viz., A. Reitenbachi, a fine purple variety of the Norway Maple, and A. Schwedlerii and A. Worleyi are each very striking.

Some of the Oaks may be planted with advantage in suburban gardens. Quercus rubra, the Scarlet Oak, is very handsome, having large leaves, which turn to a bright red in autumn. The Golden Oak, Q. concordia, and the Purple Oak, Q. nigra, contrast well with the green of other trees and shrubs.

It has been mentioned above that Elms cannot be looked upon as a satisfactory tree for city or town planting, neither can they be recommended as suited for small enclosures in the suburbs. Still there are a few varieties that may be selected with advantage. The Golden-leaved Elm, Ulmus Dampieri aurea, is a fine new variety; the Purple Elm, U. montana purpurea; U. myrtifolia purpurea, and the Silver-leaved Elm, U. glabra microphylla variegata, are each deserving of a place.

Thorns are indispensable subjects as town and suburban trees. The Single White and Pink are both useful, but are not to be compared with the double kinds, such as Paul's Double Scarlet, the Double White and Pink, as they last so much longer in flower than the single varieties.

The Birch is a handsome-growing tree that will grow well in the suburbs, and the Silver Birch, Betula alba, the Purple Birch, and Betula fastigiata are very effective varieties.

The weeping, flowering, and berry-bearing trees, with the flowering shrubs, must be the subject of a paper for next week.—*G. T.*

THE FORESTRY EXHIBITION.

The International Forestry Exhibition in Edinburgh was brought to a close on Saturday. Throughout the day and during the evening the attendance was very large, the buildings and the grounds outside being crowded. It is estimated, says *The Scotsman*, that nearly 500,000 people have visited the Exhibition. As to the financial results, it is believed that there is likely to be a deficit of not less than, in all probability, between £500 and £1,000. The accounts have not yet been made up, and accordingly no exact statement can be given; but the above estimate is believed to be only too well grounded, and certainly not over the amount of the deficit that may be looked for when everything now due has been paid off. This deficit is attributed chiefly to the heavy expenditure that has been necessary to the carrying on of the Exhibition, with all its attractions. The buildings, in the first place, cost upwards of £7,000; that of the electric light has been, it is said, about £1,000; and £36 a night has been paid for other illuminations. The general expenses have been very heavy—heavier than was at first anticipated; and in the general expenses are included a vast number of important items for every-day requirements, which have run up into a formidable figure.

The promoters of the proposed School and Museum of Forestry have now obtained from the Lawson Seed Company a place for the temporary accommodation of the exhibits that have been promised for the Museum; and, accordingly, it is understood that they do not propose to acquire any considerable portion of the Exhibition buildings. These in the course of a short time will be taken down and removed. With the nucleus of a museum obtained, and with the promises of aid received, hopes are entertained of the establishment of a School of Forestry in Edinburgh. Upwards of forty of the exhibitors have promised considerable and valuable portions of their exhibits for the Museum, which will thus acquire specimens from Japan, British Guiana, India, and other countries abroad. The Maharajah of Travancore has promised some of his exhibits; and specimens of wood pulp have also been promised. Her Majesty's Woods and Forests will also largely contribute to the Museum; and a great many tools and models from different parts of the country—illustrative of, and connected with, the science of forestry—have also been secured. Among the contributors at home are the Duke of Buccleuch, the Duke of Argyll, the Duke of Athole, Sir James Richardson, Mr. Owen, Mr. Oscar Dickson, and other gentlemen. For the establishment of the School and Museum of Forestry, the Committee, at the head of which are Mr. Hutchinson of Carlowrie, Colonel Dodds, Dr. Cleghorn, and other gentlemen, are about to make an appeal to gentlemen interested in the subject for their financial requirements.

The Amateurs' Garden.

A Third Amateur's Garden.—We promised in our last number to endeavour to describe a third Amateur's Garden: we confess, however, at the outset that we are quite unequal to the task. Although we have wandered about it, by the courtesy of the owner, at all seasons of the year, from Christmas Rose to Chrysanthemum, from the peeping of the first Snowdrop till

"Heavily hangs the Hollyhock,
Heavily hangs the Tiger Lily,"

we can scarcely name or describe a tithe of the interesting and beautiful things to be seen in this charming garden. There is so much to see, to read, mark, learn, and also inwardly digest (for our amateur grows also Peas, Strawberries, and Melons), that we repent of our rash promise. Within the compass of half an acre, not including a quarter for hardy fruits, there are many hundreds of the choicest shrubs, herbaceous and alpine plants to be seen anywhere perhaps, except in some of the large nurseries or such richly-stocked gardens as those of Messrs. Woolley Dod, G. F. Wilson, and others.

First, with regard to the house itself, then as to its surroundings. It is a long, low, three-gabled cottage, with creamy-yellow walls quartered with dark old oak beams. The roof is red-tiled, mellowed with age, and embossed with the grey-green lichens which artists love. The front faces south, and is entirely covered with creepers, the most conspicuous among which are Clematis montana, now only a delicate tracery of green leaves, but in early summer covered with its chaste and elegant snow-white stars; a Vine, probably Esperione, from its richly-coloured leaves; Gloire de Dijon Rose, and Escallonia; a raised border, with blocks of sandstone irregularly disposed for Alpine plants, occupies the foot of the wall. The most striking of the many plants in this border at the present time is Plumbago Larpentæ; the plant still shows the deep-blue flowers, and the foliage is changing to crimson. Elegant carpets of various species of Arenaria, dotted with tiny blossoms, creep over the sandstone boulders.

The cottage and garden are situated on sloping ground at a corner where two roads meet. Behind and towering over the gabled roof, is a belt of fine Scotch Firs, tall Elms, and Chestnuts. These form a picturesque and effective background, especially now that the latter are putting on their autumn tints of gold and sienna. The boundary fence is Oak, 4 ft. high, within which is a Laurel hedge. Our amateur is not of those who are jealous of the privacy of their gardens, and endeavour to hide them with hideous 10 ft. walls. The wayfarer may linger, as he frequently does, to gaze over the garden gate; and should the amateur florist wish it, the proprietor, with the accustomed liberality and genial courtesy of the true amateur, will probably invite him to look round. We have no sympathy with those who would keep their gardens simply for their own selfish gratification or snobbish pride. The pleasures of a garden are enhanced tenfold by the consciousness that they contribute to the delight of others. In front of the doors, which seem always open, is a lawn some 30 yds. square; it is closely shaven and soft as velvet. About a foot from its margin there is hidden, though no one would suspect it from the smoothness of the sward above them, a broad belt of pure white Crocus, perhaps Queen Victoria. The corms are left undisturbed from year to year, and as the end of February approaches they produce a wonderfully bright and cheerful appearance, especially when, in reply to a gleam of sunshine, the snowy petals open as if to warm the golden anthers within. There are two other small raised beds, one on each side of the little conservatory door. They are segments of circles planted thickly with a dark crimson Daisy. The edging is Cerastium tomentosum, which is allowed to bloom. The little masses of warm colour are useful in early spring; but the broad belt of white Crocuses, when the sunshine lights upon it, has a remarkably pleasing effect. Numerous scarlet-berried shrubs are used to warm up the borders, the crimson-hipped Rosa rugosa, with its handsome foliage, was among them. A few small Conifers and Roses were dotted about the lawn. When we saw the garden on Monday last, however, the most conspicuous feature was a magnificent tuft of Pampas Grass, with thirty-five grand plumes.

The house, as already stated, faces the south, and the little span-roofed conservatory stands a dozen yards off obliquely towards the east, and faces west. The front of the structure is nearly covered with that noble climber, Aristochlia Sipho. It is a most useful plant for softening the hard lines and angles of unpicturesque buildings. Our amateur is somewhat fastidious in his choice of materials; he has no bedding-plants, no double Dahlias (the single, he grows largely) no Sunflowers, and makes no attempt at massing colours, if we except the aforesaid Daisies and Crocuses and occasional little beds of dark blue Violas and an oblong bed of the fine old Valotta purpurea, which does better in the open borders in summer than in pots—unless allowed to suffer from lack of water. It makes one of the handsomest beds we have seen, with its fine scarlet blooms and handsome flag-like foliage. But our amateur is evidently a landscape artist, and every touch he makes with the colours from Flora's palette tells. Nearly all the borders are raised, and the multitude of choice and frequently delicate flowers has the aspect most suitable to its wants. The soil—except where heath and bog-plants are grown and necessitate an addition of peat—consists of loam and leaf-mould with the addition of a liberal mulching of cocoa-fibre refuse. The walks are edged with flint boulders, so arranged as to allow of the growth of low Alpine plants, such as the dwarf Phloxes, the Gentians Aubrietias, Saxifrages and the Golden Creeping Jenny. The pretty little Fuschia procumbeus, with its small disc-like leaves, curious blossoms and lovely rose-coloured seed-pods, is found to be quite hardy, and is much prettier than when grown in pots. Another good plant we noted frequently in the borders was a species of Eupatorium. It is a neat and interesting plant for the back of a mixed border, and the tiny white flowers are useful for bouquets.

It would be next to impossible to describe the plan of the garden under notice without a diagram. It is admirably laid out, however; every walk leads to some attractive object or turns into another; there are no *cul de sacs*. The ground slopes, as was said, and the coins of vantage are well chosen. The limited area, too, is so cunningly planted as to deceive the eye, but never weary the attention or offend the taste. Advantage is taken of every opportunity for placing a rustic arch for roses, honeysuckle, or clematis, and the sides of a pond in which are grown some interesting aquatics, are guarded by a rustic fence which is clothed with suitable climbers. Among the flags, rushes, and lilies we noticed the Osmunda and several Lastreas, variegated Coltsfoot, Horsetail, and on the surface of the water the elegant little Azolla pinnata, a Cape aquatic. Some one had thrown upon a neighbouring pond a handful of this; the water was covered with the common duck-weed at the time, but the hardy and prolific Azolla literally crowded it off the face of the water within a period of three months. We are reminded of another weed, the troublesome intruder that infests our rivers and canals, and warn our readers not to try experiments on their neighbours' fish-ponds with Azolla pinnata. We will notice a few of the principal herbaceous plants, some of them still in bloom, for this Amateur's Garden is on the "All the year round" plan, there is always something to attend to, always something to admire, and he never, we believe, takes a holiday trip without bringing home a contribution to further enrich his garden—some pretty wilding perhaps from Corsica or Madeira, or some new importation from Backhouse or Ware. He is great in Aquilegias. Here is the beautiful A. glandulosa, there a seedling therefrom, and, chaster still, here is A. californica, there the beautiful A. chrysantha. These, of course, are over, but there are Asters and Salvias, some beautiful little things deep blue and scarlet, great masses of the handsome pink-flowered Sedum Sieboldi, Rudbeckias, Helianthus, Roses, Homere in great force, and Gloire de Dijon. All the Lilies are over excepting auratum, of which there are a dozen or more plants still in bloom, notwithstanding the nine degrees of frost last Friday morning. There is a pretty pink Iberis with dark green foliage, some Pansies, of which there is a fine collection, and a large clump of Winter Cherries, whose orange-scarlet seed-cases are quite telling. Most of the borders are raised, as we remarked, and along the ridges are Rhododendrons, Kalmias, Berberis Aquifolium—than which there are few handsomer shrubs—Deutzias and many others. The back or outer walks are also sheltered with flowering shrubs or filberts. One little depression which had been carefully prepared for bog-plants, intermixed with Ferns and Equisetum, contained the best of the cool terrestrial Orchids, among which is the beautiful Cypripediun spectabile.

Close by the gate, as we make our exit, is a pretty rockery, almost as interesting now as in the summer. The Arenarias spread their emerald velvet over the red sandstone, the Aubrietias with their green rosettes, the Phloxes, the varied hued Stonecrops dotted here and there with groups of the elegant little hardy Cyclamens, Saxifrages with moss-like foliage, Colchicums purple and white, scarlet-berried Cotoneasters, the red-pipped Rosa ruga, Aquilegias and elegant Ivies, are all features in the pleasant picture. Parallel to the road and along the back of a bed of own root Roses, there is what in the summer and early autumn was a glorious display of garlanded blossoms. A row of posts about 9 ft. high are connected at the top with iron wire, which is bent to droop chain-like, and at the base of each post is planted the heart-shaped Ivy, climbing Roses, and the best of the autumn-blooming Clematises, there were literally thousands of grand purple flowers mixed with Roses blooming at the same time. The owner will probably add the new white Jackmanni—a great acquisition. In front of this fine floral festoon in July there was a collection of the finest Delphinums.

But the whole of our space would scarcely suffice to catalogue the flowers and shrubs in this garden. Our readers, who drive that way next summer, will not fail to recognize the spot by our description of it, although imperfect for its many omissions, it only errs in that respect. Among the several contrivances for protecting tender things from the attacks of slugs, we noticed a strip of zinc, about 2 ins. broad, placed as a collar round the plant. *The Times*, too, being the most consistent of papers (no politics, reader), was utilized as a winter covering to protect roots from damp and severe frost. It was first coated with a dressing of equal parts of copal varnish and boiled oil. For the present, however, we must bid adieu to the gabled-cottage and delightful garden. There they stand in the waning sunshine; the wicker-chairs, the table, and scarlet rugs still on the velvet lawn; yellow leaves eddy slowly down, and Chestnuts and Acorns drop softly among the withered leaves beneath. But the girdle of snowy Crocuses will glow again, and the wealth of beauty and fragrance wake refreshed after its winter's sleep.—*Luke Ellis.*

CROTON EVANSIANUS.

For general decorative purposes, this is one of the finest Crotons that has yet been sent out, and it is with a view to making it better known among those who have to provide brightly-coloured foliaged plants as well as flowers, that we to-day publish an illustration of it. There are many gardeners who have to grow, and largely use in their table and other domestic decorations, a set of small plants, such as Palms, the narrow-leaved Dracænas, and Crotons, than the latter of which when brightly coloured, few things are more effective by gas light. The Palms and Dracænas can be used in a small state many times without apparently being much the worse for it, but it is not so with the Crotons, the generality of which, do what we may, will lose their lower leaves. Croton Evansianus furnishes a marked exception to this rule, for it retains its lower leaves longer than any other variety, and on that account, if it had no other merits, it deserves to be largely grown. But it is also one of the finest coloured forms we have. The young leaves are pale green, with the veins yellow at first, then changing to crimson, while with age the leaves assume a dark bronzy hue, and the veins a shade of red—forming a very pretty contrast. It is one of the good things sent out a few years ago by Messrs. James Veitch & Sons, in whose nursery plants with single stems a yard high may be seen with leaves perfect to the base.

FERNS FROM SPORES.

The following remarks on raising Ferns from spores are intended to apply to those sorts which are required in large quantities for general decorative purposes, and such as are grown for market. We find that the best time for collecting the fronds for spores is just as the spore cases begin to open; and it is best to take them from plants that have been grown in isolated positions as much as possible, as where several sorts come in contact with one another the spores often get mixed. As the fronds are collected they should be folded up in papers and kept in a dry, warm place until required for sowing. Fern spores germinate most readily if sown in the spring, but where a high temperature can be maintained they may be sown at any period of the year, and if a succession of small plants is required, for any particular purpose, we would recommend that a sowing of the chief sorts should be made every month throughout the year. We usually sow the spores in 48-sized pots, filled to within an inch of the top with any ordinary loam, care being taken that it does not contain any woody or other substance that is likely to contain fungus. The pots are then well watered, after which a little powdered charcoal is sprinkled over the surface (or burnt earth sifted through a fine sieve answers the same purpose). After the spores are sown each pot is covered with a piece of glass and placed in a saucer which is kept constantly filled with water, to prevent the pots requiring any surface watering. The pots are placed in any convenient place where a good heat is maintained. A good position for them will be found by the pipes under a stage, where they can remain until the spores begin to germinate, when they should be placed in a position where they can get more light. As soon as they are developed sufficiently we prick them off in pots or boxes, the compost for which should consist of equal parts of loam and peat, with a liberal allowance of sand.

Ferns when pricked off in a small state can only be done in patches, and these require dividing again when they are potted off into small pots, though in some cases it is not advisable to divide them singly, as they are more useful if grown in tufts of three or four together. This especially applies to such sorts as Pteris serrulata and its varieties, Pteris hastata, Pteris cretica and its varieties, Doryopteris palmata, and the Adiantums. Pteris argyrea, P. tricolor, P. longifolia, Cyrtomium falcatum, and any of the Gymnogrammas do best potted singly. All of the above sorts are very useful for the small fancy pots, now so popular, and many other sorts might be included for the same purpose, but those enumerated are among the best. —*H.*

CROTON EVANSIANUS.

Adiantum Lathomii.—This differs from Ad. scutum (of which it is a variety) from its having broader pinnules, and shorter stipes, and in the fronds being more recurved. It is one of the most beautiful of this lovely class of ferns, and should find a place in every collection. It should, moreover, commend itself to market growers, as it makes a very handsome plant for general decoration.

FRUITS.

Fruits at the Health Exhibition.—Exhibitors of Hardy Fruits had a grand field-day at South Kensington on Tuesday, when the tempting prizes offered by the Executive of the Health Exhibition, brought out a grand display of Apples and Pears, and a sufficient variety of other fruits to invest the show with interest and importance. The large collections of Pears and Apples were specially fine, and the same must certainly be said of the miscellaneous collections of each, shown, not for competition, by Messrs. James Veitch & Sons, Chelsea; Messrs. J. Cheal & Sons Crawley; Messrs. Paul & Son, Cheshunt; Messrs. G. Bunyard & Co., Maidstone; Mr. Sidney Ford, gardener, Leonardslee, Horsham, and others, which contained all the well-known sorts, and many that we are not so familiar with, represented by samples of great excellence. The Apple classes, in which certain sorts were specially invited, were unusually interesting, and brought out examples of astonishing quality for such a season.

The Blenheim Oranges were a grand lot, twenty dishes all told, and not an inferior one among them. Mr. Walker, Nurseryman, Thame, sent the best sample, a remarkable one for size and colour; Mr. Sidney Ford coming in second; and Mr. G. Goldsmith, gardener, Hollanden, third. Of that finest of all dessert varieties, Cox's Orange Pippin, a similar number of dishes were forthcoming, and here Mr. Haycock, of Barham Court, was well to the front, his most successful rivals being Mr. A. Waterman and Mr. Goldsmith. There was no prettier class as a whole than that of the popular King of the Pippins, and certainly none exhibited a wider range as regards size and colour in the specimens staged. Mr. F. Miller, gardener to J. T. Friend, Esq., Northdown, Margate, had a specially fine sample, and secured first honours, the second prize going to another fine lot from Mr. Rutland, gardener, Goodwood, Chichester; and the third to Mr. Goldsmith. Of Meré de Ménage there were not many dishes, but if the whole country had been searched for finer specimens, it is doubtful if better could be found. Of wondrous dimensions and high colour, they took the eye of all. The prizes here went to Mr. C. Ross, gardener, Welford Park, Newbury; Mr. Walker, Thame, and Mr. Haycock. Class 14, which was for Golden Noble, or Waltham Abbey Seedling, was a most useful one, in illustrating the difference between the two sorts, which, in cultivation, are so often confounded with one another. The large, smooth, golden-yellow, and nearly globular-shaped Golden Noble largely preponderated, and the first and third prizes went to this sort, and the second prize to the other, the successful competitors being Mr. Miller; Mr. J. Gilmour, gardener, Seacox Heath, Hawkhurst; and Mr. Miles; while another very good dish of Golden Noble from Mr. Goldsmith was Commended.

The old Golden Pippin was not particularly well represented, neither was Court of Wick, and we may note, with a view to correcting an error, that Yellow Ingestrie was in one case shown for the Golden Pippin. Fourteen dishes were staged in the class for varieties that have been certificated by the Royal Horticultural Society, and the large, handsome Peasgood's Nonsuch, as shown by Mr. Haycock, headed the list; Loddington Seedling, or Stone's Apple, from Mr. Miller, being placed second, and Lane's Prince Albert, from Messrs. H. Lane & Son, third; while another admirable sample of Peasgood's Nonsuch, from Mr. C. Ross, and a pretty dish of The Queen, from Messrs. Saltmarsh & Son, Chelmsford, were Commended. American Apples were well shown by Mr. J. B. Thomas, of Covent Garden Market, who sent several barrels as imported, of such sorts as The Baldwin, Northern Spy, Bellefleur, Golden Russett, Nonsuch, and Famuse. They were all in excellent condition, having travelled well, but neither the Baldwin's nor the Northern Spy's seemed to us to be so fine in size or colour as usual. The American Apple crop, like our own, is nothing to boast of this year, so that those who have good home-grown samples and can keep them should certainly do so, until the American supply is over.

Pears, as before stated, were unusually well represented, but of course not in such numbers as the Apple. The leading position among the trade exhibitors of collections, not exceeding fifty varieties, was taken by Messrs. Thomas Rivers & Sons, Sawbridgeworth, with a very fine lot, but not equal to Mr. Haycock's collection, which secured the highest honours in the corresponding class for amateurs. Mr. G. Goldsmith was a good second here. Mr. Haycock was also invincible in the classes for twelve, six, and three varieties, showing splendid samples of Doyenné du Comice, Pitmaston Duchess, Conseiller de la Cour, Beurré Diel, Durandeau, and Duchesse d'Angoulême. The best-flavoured Pear was Seckle, grown by Mr. Ross; the second best the old Gansel's Bergamot (about the last sort we should have expected to find in such a class), from Mr. Johnstone, gardener, Bayham Abbey; and third, Beurré Superfin, from Mr. Haycock. The best three stewing Pears were Catillac, Uvedale's St. Germain, and Bellisime d'Hiver, from Mr. Haycock; and the two first-named sorts, with Grosse Calebasse, from Mr. Rutland, were second. The only certificated variety shown was Pitmaston Duchess. Of Peaches the Salway took the lead, specimens of fine size and colour from Mr. Rutland coming in first. Lord Palmerston, Prince of Wales, and the old Walburton Admirable were also exhibited, but in smaller numbers than the Salway. There was also a small class of Plums, Coe's Golden Drop taking all the prizes. Grapes grown in the open-air did not make a very striking display, only Sweetwater's, with one exception, being staged, and these only of fair quality. Mr. C. Ross sent a couple of large smooth Cayenne Pines; Mr. Harris, gardener to Mrs. Vivian, Swansea, half-a-dozen good Queen Pines; Mr. C. Herrin, gardener, Chalfont Park, Slough, a collection of fourteen Melons; and Mr. Sanderson, gardener to H. D. Pochin, Esq., Bodnant Hall, North Wales, sent some exceedingly fine bunches of Muscat of Alexandria and Black Alicante Grapes, which had unfortunately suffered somewhat in transit.

Bramley's Seedling Apple.—This fine variety, one of two only which were awarded Certificates of Merit at the Apple Congress at Chiswick last year, is well portrayed in colours in the current issue of *The Florist and Pomologist*. The fruit is oblate in shape, with five, rather distinct knobs at the crown; the eye rather open, with erect segments, the stalk very short, and the skin covered with a tinge of pale red, which is striped with darker red; and the ground colour yellow when shaded. The variety was raised from seed some years since by Mr. Bramley, of Southwell, and obtained from him by Messrs. Merryweather & Son, by whom it has been distributed. It is a large handsome, and really meritorious Kitchen Apple, which, according to Mr. Merryweather, is ready for use when gathered, but can be kept until the following June.

A New Pine Apple.—In Mr. B. S. Williams' Nursery at Holloway, we saw the other day two specimens of a variety of Pine Apple, quite distinct from any sort in general cultivation, and which are both swelling off fruits that promise to attain Brobdignagian dimensions. The plants are very strong robust growers, and bearing fruits which are larger now than any Smooth Cayenne that we have seen, and which when ripe, about Christmas, will probably weigh about 15 lbs. The pips are of great size, while the crowns for such large fruits are very small.

Kelsey's Japan Plum.—The Fruit Committee had, as usual at this season, a number of subjects before them on Tuesday for adjudication, the most remarkable of all being some specimens of Kelsey's Japan Plum, sent by Messrs. J. Lusk & Sons, Oaklands, California, to Mr. William Bull. They left California on September 12th, and arrived in excellent condition after a month's travelling. The fruits were as large as a good-sized Nectarine, conical shaped, and of a rich crimson colour, mottled with yellow. It was stated by Messrs. Lusk to have been received in California from Japan in 1871, but only ripened its fruits to any extent during the last and present seasons, and it was thought by them to be particularly adapted to the climate of the South of England, which is somewhat similar to the coast counties of California.

FLOWERS.

Lilium auratum.—A stem of Lilium auratum grown in the open ground, in the Marquis of Headfort's garden at Headfort House, near Kells, has this season borne sixty-six perfect flowers of large size and fine shape and colour, while others in the same border produced from fifteen to thirty flowers each. The bulbs were started in pots, and when growth commenced were planted out in the open border, some good loam and cow-manure being placed with each clump. The plants grew away strongly, and were well fed during the summer with liquid manure, besides being mulched with an equal mixture of peat and mushroom dung, which the stem-roots soon took hold of. The mulching is now almost a mat of roots, which must have greatly helped to support the grand heads of flowers they have produced. I may state that the stem which bore the great mass of flowers above mentioned was a fasiated one, and under 4 ft. in height, while many of the others have attained a height of over 5 ft.—*W. J. Ireland.*

Impatiens Sultani.—Information is asked on p. 68 respecting the winter-flowering capabilities of this Balsam. For this purpose I consider it a valuable acquisition; flowering freely as it does throughout the entire winter months, and thus enlivening the house in which it may be growing to such an extent that one almost forgets the season of the year. Last autumn, earlier than this time, I put in about two dozen cuttings singly in thumb pots, keeping them rather dry until they were rooted, as being of so soft a nature they are likely to damp off if watered as often as most things require. When the roots had fairly filled the pots, the plants were potted on into 48's and placed on a shelf in an intermediate house near the glass, where they grew into nice bushy plants, furnished to the rim of the pots with strong healthy foliage, and they flowered in the greatest profusion. I have not found them do so well in a stove, where they soon become lanky and do not flower either so freely or the blossoms become so large. I used them on several occasions for drawing-room decoration, for which purpose they are very effective objects, but they do not last more than three days at a time in good condition. On being returned to their former quarters, however, they speedily recover, and in due course can be used again. I have not found any advantage, in preparing them for this work, from placing them for a few days in a cooler house. I am this season growing another batch, which may be considered as proof of my opinion of their usefulness.—*E. Dumper.*

Bouvardia Humboldtii corymbiflora.—This is one of the best—if not quite the best—varieties of Bouvardia for furnishing a supply of white, sweet-scented flowers in the autumn if properly grown, as it easily can be, by anyone having a spare pit or frame that can be devoted to them during the summer and autumn. Early in February procure some cuttings about 2 ins. long, taken off with a small heel; insert them singly in small pots, or several in a 48-sized pot, in sandy peat, and plunge the pots in a brisk bottom heat. Keep them carefully shaded until they are rooted, when they should be potted off, being careful not to use pots of too large a size as they do not make large roots. Water carefully, and keep them near the glass in a temperature of 60 deg., and when about 4 in. high pinch out the point of each shoot, to induce the formation of side shoots. When they are growing freely gradually harden the plants off until they can be planted out, about the middle of May, in the frame or pit where they are to remain. Stop the shoots once again—the second time—after which no more pinching must be done or the plants will not bloom so freely, nor will the blooms be so large. Prepare the soil for planting them in by mixing together about equal parts of loam, leaf-soil, peat, and silver sand, and to this add a sprinkling of bone dust. Plant them about a foot apart each way, give a good watering, keep them nearly close, and syringe daily until they become established, when the supply of air

should be increased until the lights can be left off altogether, except during long-continued rains when they will need protection to prevent them from being saturated. Well attend to them during the summer with water, both at the roots and over the foliage, and about the end of August they will commence to bloom, and will continue to do so till November, providing they are protected from frost. When they have finished blooming, some of them can be taken up and saved for supplying the cuttings for another season, and if not required can be thrown away, or if desired they can be cut down and planted in the same way the following summer, when they will also produce a quantity of flowers.—*E. M. S.*

Eucharis.—I think it is an admitted fact that no stove-plant is so generally cultivated for its lovely flowers as E. amazonica, and I think it is acknowledged also that large established-plants and a high temperature are absolutely necessary to produce such a profusion of flowers as are constantly seen. I am sorry from my own experience, to be unable to endorse the very high opinion formed of E. candida by Mr. Dumper, at p. 69; its flowers are certainly not equal to those of the former, nor do I find them produced in such profusion as one might be led to expect. E. pumila I have a still poorer opinion of, but I am fully convinced that in E. Sanderiana, we are likely to find a friend, the exquisite beauty of the flowers, their substance and the numbers generally borne on each stem, makes it one of the most attractive stove-plants yet introduced, and it has one point of merit for the amateur at least, that it will flower with the greatest ease from very poor bulbs grown in a very moderate temperature, in a 4-in. or 5-in. pot. This one circumstance alone, in my judgment, places it at the head of the list, and I have no doubt when it is more generally grown, this will be the accepted verdict of all who require a large quantity of white cut-flowers. —*R. P. G.*

Passiflora cœrulea in fruits.—In an early number of The Gardening World this plant was mentioned as a deservedly popular hardy climber, and one which on a south or west aspect would amply repay for the trouble of training by the profusion of its flowers. This is indeed the case, especially in a summer like the one just passed. In some localities near London it is very commonly met with, and has been flowering for months; indeed, a few stragglers yet remain. But its ornamental nature may be viewed from another standpoint, namely, that of its fruit. There are, within a hundred yards of the writer, two large plants which have been trained to the top of the windows of the second story, and these plants are literally full of fruit. They hang in strings like yellow egg-plums, but of a rich orange-colour instead of yellow, though some of them are still green. The effect is charming; in many parts of the plants they hang eight and nine to the square foot. There are at least a score trees within a radius of half a mile, most of them with a number of fruit on, though not in the profusion of the two afore-mentioned. I believe the long fine summer has much to do with it, and never saw the plant fruit with such profusion before.—*X.*

Exacum affine.—This is a pretty Gentianaceous plant now flowering in the stove at Kew. It grows about a foot high, the habit is neat and erect, the leaves cordate-ovate and bright shining green, and the flowers, which are ¾ in. in diameter with flat spreading lobes, are pale blue in colour, and the anthers deep yellow, making a pretty contrast. It is a native of Socotra, and is one of the plants collected in the recent exploration of that remarkable island.

Siphocampylus Humboldtii.—This neat and showy little plant is also flowering in the stove at Kew. It is about 8 ins. high and as much through; the leaves are lanceolate, almost entire, and 2 ins. to 2½ ins. long; the flowers are tubular, curved, 2 ins. long, and cinnabar red with bright yellow throat. The stamens and stigma are very curious; the anthers are united in a ring round the stigma, furnished with hairs at the apex, and slaty-blue in colour, and when the flower first opens this alone is seen, but as the flower becomes older the white two-lobed stigma grows out a little beyond the ring of anthers.

VEGETABLES.

Potatos were in good form at "The Healtheries" on Tuesday. What more fitting production of the garden could be invited to an exhibition than that representative of the national food—the Potato? On this occasion Mr. R. Dean, Ranelagh Road, Ealing, was fortunate in securing four first prizes and one second in the classes in which he exhibited. He was first with twelve varieties for garden culture, staging excellent samples of Ashleaf, Woodstock Kidney, Cosmopolitan, Snowdrop, Snowflake, and Lapstone, white kidneys; Sunrise, white round; Beauty of Hebron, coloured kidney; Reading Russet, Radstock Beauty, Matchless, and Vicar of Laleham, coloured rounds. We have put Matchless with the coloured rounds, but it may be included in the white group, so little colour has it in the skin. Mr. J. Hughes, The Gardens, Eydon Hall, Byfleet, was second with Edgcote Seedling, Snowdrop, Myatt's Ashleaf, white kidneys; Favourite, Early Regent, Porter's Excelsior, white rounds; Red Emperor, Reading Russet, The Dean, coloured rounds; Prizetaker, Early Purple, and Cardinal, coloured kidneys. Mr. Hughes did not show up to his full strength on this occasion, as he is reserving himself for Birmingham next month. Mr. C. W. Howard, Bridge, Canterbury, and Mr. W. Kerr, Dumfries, were placed equal, third. We think Mr. Howard should have been placed second, as he had a very fine lot, though in common with Mr. Hughes, staging varieties we could scarcely consider good enough for garden culture.

In the class for twelve varieties for Field Culture, Mr. R. Dean was first with Woodstock Kidney. Chancellor (Dean), Cosmopolitan, Snowdrop and Magnum Bonum, white kidneys; Mr. Breesee and Beauty of Hebron, coloured kidneys; Reading Hero and Schoolmaster, white rounds; Reading Russet, The Dean, Vicar of Laleham and Adirondack, coloured rounds. Mr. Hughes was second with Snowdrop, Morna's Bride, Edgcote Seedling, and Myatt's Ashleaf, white kidneys; Favourite, Porter's Excelsior, and Early Regent, white rounds; Early Purple, Prizetaker and Cardinal, coloured kidneys; The Dean, Red Emperor and Reading Russet, coloured rounds. Mr. W. Kerr, third. In the class for twelve late varieties, Mr. R. Dean was also placed first, staging Magnum Bonum, White Giant (Lye), Chancellor (Dean), white kidneys; Mr. Breesee, coloured kidney; Prime Minister (Dean), Schoolmaster, Reading Hero, white rounds; The Dean (Dean), Vicar of Laleham, Bedfont Rose (Dean), Beauty of Kent and Manhattan, coloured rounds. Second, Mr. C. W. Howard, Bridge, Canterbury, with Queen of the Valley, Beauty of Hebron, Earliest of All, Vicar of Laleham, Beauty of Kent, Magnum Bonum, Red Fluke, Adriondack, Vermont Champion, Schoolmaster, Woodstock Kidney and Cosmopolitan. Third, Mr. W. Kerr.

The most interesting classes were those for English and American varieties with pedigrees. Here Mr. Dean was first, with twenty-seven varieties. The following raised at his seed grounds, Bedfont, by his brother, Mr. A. Dean: Harvester, W. R.; The Dean, C. R.; President, W. R.; Chancellor, W. K.; Standwell, W. R.; Recorder, W. K.; Rufus, C. R.; Alderman, W. K.; Cardinal, C. K.; Bedfont Rose, C. R.; Prime Minister, W. R.; Sunrise, W. R.; Cosmopolitan, W. K.; Lord Mayor, W. R.; Lily-white, W. K.; London Hero, W. R.; International (Fenn), W. K.; Perfection (Lye), W. R.; Vicar of Laleham (Peake), C. R.; Prizetaker (Fenn), C. K.; Reading Russet (Fenn), C. R.; Progress (Lye), C. K.; Pride of Clyffe (Lye), C. K.; Wiltshire Giant (Lye), C. K.; Woodstock Kidney (Fenn), W. K.; and Edgcote Purple (Wiles); and one other whose name we missed. Second, Mr. C. Ross, gardener to E. Eyre, Esq., Welford Park, Newbury, with varieties all of his own raising, and mainly from Woodstock Kidney, including Miss Fowler, M.P., Dux Magnet, Editor, Productive, Fidler's Victory, Robert Fenn, Sterling, Emulator, &c. In the class for a collection of American varieties with pedigrees, Mr. Kerr was the only exhibitor, staging eleven dishes only, but without a single word of pedigree, indifferently named, and altogether unworthy of the handsome first prize which was awarded by the judges, and subsequently withdrawn. We believe it was considered by the authorities that as no pedigrees were furnished, the conditions set forth in the Schedule had not been complied with. An extra prize was subsequently awarded. In comparison with the collection of English Pedigree varieties shown in the previous class this was a very poor one, and was altogether below it in value. There is great difficulty in getting the pedigrees of American varieties; still anything like a representative collection of American Potatos ought to have included at least eighteen or twenty varieties.

In the class for fifty dishes, in which the prizes were absurdly small compared with those offered in the other classes, Mr. W. Kerr was first, with a very good lot, having of white kidneys, American Giant, Woodstock, Early King, Magnum Bonum, Ashleaf, International, King Offa, and Cosmopolitan; of white rounds: Mammoth Pearl, Brownell's Best, and King Noble; coloured kidneys: Early Purple, Wiltshire Giant, Trophy, Red Fluke, Mr. Breesee, and Prizetaker; coloured rounds: Pink Don, Manhattan, Lord Rosebery, Reading Russet, Blanchard, Fifties Annie, Grampian, Vicar of Laleham, Purple King, and Peach Blow. The foregoing represented his best tubers. Second, Mr. R. Dean, with white kidneys, Wormleighton, Snowdrop, Pride of America, Snowflake, Edgcote Seedling, Magnum Bonum, Lady Truscott, International, Mona's Pride, Early Border, and Chancellor; white rounds: Fillbasket, Schoolmaster, President, White Emperor, Reading Hero, Porter's Excelsior, Clyffe Hall, and Bedfont Prolific; coloured kidneys: Millhill Giant, Scammell's Glory, Prizetaker, Progress, American Purple, Cardinal, and Bountiful; coloured rounds: Vicar of Laleham, Blanchard, Radstock Beauty, Reading Russet, The Dean, and Purple King. Third, Mr. C. Osman, South Metropolitan District Schools, Sutton.

In addition, a very fine exhibition of some 135 varieties was shown by Messrs. Sutton & Sons, of Reading, arranged in their usual excellent style, and deserving of a higher award than the Silver Medal of the Royal Horticultural Society. Messrs. James Carter & Co. also had a collection for Field Culture, among them being Sukreta (Holme), awarded a First-Class Certificate of Merit at the Crystal Palace last week.

Vegetables at South Kensington.—There was an excellent competition in a class for eight distinct sorts of vegetables at the Health Exhibition on Tuesday, and the first prize was again won by that redoubtable grower, Mr. Miles, of Wycombe Abbey. The sorts staged by him were Cave's Pinesfield Improved Onion, Stamfordian Tomatos, James' Intermediate Carrots, Canadian Wonder French Beans, Allan's Champion Pea, a valuable late variety, Brussels Sprouts, Tender and True Cucumbers, and Lady Paget (Kidney) Potatos. Mr. S. Haines, gardener to Lord Radnor, Coleshill House, Highworth, took second honours, and the next best samples came from Mr. R. Phillips, gardener, The Deodars, Meopham. Nothing particularly new were shown in any of the collections, but Champion Runner Beans, Veitch's Autumn Giant Cauliflowers, Ford's White Celery, White Globe and Reading Onions, and Snowball Turnips were conspicuous as usual for their fine quality.

Potato Show Statistics.—We are informed that of the 1,032 dishes of Potatos shown last week at the Crystal Palace, 285 dishes, or more than one-fourth of the total exhibited, consisted of seventeen varieties, which were put into commerce by Messrs. Sutton & Sons, Reading; and their Reading Russet was the most largely exhibited variety, being represented by no less than seventy-four samples, facts which speak volumes for the excellence and popularity of Messrs. Sutton's introductions.

Pomological Congress at Rouen.—From *The Journal of Horticulture* we learn that the Congress at Rouen awarded a Gold Medal to the collection exhibited on behalf of the Woolhope Club by Dr. Bull. Dr. Hogg was presented with the Gold Medal of the Society, in recognition of the services he has rendered to the study of Pomology.

THE

Orchid Growers' Calendar.

Arrangement of Plants in the Orchid-houses.—Go where I will I see in the Orchid-houses plants placed where they are not likely to thrive, while there are in the same houses many situations available in which they would do well. Even in the best collections instances of this kind take place, and that, too, with the knowledge of those who have charge of the plants, the necessity for occupying every part of the house often causing them to place things where they would not, but for that circumstance. Misplaced plants will, therefore, be found even in the care of the most clever and thoughtful, but that is no reason why we should not endeavour to get them to reduce the evil to the lowest possible degree. In many small amateur collections the errors in arranging the plants and the evil consequences therefrom, often run throughout the whole collection, the plants being in poor condition on that account, notwithstanding that they have good houses to occupy and a fair amount of care bestowed on them, and wanting nothing but a practised hand to give the weakest growing a good situation in the full light, the lovers of shade the side of the house suitable for them, to block or basket and suspend those which seldom do well in pots, and so forth.

For the guidance of such amateurs, therefore, we want to lay down a few good rules, which, if kept in mind, although they may contain a few points impracticable in some cases, will not fail to work well wherever they are adhered to as closely as possible. First, then, let me say that the smaller a plant is the nearer it should be placed to the glass. Commencing with small thiugs, like Sophronitis grandiflora and others of a like habit, which are usually grown in shallow pans or on blocks and suspended, they should be brought within 1 ft. or 1 ft. 6 ins. of the glass of the roof, for in winter it is hardly safe to bring them nearer. So situated Lælia pumila, Cattleya Aclandiæ, C. Regnelli, all the Trichocentrums, and, indeed, everything else of dwarf growth are safe, and will thrive without giving much trouble, even in houses not well adapted for the culture of Orchids. It may be said that these things do well here or there under other conditions than those I have named. I am aware that they do under special treatment, but what I desire is to mention the safest plan of growing them, either by practised or unpractised hands.

Considering, then, that 1 ft. from the glass is allowed as the safety line, a good rough rule may be laid down that every small or medium-sized plant will do best if brought to within its own height of that line, thus, if a plant is 1 ft. in height it should be brought within 2 ft. of the glass of the roof, if 1 ft. 6 ins., within 2 ft. 6 ins., and so on, the larger and stronger-growing the plants are the further from the glass would they then be placed. The rule should be strictly adhered to with small things, but with very large ones the nearer to 3 ft. from the glass their heads are the better. When so arranged the weaker get the places most suitable to them and the stronger are not inconvenienced. I have tried the plan I recommend over a number of years, and I have always found that the nearer it was adhered to the better for the plants, and that where it was strictly adhered to with the smaller kinds, the fullest benefit to be obtained by the plants from their general culture was secured, in many cases almost dead pieces purchased at sales being quickly brought round by it. Of course it is impossible in practice to so arrange the plants throughout a whole collection that they come within my limit as to distance from the glass, but, in however many cases it has to be departed from, it should be borne in mind that the strong-growing things should be made to give way to the weak ones.

I am constrained to make these remarks, because I see in so many amateurs' collections where the side upper stages are arranged in steps, the back ones being nearest the glass and the front the farthest from it, a fashion generally prevails of putting the large strong plants in the back where they are often if anything too near the glass, the medium-sized ones lower down and generally too far off the glass, and the small and weak ones on the front at such a distance from it, that they stand no chance of ever regaining their health. Let me advise those to whom these remarks may apply by the light of the rough rule I have laid down, to endeavour to reverse the order in which their plants are arranged, and place the small ones on the back-shelf if it is likely to suit them or otherwise, and perhaps better still, to take them out of their pots and block, pan, or basket and suspend them, so as to get them near to light and pure air, and consequently nearer to health. At the same time there is a difficulty about having too many plants suspended from the roof, for the Orchids on the stages seldom thrive so well with other plants hanging over them. Where practicable, therefore, the hanging plants should be arranged to hang over the sides of the walks, and where it is absolutely necessary to hang them over the other plants, care should be taken to take every one down to water it, and to leave it long enough to allow of the water draining away before returning it, so that drips may not fall from it on to the plants below.

Cypripediums and all the other terrestrial Orchids which like shade, need not be regarded as being touched by the above remarks so long as suitable places can be found for them, which can always be done in parts of the houses where many Epiphytes would not do well. Masdevallias of the Harryana, Veitchiana, Davisii, and ignea sections, and others which are well known to be shade-loving Orchids, it is not of so much consequence to bring close to the glass; they therefore, if need be, should give place to Brazilian and other Orchids which thrive only in a clear light. The Masdevallias of the Chimæra section in most cases thrive only when brought up to the glass of the roof, and so grown their flowers last much longer than they do if grown at a distance from it.—*James O'Brien.*

ORCHID NOTES.

Cypripedium calurum.—This charming hybrid Lady's Slipper is beautifully illustrated in the current number of *The Florist and Pomologist*. The plant forms a thick tuft of green leaves, from amongst which spring up tall, branched, brownish-red stems, each bearing several flowers in succession. The flowers are large, measuring 5 ins. in their lateral and 3½ ins. in their vertical expansion. The dorsal sepal is oblong-ovate, pale green, with longitudinal purplish ribs, and slightly flushed on the outside with red; the united lower sepals are broadly-ovate and much smaller. The petals are 2½ ins. long, curled, pale green in the centre, at the base with an edging of rosy-red on each side ⅛ in. broad, which meets towards the apex, where it is wholly bright rosy-red. The lip is bold and conspicuous, nearly 2 ins. long, of a deep rosy-red, flushed with brown in front, paler behind, and the inside of the pouch creamy-white, distinctly spotted with rosy-purple. It is a vigorous-growing plant, obtained in Messrs. Veitch's nursery by crossing C. longifolium with C. Sedeni, itself a hybrid raised in the same establishment.

FLORICULTURE.

Tree Carnations.—The hot summer has brought the tree Carnations prepared for winter flowering, somewhat earlier into bloom than usual, but not too early for those who have to meet a demand for these much appreciated sweet-scented flowers. Messrs. Veitch & Sons grow many varieties in quantity at their Chelsea nursery, and the plants have been housed long enough for a fine lot of fresh clean flowers to be opened under glass. Looking them over the other day, we noted the following varieties as being specially worthy of recommendation to any one looking out for good things:—

Valencia, a very fine crimson flower with fringed petals, and a bold sturdy habit of growth.

Laura, satiny-pink, with fringed petals; a very neat flower.

Lady Mary Turner, a yellow-ground flower, mottled and flushed with crimson.

Caxton, a variety with fine large flowers, bright peach, shaded with rose.

Mrs. G. Hawtry, clear canary-yellow, and of excellent shape.

Pride of Penshurst, similar in colour to the latter, but a better habited plant, being a strong robust grower.

Ariadne, a pretty shade of rose.

Sir Evelyn Wood, one of the best of the dark coloured section, being of a rich claret colour; a nice compact bloom, and very free.

Princess Stephanie, a hybrid between a Pink and a Carnation, having the "grass" of the former with the tree-flowering habit of the latter; pure white, very sweet, good in shape, and a free bloomer.

La Belle, an old variety, but still one of the best, pure white, sweet-scented and a wondrously free bloomer.

Mrs. Keen, rich velvety-maroon, a very full flower which has the merit of not often splitting its calyx. It is rather a tall grower, but in other respects is a grand flower.

Faust, a pretty rose and crimson bizarre; very free.

Lady Macbeth, an improvement on Miss Joliffe, the rich flesh-colour being pure in tint, the petals stiff and broad, and the habit all that can be desired.

Hamlet in the way of King of the Yellows, but tree-flowering instead of a summer-bloomer.

Lucifer, the finest of all the scarlets, being of a brilliant shade, and perfect in shape.

Andalusia, a very fine yellow.

Thomas Wallis, a new variety sent out this year; an extra strong grower, and bright scarlet in colour, with a dark crimson stripe on the broad stiff petals.

Le Favori, a fine rosy carmine.

Sir George, a very good scarlet, of a stiff, robust habit.

Empress of Germany, a grand old white not much known; a large bold flower, with a fine free-branching habit.

Ruby, a beautiful flower of a rich deep-wine colour, tinted with blue.

L'Hermine, a good white, and very sweet-scented.

Irma, pink, flaked with a dark-flesh tint; very pretty.

Illuminator, a very good scarlet.

Touchstone, a peculiar shade of scarlet, feathered with crimson; and

Florifere, pure white, of good shape, and very dwarf.

Plants like these, struck in early spring and potted on in good loam in 32-sized pots, well tended as to watering and staking during the summer and autumn, put in a cool greenhouse early in October, and well fumigated to rid them of green-fly, will, if kept in a temperature ranging from 55 degs. to 60 degs., and in a tolerably dry atmosphere, give a supply of flowers of which ladies never tire, from the present time to well into the summer months of 1885.

The W. F. Bennett Rose.—A correspondent of the American *Gardeners' Monthly* stated in the July number of that periodical that few Roses will pay as well as The Duke of Connaught, and asked the pertinent question, Will the William Francis Bennett pay as well? To this the raiser, Mr. Henry Bennett, of Shepperton, replies in the current number:—"Having raised both of these roses, I think I can speak with some authority. Of course I cannot tell how these individual roses do in the States, but here the latter pays ten times as well as the former. 'William Francis Bennett' is the earliest and most persistent bloomer. I generally house them on the 1st of December, and have always had the first cutting not later than the 15th of January; it has never failed to flower in six weeks after being started, even in our dull, smoky atmosphere. In 1883 we began cutting in the first week in January, and took cuttings daily (Sundays excepted) till the 1st of July; the plants were then turned out a perfect blaze of bloom. The price for blooms was from 10*s.* per dozen to 2*s.* 6*d.* per dozen (the lowest price). The plants were grown in pots 6 ins. in diameter, were not shifted all the time, and had only a very little manure-water. I have never met with any rose that would produce half the quantity of blooms under glass. There is an error in stating this rose to be a seedling from Baroness Rothschild; it was

seeded from Adam, or President, crossed with Xavier Olibo. I have been trying all I can to get another seedling from the same cross, but without success. Perhaps it may interest your readers to know on authority that 'William F. Bennett' will, in all probability, be in commerce in May, 1885, as, at the request of so many of my correspondents, wishing to possess this rose, I think it only right to withdraw the restriction. The matter is now in Mr. Evans' hands, as to the price and time of distribution. I have been growing Sunset and Perle des Jardins under precisely similar circumstances, and they appear identical in growth and habit, but the blooms of Sunset are not quite so full, which I think is an advantage. It is almost sure to be a popular rose. Perle des Jardins is not a profitable rose under glass, with me. I can always get the second batch of William F. Bennett before I can cut a single bloom of Perle les Jardins."

The Double Black Auricula.—Can any one give me the origin of this? I know of no single Auricula of the same character and colour from which I can conceive it can have sported. The flowers are small, and produced on somewhat weakly stems, but they are fully double and symmetrical. But it falls much behind some of the fine double varieties I have obtained from the Continent, such as Delicata, Hercules, Lilacina, Violetta, and Portia. I am hopeful that I shall be able to exhibit a collection of these in the spring. It takes some time to work up a collection, and having now a few good strong plants of each, I think I shall be able to show them in good form. It would be interesting to know also when and where the old double yellow originated. Sometimes a raiser of seeds of Alpine Auriculas gets a double flower somewhat unexpectedly. Two cases have come to my knowledge during the last two or three years; one of them was very fine, and quite distinct from anything I have in my collection.—*R. D.*

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

May I ask you to allow me to announce in reply to numerous inquiries that the collection for this year in aid of the Pension Augmentation Fund will close on the 30th of November next?

The Committee are determined if possible to increase the amount of the pensions, but they do not consider it safe (and this has been frequently stated) to make this large increase of expenditure (over £400 a year) until the reserve fund has reached £20,000, thus placing the question beyond doubt that the annuities can always be met.

I have grave doubts whether many of your readers are aware of the fact that a nameless, but generous, gentleman has promised (and he spoke to me on the subject again but a few days ago) to give the sum of £500, provided the amount of £1,750 be secured by the 31st December next, thus making the £20,000, which, invested in 3 Per Cent. Consols, would bring in an income of £600 per annum.

By the strenuous exertions of the Committee we are within a reasonable distance of attaining the desired object, but it depends upon the gardeners themselves now whether we do so or not. To complete the sum of £20,000 we require about £420, but I regret to say that, so far as I can at present see, there is little chance of it being obtained. It is a curious fact that many gardeners and others who have been persistent in urging the increase of the pensions, and stating what they would do in the event of it taking place, will not in the slightest degree assist the Committee.

I am sure you will agree with me that it will be a lasting disgrace to the profession that throughout the length and breadth of Old England, where over 20,000 gardeners are employed, the paltry sum of £420 cannot be raised. True (as a rule) gardeners do not receive large wages, if they did there would hardly be a necessity for this Institution; but there are many gardeners holding good positions to whom a trifle, say 10*s*. or 20*s*., could not and would not be an object; and if these would only combine together in one common cause (viz., to assist their distressed brethren), and sink their objections to this rule and that rule, the object of the Committee would be easily attained, and they would have the satisfaction of knowing that they had contributed to assist in their old age many who from various circumstances had been unable to provide for themselves.

Why the gardeners withhold support to the Institution I, after an experience of forty-two years, am at a loss to understand. They are as a rule known to be charitable and a good and intelligent class of men, but somehow they fail to see the benefits of, and support, the Institution. How often has it been my unpleasant experience to see a man who has lived all his life and served with fidelity in one family, have the misfortune to see that family die out, and the estate to pass into the hands of a stranger, who knows nothing of, and cares less for, the old servant. Such men are discharged without any provision, and having probably but little in the way of savings, have to apply to this Institution for assistance.

If he has been a subscriber for fifteen years and upwards (which I am sorry to say is not a common occurrence), and he complies with the rules, he is, at the first opportunity, placed upon the list of pensioners without the slightest trouble or election, and in one year he receives back nearly all that he has paid to the institution. As an example I would state that one pensioner who had subscribed eighteen years was placed on the list in 1860, he has received the sum of £384, and he is still living; surely this is placing money out to very good interest. If a gardener has not so subscribed he has to stand the chance of an election, and that may, and it usually does, extend over many years, and we all know the old proverb "that hope deferred maketh the heart sick."

Under these circumstances I venture to appeal to the good feeling which should, and I believe does, exist throughout the gardening community. It now remains with the gardeners, and gardeners alone, to determine whether the pensions shall be raised during the ensuing year. Gentlemen, employers of labour, and others interested in horticulture have done their part, and, as I said before, it depends now upon gardeners if the comforts of their poor professional brethren in their old age and days of distress are to be increased.

One word in conclusion. I am sure, that if the gardeners, as a body, will only show their willingness to assist the Institution, there are many gentlemen who will come forward with their money and influence; and one thing is certain, that any gardener who may lend us a hand, with no matter how small an amount (for a man can only give in proportion to his means) he will never regret his generosity, and will sleep none the less soundly for having assisted to the best of his ability in this work of charity.—*Edw. R. Cutler*, 14, *Tavistock Row, Covent Garden, W.C. October* 15*th.*

HOME MANURES FOR THE GARDEN.

(*Continued from p.* 85.)

Pig-dung varies in character probably more than that of any of our domestic animals, for pigs are of all creatures the most indiscriminate in their diet, and their excrements must, on that account, vary much, according to the kind of food they may happen in any particular case to obtain. Their digestive organs are, moreover, very powerful, and we may, therefore, suppose that they abstract more nourishing, and consequently more manuring, matters from their food than other animals. The dung of the pig is soft and compact, and generally consists of about three parts of water, and it is only when the animals are highly fed with Beans, Peas, Barley-meal, or similar invigorating foods for the purposes of fattening that the excrements become of superior value.

Containing so much water and so little nitrogen the dung, like that from cows, but slowly undergoes decomposition in the soil, and is, therefore, regarded as one of the "cold manures." In consequence also of the immense quantity of fluid usually consumed by pigs in the course of feeding, they discharge a correspondingly large amount of urine, which acquires in putrefaction the most intolerable odour, occasioned by a peculiar volatile substance, which renders piggeries of the greatest nuisance when placed in the vicinity of dwelling-houses.

Pig-manure, when applied to gardens, will be found generally to encourage the accumulation of slugs, snake-millepedes, and other noxious insects, it should, therefore, not be used, if it can be avoided, for the growth of Potatos, Celery, Carrots, Beans, Peas, or other of the more delicate vegetables, but should rather be employed for the grosser-feeding plants, such as Cabbage, Broccoli, Turnips, Brussels Sprouts, Beet, Parsnips, Onions, Leeks, and Rhubarb, or it may be dug in around fruit-trees with good effect.

If pig-dung is used too frequently on the stiffer classes of land, the soil will be found to acquire a wet and tenacious character, and on such soil the manure often imparts an unpleasant flavour to Potatos and Celery.

Neither cow nor pig-manure is suitable for the flower-garden.

Sheep-dung contains somewhat less water than the solid excrements of cows or oxen, a circumstance which the appearance alone of sheep-dung, being less soft and pulpy, would lead us to expect. This manure possesses more of the easily-decomposable substances, containing nitrogen and phosphoric acid, than that of horses or cows, but less than rich pig-dung; but if we consider that sheep-dung, although compact, consists of finely divided parts—as sheep in eating chew their food most minutely—we shall readily understand how it happens that this manure comes sooner into action as plant-food than that of cattle, and whence it arises that on its putrefaction (when lying in heaps) it generates so much heat; the more so since the usual mode of treatment in which it is suffered to remain in the feeding-stalls, and being kept continually moist by the urine usually causes decomposition to commence before its removal on to the land.

The admixture with urine must, of course, essentially increase the effect of the independently very powerful dung of sheep, and from the great quantity of ammonia developed may be explained its remarkable effect on every kind of soil and description of plant.

If the solid excrements of sheep are dissolved in rain-water the liquid will be found extremely useful for watering Strawberry plants, Raspberry canes, Roses, Chrysanthemums, Coleus, and Caladiums, and if diluted with a larger quantity of water will be found very effective for watering weakly plants in pots. If used too strong for flowering-plants, it is apt either to burn the plants or to produce an over-abundant yield of leaf, with a corresponding smaller proportion of bloom.

Poultry-dung is one of the most invigorating of our home manures, and is therefore worthy of greater consideration than is often bestowed upon its collection, especially as it soon decomposes and consequently loses so much ammonia or valuable plant-food by the escape of its gases into the air, and it would lose a still greater quantity did the excrements not dry quickly, and thus prevent further decomposition.

The strongest fertilizer is that obtained from pigeons and domestic fowls—a fact easily explained by the circumstance of these animals living chiefly upon grain, insects, and worms; while geese eat grass also, and ducks drink such a vast quantity of water. That we may lose none of the valuable manurial ingredients developed during the putrefaction of poultry-dung, it would be well to strew the yard and houses in which they are kept with soil abundant in humus matter, and leaf-mould mixed with ashes and gypsum, commonly known as Plaster of Paris.

As poultry-dung is very rich in powerfully manuring substances easily soluble in water, it should be applied only in moderate quantities at a time, and not be dug too deeply into the soil.

It may be mixed with charcoal-dust, soot, or cinder-siftings, and applied to the vine borders; and in France its effects have been extolled when applied to the roots of Orange Trees, the Olive, Mulberries, and the Vine. In Belgium the farmers employ it particularly for manuring their flax, and calculate the annual value of the dung of 400 or 500 head of pigeons at between £5 and £6.

Like all manures containing much ammonia, the dung of poultry soon destroys moss, so that an occasional dressing to a lawn infested with these troublesome species of plants will be found beneficial.

Care, however, must be taken not to overdo the nitrogenous manuring of a lawn, or the coarser growing grasses, such as Cocks-foot (Dactylis glomerata), will soon begin to push themselves too forward, and the surface will present an uneven and consequently unsightly appearance.

(*To be continued.*)

HORTICULTURAL SOCIETIES.

Royal Horticultural.—At the monthly meeting of the Fruit and Floral Committees, held at South Kensington on Tuesday, there was quite a brilliant little show of flowers, which, with a fine display of Fruits and Potatos noticed in other columns, made up an exhibition such as we do not often have at this season. Before the Floral Committee, Mr. B. S. Williams, of Holloway, exhibited flowering plants of those two valuable and almost perpetual blooming Amaryllises, Mrs. Garfield and Mrs. William Lee. Mr. Williams had also a nice potful of a white-flowering Cyrtanthus, which received a first-class certificate. It was shown as C. lutescens, but as that species bears clear yellow blossoms, this is doubtless its near ally, C. McKenii. Corynocarpus lævigatus aureus marginatus, a handsome bold-leaved Japanese shrub, with the deep green leaves margined with bright yellow, also came from the Holloway establishment. Messrs. Cannell & Sons sent from Swanley a pretty display of cut blooms of Zonal Pelargoniums and Tuberous Begonias, together with some well-bloomed plants of the showy orange-scarlet flowered Leonotus Leonurus, and a dozen plants of Begonia Martinianus, a very showy old plant with rosy-pink flowers, which should be more grown, to come in between the summer and winter-flowering sections. The Messrs. Cannell also showed a grand new Begonia, King of Kings, very bright crimson, a perfect single flower both in form and colour, which easily gained a First-Class Certificate. Another splendid Begonia, but a double one, and certainly one of the finest yet seen, came from Mr. W. Bealby, of Roehampton, a fine shade of scarlet in colour, and named Felix Crousse. This also gained a First-class Certificate. Messrs. James Veitch & Sons staged a flowering-plant of Dendrobium Phalænopsis, a species obtained from Timor, and coming near D. bigibbum in general appearance, but having the three sepals more pointed than in that species, and white, and the flower altogether larger. From W. Vanner, Esq., Camden Wood, Chislehurst, came the pretty Phalænopsis Sandemaria magnifica, the mauve-shaded with violet flowers of which were very attractive. Messrs. Rawlings Brothers, of Romford, had a splendid stand of show and pompon Dahlias, the flowers being large and beautifully fresh in colour. Single and bouquet Dahlias, of very fine quality, also came from the nursery of Messrs. Cheal & Sons, Crawley. Two new bouquet Dahlias, and very pretty ones, La Petite Barbier, white, and Frau Emil Heinicke, light rose, came from Messrs. Cannell's, and were awarded First-Class Certificates. Mr. H. B. May, Dyson's Lane Nursery, Edmonton, showed several nice seedling ferns, one of which, Pteris serrulata cristata compacta, a charming little decorative plant, described at p. 88, was also certificated. Mr. Wermig, Westfield Nurseries, Woking, also received the coveted award for a very fine yellow sport from Chrysanthemum Madame Desgrange, one of the very best of the summer-flowering section. Mr. King, of Rowsham, near Aylesbury, who has raised and sent out so many fine Coleuses, introduced to-day another novelty in Coleus Duke of Connaught, a new shade of colour, crimson-lake on a yellow ground, and the margins mottled with green.

Scottish Horticultural Association.—The seventh ordinary monthly meeting of this Society was held on Tuesday, October 7th, at 5, St. Andrew Square, Edinburgh.—Mr. Todd in the chair.—A paper was read by Mr. Gordon, Royal Botanic Garden, on the "Claims of Sylviculture." Defining Sylviculture, as distinguished from arboriculture, as the growing of trees on a purely economic footing, he remarked that this had languished because the coal-fields had supplied us with fuel, while foreign forests had supplied us with timber. Now, however, that natural forests were disappearing from foreign countries, the claims of sylviculture were beginning to assert themselves. Speaking of its claims as a national industry, he said it was not meant that it should be bolstered up and controlled exclusively by the State. What was wanted from the State was money on favourable terms and reasonable security. British enterprise might safely be left to manage the rest. The State was not beyond suspicion of becoming a monopolist; and it was better employed in directing all the branches of a nation's industry than in pursuing any branch that could be left to individual enterprise. As the causes that had repelled capital from this industry were rapidly disappearing, the sooner it settled down to its proper work the better, for a dearth of timber would certainly be experienced by men now living. We had in the United Kingdom in a raw state all the materials necessary to construct a thorough-going sylviculture. We had foresters who were faithful, energetic, fairly intelligent, and anxious to be better instructed; and we had acquired during the last half century, along with others that seemed worthless, many species of exotic trees that were full of promise, and our knowledge of these and their culture was daily increasing.

With regard to forestry education, that question was some years ago committed to the Council of the Arboricultural Society; but having had a share of the responsibilities of that Council for two years, and attended all its meetings, Mr. Gordon was prepared to assure them that the question of education had not once been before them. Why, he asked this delay, this tampering with so important a question? The question of education was not the most important question for foresters in Scotland. The Scottish forester was one who had to manage woods subject to the wishes of his employer. This meant a good deal that could never be placed in the prospectus of a school of forestry. Foresters, knowing this, had had no motive for pressing forward the educational question; and he submitted that forestry must become prosperous by industry before it became elegant by prosperity. They were at present under invitation to attend a Forestry Congress. He had for long believed that some such thing was necessary; but this had come somewhat suddenly; it struck him, and would no doubt strike others, as thunder from a cloudless sky. He did not know what subjects were chosen for discussion, but he earnestly wished that the subjects dealt with should be those by which forestry was cabined, cribbed, confined.

In a discussion which followed the reading of the paper, Mr. Fraser said he thought there was at present a disposition to make too much of education in connection with foresters. He held that the education of foresters was similar to that of gardeners, and that, with the appliances of the present day and the cheapness of all kinds of literature, a studious young man could educate himself. Let him read, let him think; give him an axe in his hand, and let him go into the woods and study nature for himself. He did not see any necessity for a school of forestry at all. He went on to question the likelihood of sylviculture being taken up by landlords as a patriotic matter, and he said he should require more proof than Mr. Gordon had given that timber was getting such a scarce commodity. Mr. Mackenzie said that, while some kinds of foreign timber were getting very scarce, still timber could be bought cheap. He thought it unlikely that British growers could compete, unless foreign timber got so exhausted that the price would be very considerably increased; and he did not see much appearance of that in the meantime. Mr. Morrison was of opinion that no man could get too much education, whether a forester or any one else; and the Chairman urged the importance of having our foresters thoroughly educated if they were to hold their own with those of other nations. A vote of thanks was accorded to Mr. Gordon for his paper.

Mr. E. Holmes, Whittington Nurseries, Lichfield, exhibited a new Crab Apple, which was awarded a First-Class Certificate. Mr. T. S. Ware, Tottenham, London, exhibited a select collection of cut Herbaceous flowers; and Mr. John Owens, Foulden, Berwick-on-Tweed, showed a new Potato named Rufus. Mr. Chapman, Easter Duddington Lodge, exhibited cut branches of Colletia spinosa and other Hardy Flowers. Mr. R. Munro, Abercorn Nursery, Mid-Lothian, exhibited a collection of cut Herbaceous flowers, including sixteen varieties of Chrysanthemum (early flowering), also twelve varieties of Herbaceous Asters, and other flowers. A vote of thanks was accorded to each of the exhibitors.

"Wild Flowers of the Riviera" is the title of a wen book by Clarence Bicknell, which Messrs. Trübner & Co. will publish shortly.

Trade Catalogues Received.

J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex.—Fruit Trees, Hardy Trees and Shrubs, Roses, &c.

William Caudwell, The Ivies, Wantage.—Polyanthuses and other old-fashioned Florists' Flowers.

John Downie, 144, Princes Street, Edinburgh.—Dutch Flowers Roots and Spring-Flowering Plants.

LONDON SEED TRADE.

October 15th.

Messrs. Hurst & Son, 39, Seed Market, Mark Lane, and 152, Houndsditch, report that very little business was doing at this day's market, and that supplies of Red Clover, White Clover, and Alsike prove larger than the demand, but prices continue firm. A moderate inquiry for Tares and Rye at unchanged rates. Hemp is offering cheaper. No change in value of Canary, Rape, Millet, or Blue Peas.

COVENT GARDEN MARKET.

October 16th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Melons, each	0 6- 1 6
Figs, per dozen	0 6- 0 9	Pine-apples, Eng., lb.	4 0- 5 0
Grapes, per lb.	1 0- 4 0	,, St. Michael's ea.	3 0- 6 0
Kent Filberts and Cobbs, per 100 lb.	55 0-57 6	Peaches, per dozen	3 0- 8 0
		Pears, French, p. doz.	1 6- 2 6

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Lettuces, Cabbage, per dozen	1 6- ...
Beans, French, lb.	0 4- ...	— Cos, each	0 2- ...
Beet, per dozen	2 0- 3 0	Marrows, each	0 3- ...
Cabbages, per dozen	1 6- 2 0	Mint, green, bunch	0 4- ...
Carrots, per bunch	0 8- ...	Mushrooms, p. basket	1 0- 2 0
Cauliflowers, English, dozen	3 0- 4 0	Onions, per bunch	0 6- ...
Celery, per bundle	1 6- 2 6	Parsley, per bunch	0 6- ...
Cucumbers, each	0 6- 0 8	Radishes, per dozen	1 6- ...
Endive, French, per dozen	2 6- 3 6	Small salading, per punnet	0 4- ...
Garlic, per lb.	0 6- ...	Spinach, per strike	2 0- ...
Herbs, per bunch	0 2- 0 4	Tomatos, per lb.	0 9- ...
Horse Radish, bundle	3 0- 4 0	Turnips, bunch	0 8- ...

Potatoes.—Kent Regents, 80*s.* to 100*s.* per ton; Kent kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lapageria, white, 12 blooms	2 0- 3 0
Azalea, 12 sprays	1 6- 2 0	Marguerites, 12 bun.	4 0- 9 0
Asters, 12 bunches	6 0- 9 0	Pelargoniums, per 12 sprays	0 6- 1 0
Bouvardias, per bun.	0 9- 1 0	Pinks, various, 12 bunches	...- ...
Camellias, 12 blooms	3 0- 6 0	Primula, double bun.	1 0- 1 6
Carnations, 12 blooms		Pyrethrum, 12 bun.	-
Chrysanthemums, 12 bunches	3 0- 9 0	Roses, out-door, 12 bunches	9 0-12 0
— large, 12 blooms	2 0- 6 0	Roses, indoors, p. doz.	2 0- 6 0
Cornflower, 12 bun.	2 0- 4 0	Stephanotis, 12 spr.	6 0- 9 0
Dahlias, 12 bunches	3 0- 6 0	Sweet Peas, 12 bun.	2 0- 4 0
Eucharis, per dozen	4 0- 6 0	Tuberoses, per dozen	1 0- 1 6
Gardenias, 12 blms.	3 0- 6 0	White Jasmine, bun.	0 6- 1 0
Gladiolus, various, 12 spikes	1 0- 3 0		
Heliotropes, 12 sp.	0 6- 1 0		
Lapageria, red, 12 blms.	1 0- 2 0		

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ferns, in var., dozen	4 0-18 0
Asters, per dozen	3 0- 6 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Fuschias, per dozen	3 0- 6 0
Chrysanth., dozen	4 0- 6 0	Heliotrope, dozen	3 0- 6 0
Cockscombs, dozen	-	Lilium, various, p. doz.	-
Coleus, varions, doz.	2 0- 4 0	Marguerites, per doz.	-
Cyperus, per dozen	3 0- 9 0	Palms in variety, each	2 6-21 0
Dracæna term. doz.	30 0-60 0	Pelargoniums, scarlet per dozen	2 0- 6 0
— viridis, per dozen	12 0-24 0	Petunias, per dozen	-
Evergreens, in var., per dozen	6 0-24 0	Solanums, dozen	9 0-15 0

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B. WYNNE (Fifteen Years Sub-Editor of "The Gardeners' Chronicle"),
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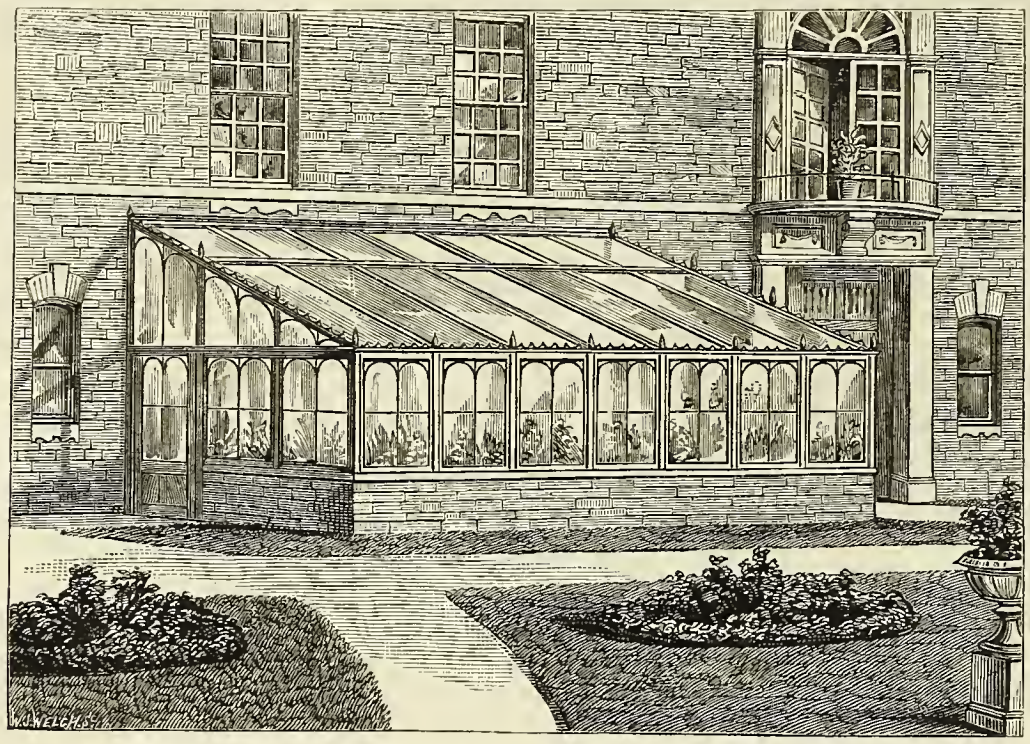

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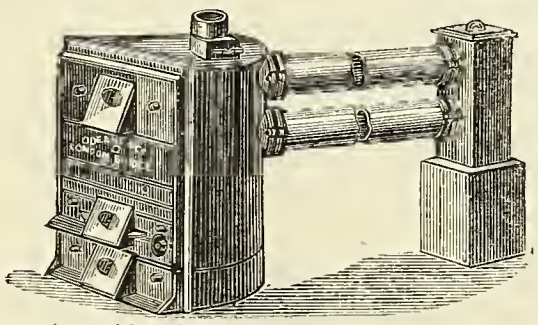

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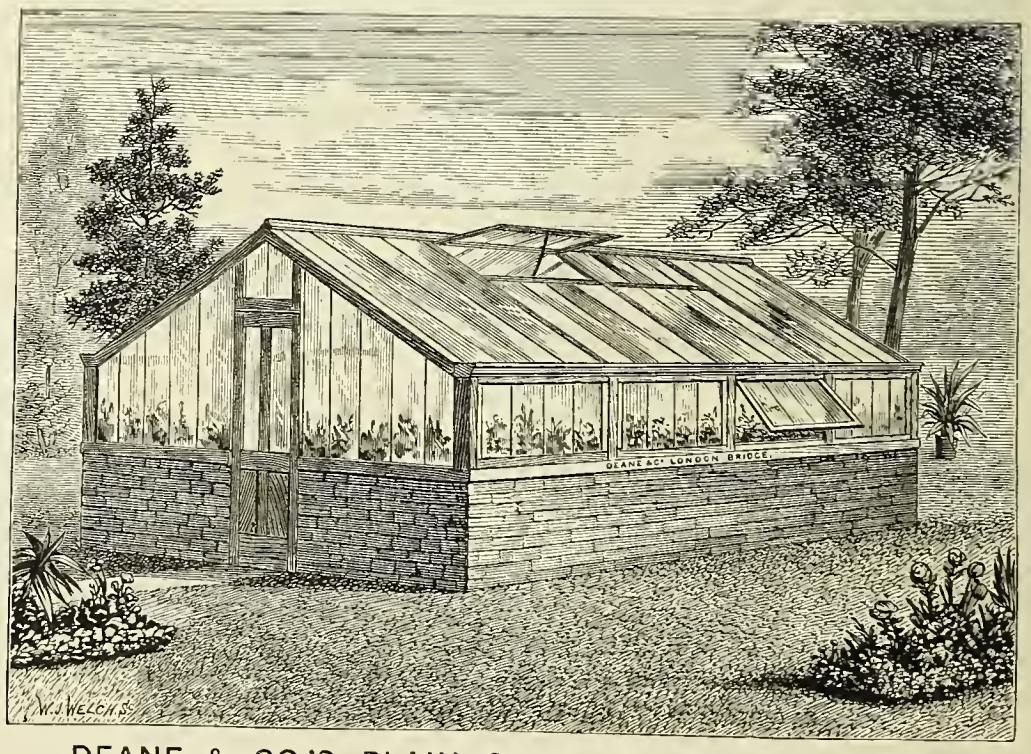

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Extract from "The Gardeners' Chronicle," March 1, 1884, p. 280.

RASPBERRY—BAUMFORTH'S SEEDLING.

"Planters of Raspberries should not omit to obtain this excellent sort, and when once they have given it a fair trial, they will plant it in quantity. It has the character of being an excellent bearer, in good seasons bringing a fair second crop of fruit to maturity. The plant is vigorous, carries stout dark green foliage, and large broad-piped dark crimson fruit. It is much valued on the strong loamy soils of Bucks."

From Mr. D. MELVILLE, *Gardener to* Mrs. Hornsby, *St. Vincents, Somerby.*

"Having had ample opportunity of judging the merits of your excellent Raspberry, Baumforth's Seedling, I must congratulate you on behalf of what I consider, without doubt, the best Raspberry in cultivation. The fruit is an extraordinary size, much larger than any variety of Raspberry I am acquainted with. Excellent flavour, in shape of berry round with dark crimson colour, a vigorous grower, and a most prolific constitution, supplying a quantity of fine fruit in the autumn from the season's young wood. I would strongly recommend intending planters to give Baumforth's Seedling a fair trial, which under ordinary treatment is certain to give satisfaction."

Early Orders respectfully solicited.

PRICES:—

Planting Canes	3*s.* 6*d.* per dozen,	20*s.* per 100.
Fruiting Canes	5*s.* ,,	30*s.* ,,

EDMUND PHILIP DIXON,

THE YORKSHIRE SEED ESTABLISHMENT, HULL.

JAMES BOYD & SONS, PAISLEY and LONDON, Horticultural Builders and Heating Engineers to Her Majesty the Queen, H.R.H. the Prince of Wales, H.R.H. the Duke of Connaught, H.R.H. the late Duke of Albany, H.M.'s Board of Works, London and Dublin, H.M.'s Colonial Department, the Royal Horticultural Society, the Royal Botanic Society, and the Royal Dublin Society. Gold Medal, Paris, 1878.—London Office, 48, Pall Mall, S.W. Illustrated Circulars post free. Complete Catalogue, 3*s.*

Scotch Florists' Flowers.

R. B. LAIRD & SONS (Successors to Downie & Laird) are now sending out strong plants from their unrivalled collection of PANSIES, VIOLAS, PENTSTEMONS, PHLOXES, CARNATIONS, DELPHINUMS, &c., &c. Descriptive Priced Catalogue may be had free on application.

Seeds saved with great care of all the choicest kinds.—See Seed Catalogue.

ROYAL WINTER GARDEN, EDINBURGH.

THE BURGHLEY PRESIDENT STRAWBERRY is the largest and one of the earliest and best flavoured in commerce; also Selected Stock of Sir Charles Napier, fine strong runners, 3*s.* 6*d.* per 100.—R. GILBERT, High Park Gardens, Stamford.

PRIZE GOOSEBERRIES, the Largest Collection in the World, 4*s.*, 6*s.*, and 12*s.* per dozen. Catalogues on application.—CHARLES LEICESTER & SONS, Nurserymen, Macclesfield, Cheshire.

"Mary Morris" Border Carnation.

TWO FIRST-CLASS CERTIFICATES.—3*s.* a pair; 15*s.* a dozen. Cash with Order. Direct from the raiser, H. G. SMYTH, 21, Goldsmith Street, Drury Lane.

COMTE BRAZZAS' NEW DOUBLE WHITE VIOLET, White Neapolitan, very large, pure white, sweetly-scented flowers. Without question the finest Violet in cultivation. For full description see new Catalogue of Roses, Trees, Shrubs, and Florists' Flowers, free on application to THOMAS S. WARE, Hale Farm Nursery, Tottenham, London.

Roses Special.

THE AMATEURS' BUNDLE, containing 25 of the Choicest Varieties grown, including the best of 1883, carefully packed and sent to any address on receipt of P.O. for 12*s.* 6*d.*—S. J. PAVITT, Rose Nursery, Bathwick, Bath.

PLEASE SEND PARTICULARS of any large or small Greenhouse for which Hot-water Apparatus is required. Ask for cash estimate, and save 15 to 20 per cent.—J. JONES & SONS, 42, Farringdon Street, London, E.C., late of 6, Bankside, S.E.

GARDEN FRAMES AND LIGHTS, from 20*s.* GREENHOUSES, 10 ft. by 5 ft., from £6. FRAMES OR LIGHTS TO ORDER, any size or shape.—ALBERT HARRIS, Wavendon, Woburn, Beds.

DWARF ROSES on MANETTI, very strong and well grown, 5*s.* dozen. List of forty sorts free.—T. CAPARN, Winthorpe Road, Newark-on-Trent.

GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 oz. to the gallon of soft water, 4 to 16 oz. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots Dry and Soft on wet ground. Boxes—6*d.* and 1*s.*, from the trade. Wholesale from PRICE'S PATENT CANDLE CO. (Limited), LONDON.

ANTIMONIAL RED RUBBER GARDEN HOSE, Last four times as long as ordinary white vulcanized hose, stands severe Government tests, thus proving superiority of quality; lighter in weight, greater in strength, and cheaper in the long run than any other hose for garden use. A correspondent writes:—"I have had a length of your Red Rubber Hose in use nine years, and it is now as good as ever." Beware of counterfeit red hose, and order direct. Samples and priced catalogue of hose, garden engines, and fittings free.

MERRYWEATHER & SON, 63, Long Acre, London, W.C.

SALES BY AUCTION.

Fallowfield, October 29th, 1884.

IMPORTANT SALE of over TWO THOUSAND VALUABLE STOVE and GREENHOUSE PLANTS, forming the collections (except Orchids) at Gorse Hall, Stalybridge and Oakley, Fallowfield, near Manchester, the property of W. Leech, Esq., including an exceptionally fine lot of Plants for Exhibition and Decorative Purposes, such as Palms and Tree Ferns, fine examples of leading sorts, from 3 to 9 ft. high; a grand selection of Eighteen Filmy Ferns of the best varieties, averaging 2 ft. across; Sixteen beautiful specimen Adiantum Farleyense, 1 ft. 6 ins. to 2 ft. 6 ins. through; Thirteen Adiantums 2 to 4 ft. each way, of the finest new sorts; Twelve Crotons, 3 to 6 ft. each way. Splendid plants, fine in form, condition, and colour; a remarkably fine plant of Cordyline indivisa (true) 7 ft. by 7 ft. Fifteen Eucharis amazonica, finely grown specimens 2 to 5 ft. across; Nine Lapagerias, alba, rosea and rubra; fine plants of Imantophyllum miniatum, Cycas revoluta, Medinilla magnifica, Anthuriums, Andreanum, Scherzerianum and giganteum; Fourteen fine double white Camellias, 3 to 6 ft. each way, finely set with flower buds; with Fimbriata alba, Lady Hume's blush, Duchess of Orleans, Lavinia Maggi, and many other best sorts, 6 to 8 ft. high. Fifty well-trained Azalea Indica, good pyramids and bushes, 3 to 5 ft., and many other smaller sizes of the best varieties. 20 choice Greenhouse Rhododendrons; 150 Ornamental Table Plants, 1 to 2 ft.; 200 Adiantums, cuneatum and gracillimum; 50 choice Ferns in baskets; 160 named well set Chrysanthemums; 250 named Zonal Pelargoniums, numbers of Ericas, Epacris, Nepenthes, Dracænas, Amaryllis, Pancratium and Yuccas, together with a large quantity of assorted Greenhouse Plants, Climbers, &c., &c.

MESSRS. ARTINGSTALL & HIND respectfully notify the receipt of instructions from W. Leech, Esq., who is leaving the District, to SELL BY AUCTION, on WEDNESDAY, October 29th, 1884, commencing at 12 o'clock prompt, in the Tent, erected on the ground at Oakley, Fallowfield, near Manchester, the valuable choice and rare collection of Exhibition and other desirable Plants.

May be viewed on the Afternoon prior and Morning of Sale, when descriptive Catalogues may then be obtained, or earlier, together with further particulars, on application to Mr. W. SWANN, in the gardens at Oakley (which is situated three miles from town), or by post or personally from the Auctioneers, 45, Princess Street, Manchester.

Sales every Monday, Thursday, and Saturday.

DUTCH BULBS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C. (next door but one to Bennett's Clock), every MONDAY, THURSDAY, and SATURDAY, at half-past 11 o'clock precisely each day, extensive consignments of the best named HYACINTHS, TULIPS, CROCUS, NARCISSUS, SNOWDROPS, and other ROOTS from Holland, in lots to suit the Trade and Private Buyers.

On view mornings of Sale. Catalogues of the Auctioneers, 67 and 68, Cheapside, E.C.

Flowering Orchids.—Special Sale.

MESSRS. PROTHEROE AND MORRIS beg to announce that their NEXT SPECIAL SALE of FLOWERING ORCHIDS will take place on TUESDAY, October 28th, and they will be glad to receive notice of entries in the course of the ensuing week.

67 and 68, Cheapside, E.C.

Hendon, N.W.

Close to the Railway Station.

SALE OF UNUSUALLY WELL GROWN STOVE AND GREENHOUSE PLANTS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. J. H. Pounce to SELL by AUCTION, on the Premises, Pounce's Nursery, Hendon, N.W., on WEDNESDAY, October 29th, at 12 o'clock precisely, a large quantity of unusually well grown STOVE and GREENHOUSE PLANTS, 500 specimen Ferns, 5,000 smaller ditto; a quantity of Eucharis amazonica in large pots, 1,000 Bouvardias of sorts, 4,000 Carnations of the finest varieties, including the best new whites; 250 pot Roses in 32 and 48-pots; 2000 fine Standard and Dwarf Roses, comprising all the best sorts; a choice collection of Single and Double Dahlias, and other stock.

May now be viewed. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Fifth and Final Great Clearance Sale, by order Messrs. Ewing & Co., who have discontinued their business at Eaton, near Norwich, the Land having now been Sold. Highly important Sale of the Fifth Portion of the extensive, well-grown, and thriving young NURSERY STOCK, in excellent condition, comprising 10,000 Roses of the choicest exhibition kinds of Teas, Noisettes, and Hybrid Perpetuals, &c., in and out of pots. Many thousand Fruit Trees, Bushes, Raspberry Canes and Culinary Roots, Nut and Filbert Bushes, &c. 100,000 Ornamental and Forest Trees, many of them of suitable sizes to produce immediate effect—clean, stout, and well rooted, having been frequently transplanted and skilfully pruned. A large quantity of Deciduous Flowering Shrubs. 1000 Clematises, in choicest and newest variety; also some Evergreens and Conifers, and a large stock of Ivies and other Climbers, both in and out of pots.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises, the Royal Norfolk Nurseries, Newmarket Road, Eaton, near Norwich, on WEDNESDAY and THURSDAY, October 29th and 30th, at 12 o'clock precisely each day. Many of the Lots are large, and therefore specially adapted to the wants of extensive purchasers.

May now be viewed. Catalogues on the Premises, and of the Auctioneers, Estate Agents, and Valuers, 67 and 68, Cheapside, London, E.C.

Tottenham.

Adjoining the Station.

SALE of remarkably well-grown NURSERY STOCK, Dwarf ROSES, HERBACEOUS PLANTS and BULBS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. T. S. Ware to SELL by AUCTION, on the Premises, the Hale Farm Nurseries, Tottenham, on TUESDAY, November 4th, at 12 o'clock precisely, a large quantity of unusually well-grown NURSERY STOCK, including 3,000 Laurels, 1½ to 4 ft.; 1,000 bushy Aucuba japonica, 1 to 1½ ft.; 3,000 Standard Ornamental Trees, 5,000 well-furnished Euonymus, good for potting; 1,000 Tree Carnations in all the leading varieties; 2,000 Tree Carnation "Andalusia," the finest yellow tree variety; 1,000 Pinks "Mrs. Sinkins;" 2,000 Violets, 8,000 Dwarf Roses, in first-class varieties; 3,000 hardy Climbers, 49,000 Seakale and Asparagus, extra strong; 10,000 Christmas Roses (Helleborus), 1,000 Anemone japonica, 50,000 double and single Narcissus, and large quantities of other HERBACEOUS PLANTS and BULBS.

May be viewed. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.

Sidcup.

By order of the Executrix of the late Mr. R. Sim.

CLEARANCE SALE.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the Premises, The Sidcup Hill Nursery, Foots Cray, on WEDNESDAY and THURSDAY, November 5th and 6th, by order of Miss Sim, who is reducing the Stock, a further portion of the NURSERY STOCK, fuller particulars of which will appear next week.

N.B.—The NURSERY BUSINESS carried on for so many years by the late Mr. R. Sim is for SALE on very reduced terms. Messrs. P. & M. will be happy to furnish particulars on application.

THE

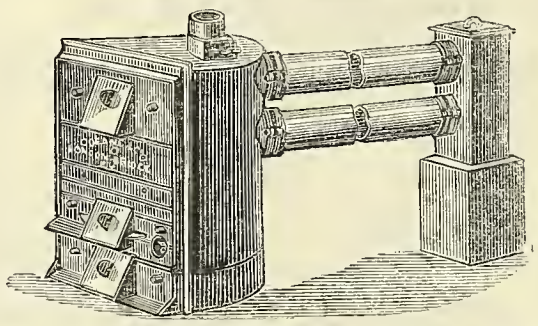
LOUGHBOROUGH GREENHOUSE HOT-WATER APPARATUS

Can be seen in action Tuesdays, Thursdays, and Saturdays in

DEANE & CO.'S "GEM" CONSERVATORY,

Close to the Panorama in the grounds of the

CRYSTAL PALACE.



Price, as engraving, with Boiler, open feed syphon, 12 ft. of 4-inch hot-water pipe, and patent joints complete, £4 4s.

Delivered free to any Station. Discount for cash.

This is the simplest, cheapest, and most powerful apparatus made. It requires no brick setting, no stokehole, and no hot-water fitter for fixing. The Boiler stands in the Greenhouse, the front only being outside and flush with the outer wall, so that the whole of the heat from the boiler itself is utilized.

It burns over 12 hours without attention at a nominal cost.

"Loughborough" Boilers to heat up to 650 ft. of 4-in. pipe, with hot-water pipe, joints, &c., &c., always in stock.

COST OF APPARATUS FOR HOUSES OF ANY SIZE ON APPLICATION.

The measurement of Greenhouse being given, every apparatus is delivered with pipes cut and fitted ready for fixing.

Illustrated List, with full particulars, post free.

DEANE & CO.,

Horticultural Builders and Hot-Water Engineers,

46, KING WILLIAM STREET, } LONDON.

SMYTH'S GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE.

4d. per bushel; 100 for 25s.; truck (loose, about 2 tons), 40s.; 4-bushel bags, 4d. each.

LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks for 25s.; sacks, 4d. each.

BLACK FIBROUS PEAT, 5s. per sack; 5 sacks, 22s.; sacks, 4d. each.

COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton; in 2-bushel bags, 4d. each.

YELLOW FIBROUS LOAM, PEAT MOULD, and LEAF MOULD, 1s. per bushel. SPHAGNUM MOSS, 8s. 6d. per sack.

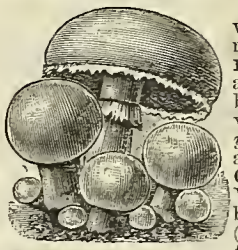
MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c.

Write for Free Price List.

PURVEYOR TO HER MAJESTY.

21, Goldsmith's St., Drury Lane, London, W.C.

CUTBUSH'S MILLTRACK MUSHROOM SPAWN.



IF ONCE USED no other will be willingly taken. Testimonials of high merit received every day.—"THE GARDENS, SANDRINGHAM.—I have tried all other Mushroom Spawn advertised, but none to be compared with yours, which I have used for the last *twenty years* without once failing a quick and good crop. — CHAS. PENNY, Gardener to H.R.H. The Prince of Wales." — Price Six Shillings per bushel, One Shilling extra per bushel (for packing), One Shilling per Cake free by Parcels Post.

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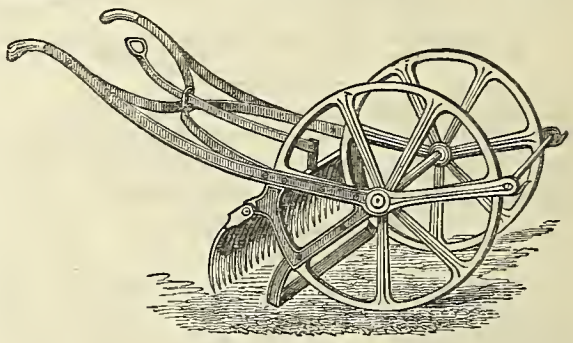
NEW IMPLEMENT.

WEEDY WALKS OR AVENUES NEED NEVER offend the sight, if the newly-patented

PHŒNIX HOEING & RAKING MACHINE

is used. It will do the work of 40 men in a day, and in a more efficient manner. Several in use, all giving the utmost satisfaction.



Price £5 5s.

PROPRIETOR:

THOMAS MOORE,

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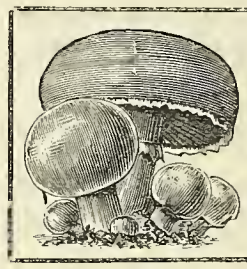
ENGLISH DEPÔT:

2 & 4, FULTON STREET, LIVERPOOL.



B. S. WILLIAMS'

IMPROVED MUSHROOM SPAWN, per bushel of fourteen cakes . . s. 5, d. 0

The best in the market: never fails.

Victoria & Paradise Nurseries, Upper Holloway, London, N.

NEW SEASON BOOKS.

MESSRS. GODFREY & SLATTER,

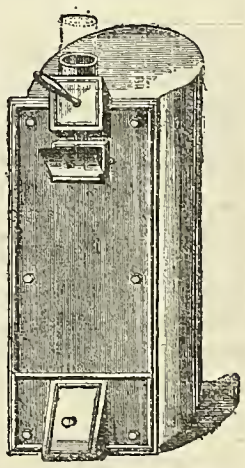
50, HOLYWELL STREET, STRAND, LONDON,

Supply all New Books at 25 o/o Discount for Cash. New and Second-hand Catalogues forwarded on Application.

All Gardening Books at discount prices. List on Application.

SILVER MEDAL

HORSE-SHOE BOILER.



THIS BOILER, which gained the Silver Medal (First Prize) in Class 1, at the Royal Horticultural Society's Show at South Kensington last year, has been further perfected by the addition of *two patented improvements*, the first being a combination of a tilting bottom grate and a hot blast into furnace, the second an automatic valve *acting under any conditions*, by means of which the boiler *regulates its own combustion*, equally avoiding a needless consumption of fuel or the slightest risk of the fire going out.

As now constructed, this boiler will challenge the world on each of the three essentials of a good boiler, viz., simplicity of construction and action, economy in consumption of fuel, and maintenance of an equal temperature in the pipes through a long period without attention.

No brickwork required; builds into the end of a greenhouse; front only outside.

PRICES { No. 1, £2 15 0; No. 2, £4 5 0; No. 3, £5 17 6 } Delivered free in Glasgow, Edinburgh, Dublin, or Belfast, or any station in England or Wales.

New Illustrated Catalogue, containing guide to amateurs in the heating of greenhouses, and explanation of the principles and construction of the hot-water apparatus, post free.

CHAS. P. KINNELL & CO.,

Iron Founders, Engineers, & Contractors,

31, BANKSIDE, SOUTHWARK, LONDON, S.E.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, OCTOBER 25th, 1884.

Harvest Festivals.—The ancient, though not always elevating, method of celebrating Harvest Festivals seems now universally to have given place to the Ecclesiastical Festival in the form of a special service, conducted in places of worship highly dressed or decorated with heterogeneous combinations of wheat and other corn, berries of kinds, fruits of the garden and wood, vegetables, roots, and even gigantic Cabbages and Pumpkins are impressed into the service of the decorators. Grapes are specially favoured, so also are fine Apples and Pears, as well as rich-coloured Tomatos, indeed, nothing good from garden or field comes amiss. Thus we find for the nonce our churches converted into temples dedicated to the Goddesses Flora, Ceres, and Pomona, and that the congregations are attracted by the worship of those divinities is evident from the fact that observations upon the decorations form the staple topic of conversation. We are very dubious whether all this presents any aid to religion and still less to horticulture. The taste seems more sensational than genuine. We feel sure that the purest place for flowers is found when admired and appreciated in their natural places.

The Fruit Show at South Kensington.—We learn that the Chairman of the National Health Exhibition Committee, the Duke of Buckingham, has ordered that the exhibits at the last of the series of Fruit and Vegetable Shows, to be held at South Kensington from Tuesday till Thursday next, shall not be removed until after ten o'clock on Thursday night, which really means the next (Friday) morning. Probably the vegetables will hardly be removed in any case by the exhibitors, but the Apples will be valuable and need careful removal. That can be done very much better in the quiet atmosphere of the deserted halls of the "Healtheries" on Friday than in the crowd and crush which will be inevitable on Thursday night, when the Health Exhibition finally closes.

New Chrysanthemums.—It is unfortunate for raisers and growers of new Chrysanthemums that the interval between the winter meetings of the Floral Committee of the Royal Horticultural Society should be so long as to practically exclude many deserving novelties from a share of those honours which the Committee have to bestow, and which in the form of First-Class Certificates, are so much coveted by raisers, as the hall mark of superiority. It has long been a matter of regret that this grand winter flower should suffer seeming neglect through the want of a tribunal to which new varieties could be submitted at regular intervals during the Chrysanthemum season, and we are glad to note the fact that the National Chrysanthemum Society has taken the matter in hand with a view to meeting the want above indicated, and, as we think, with every prospect of succeeding in so doing. The Society has organized a select Floral Committee, from amongst its own members, the meetings of which judicial body are held on certain Thursday evenings at the "Old Four Swans," in Bishopsgate Street Within, to receive and pass judgment upon any flowers that may be submitted. The second meeting of the Committee was held on the 16th inst., when First-Class Certificates were awarded to Colonel Mallock, Pineswood, Bagshot, for two early-flowering and exceedingly fine Japanese varieties introduced last year, viz., Mons. Astorg, a large white, flat-petalled flower, with a rose-violet centre; and Mons. Tarin, a superb bloom, over 6 ins. in diameter, rich violet-rose, and the petals semi-tubulated. Both are sterling novelties, well deserving the recognition bestowed on them. The fact of such a Committee of experts being in existence, has not yet, of course, become widely known, so that its labours so far have not been of a particularly burdensome character, but this will doubtless be altered in time, and we heartily hope that it may be so. The newly constituted National Society is doing thoroughly good and useful work in thus extending its sphere of operations, and deserves the support and encouragement of all Chrysanthemum lovers.

Pears.—The truly magnificent samples of Pears shown at South Kensington last week by Mr. Haycock and other famous growers of these luscious fruits, naturally lent a feeling of regret that the once famous Channel Islands growers did not put in an appearance, or had the chance to measure swords with our now strong insular exhibitors. We can well remember when somewhat open classes for these fruits in former days permitted the Jersey growers to come in with their huge samples and sweep off all the best prizes, our home growers, as a rule, whilst showing excellent and perhaps deliciously flavoured fruit, being beaten in size. Mr. Haycock, at least if no others, has shown us now that it is possible to grow grand Pears here in cold, bleak England, and some perhaps think that his grand samples, as seen the other day, would have held their own against the best products that Jersey can send.

Hardiness of Schizostylis coccinea.—With reference to the remarks of "R." in our last issue on this subject, Sir Charles W. Strickland informs us that the plant is a perfect weed in his kitchen-garden at Hildenley, Malton. He throws away quantities of it; it has been so for the last dozen years and the hard winters of 1880 and 1881 had not the least effect on it. The soil of the garden is strong, cold and rather wet, with limestone at about 2 ft. deep.

The Allotment Question.—Sir Charles Dilke, in a speech at Oldham last week, referred to the Allotment Act. "In my belief," he said, "the one thing that can be done for the rural labourer, whose hard lot has been described by many witnesses, is to facilitate his getting those allotment plots which turn the scale and make to him all the difference between misery and ease." He then went on to remark that the possession of the Franchise will enable the labourer to ask for his rights in language which will be understood. Within the small margin which the possession of an allotment would yield lies the only possibility of comfort for himself and family. Possibly it would add to his scanty income 10 to 15 per cent. To enable him to earn this he asks with bated breath for a few poles of the common perhaps to which he has an inalienable right, and he is willing to give in most cases 6*d.* a pole, though £4 an acre is much beyond the average rental of similar land in the neighbourhood. He is denied and virtually condemned to an enforced idleness. We were visiting a friend in a Midland county last summer, and took the opportunity of walking round in order to see the Allotments. The place was a village of 1800 inhabitants, mostly agricultural labourers, and yet there was not an acre of allotment ground! We inquired of an aged labourer. "Oh no, sir, there used to be, under Lord ——, in the old Baronet's time; but there were sich a lot o' rabbits you couldn't get a bag o' wheat in half an acre." "Why not shoot them?" we inquired. "Bless ye, sir, why the old Baronet would have sent you off the estate at a day's notice. The men gave it up." "No gardens?" we ask. "Yes, there were some gardens which we enclosed on the waste by the road there, but the Baronet said he didna like two hedges, and so he threw it into Mr. Jones's farm, but he charged us the same rent, and him a little more." But rabbits and hares are not the only foes of the Allotment tenant where game is preserved. The most troublesome pest is the sparrow. Near another village there were Allotments let off to labourers and others at £2 an acre. These were mostly planted with barley for the sake of the porkers. But the tenants were not allowed the use of firearms for fear of disturbing the game, and the consequence was that on some plots distant from the road more than half the crop was lost.

Unseasonable Flowering.—Although we have not heard much of our old friend the Sea-serpent just lately, other marine monsters seem to have taken its place, as only the other week we had a long description of one that was reported to have been seen near Dover Pier and then shot at, and hit in such a way as to quite riddle its huge fins, when it disappeared, and will no doubt do duty again between this and the time for big Gooseberries. The papers, however, are not waiting for these, as we now get notices of trees blossoming in the autumn and bearing fruit, and just now we may read of ripe Strawberries in the open, as if that were anything remarkable; for every one who has a garden knows, or ought to know, that plants will send up flowers and bear a few stray fruit during fine autumns. Trees and bushes that move so much out of season are generally in a bad way, or there has been a bud started from some cause irrespective of the weather; but common as the ripe Strawberry is, what is even more so at the present time is ripe Peas, which are recorded in the same paragraph in one of the evening papers, and yet they must appear to the writer as something unusual. This shows how lamentably ignorant many are of gardening, and the great need there is for the wide circulation of cheap journals to teach people the common things of every-day life, and make them better acquainted with plants and their natures.

Cabbage Lettuces.—It is very unfortunate for the interest of horticulture that the results of the trials conducted at Chiswick are not published. Thus during the past summer there took place a big trial of Lettuces, inclusive of some sixty or more kinds, and of these it would be very interesting to learn which proved to be the earliest, the finest, the longest standing, and generally the best in their respective sections. Is it poverty or indifference that prevents the Council of the Royal Horticultural Society from making this valuable information public? Three kinds that proved very meritorious, and have amongst others been grown at Chiswick, have come under our notice elsewhere, are Green Unctuous, early, and very fine, of All the year Round type, solid and good; Trocadero, large, handsome, solid, colour pale green, tinted with purple; and White Chavigny, the best keeper of all, standing long before running, and is a very fine white solid form, that should be invaluable to market growers for early spring growing.

The Strawberry Tree, Arbutus Unedo, is just now, perhaps, the most effective evergreen shrub in our gardens. It is one of those few trees which postpone their flowering until late in the autumn. It forms a compact round bush of dark shining green, and the leaves are beautifully serrate. The pendulous panicles are produced in abundance, and the ovoid corollas are white. They are followed in the next summer by small, red, tubercled fruit, which almost exactly resemble a full-sized wild Strawberry. It is never unsightly except when damaged by severe frost, and is eminently well suited for a specimen on the lawn. It is truly wild at Killarney, in Ireland, but not indigenous to Great Britain. It is frequent in hilly districts in South and West Europe, and extends eastward almost or quite to the Caucasus.

Prince of Orange Tomato.—As showing how rapidly large sorts of Tomatos are being produced, we may mention that the fine new golden-coloured variety shown at South Kensington the other day by Mr. R. Dean, and well named Prince of Orange, is almost an exact duplicate of the fine red Stamfordian which Mr. Miles shows so well in his vegetable collections. Whether yellow skinned kinds are as popular and saleable as reds or not, at least they are far more taking in appearance than are those kinds of the brick-red or squashed Strawberry hue we sometimes see. Prince of Orange is a product of Stamfordian crossed with Greengage, and is a fine handsome variety that should become popular because of its size, free-bearing qualities, and rich colour.

Autumn Tints.—What more beautiful effects are to be seen in the pleasure grounds and woods at any season, than the glorious tints of the ripening leaves in autumn. At the present moment these are everywhere the prime feature of the landscape, and thanks to the beautiful weather, have a charm not always enjoyed in "chill October." Mr. McLellan, writing from the gardens at Merthly Castle, Perthshire, gives a glowing account of the brilliant hues of the dying leaves of some of the varieties of the Oak and Maple at that place; of the great beauty of the wild Cherry tree, dotted here and there in the Fir plantations; and of the splendid patches of bright scarlet "amang the Heather," afforded by the foliage of the common Whortleberry. Another fine contrast noted by our correspondent, is seen in a straight avenue of Limes and common Yew trees, planted alternately; the dark sombrous Yews, with the yellow leaves of the Lime, and a clear blue sky above, rendering the whole scene a picture of great beauty.

The Fruiterers' Company.—On Friday, the 17th inst., the Lord Mayor entertained at the Mansion House, at dinner, the members of the Court of the Fruiterers' Company, and, in accordance with a very ancient custom, the Court of the Company presented the Lord Mayor with a splendid collection of choice fruits. The Master of the Company, George Hopcroft, Esq., being absent on account of indisposition, his place was filled by Edward Tidswell, Esq., who, in a very able manner, made the presentation to the Lord Mayor. At the conclusion of this part of the ceremony, Mr. Tidswell, as Treasurer of the Gardeners' Royal Benevolent Institution, presented the Lady Mayoress with a magnificent basket of flowers (prepared by Mr. T. A. Dickson, of Covent Garden), which her ladyship was pleased to accept. During the evening, we understand that Mr. Tidswell was successful in enlisting the services of many gentlemen as stewards for the anniversary festival to be held in July next; and in this good work he was ably seconded by Mr. Cutler, the Secretary of the Institution, who was a guest of the Lord Mayor upon the occasion.

Gardening Miscellany.

Mr. B. S. Williams is preparing for the press a new and greatly improved edition of *The Orchid Growers' Manual*. The last (the fifth) edition being out of print, it is to be hoped the new one will soon be issued.

Messrs. Charles P. Kinnell & Co., 31, Bankside, Southwark, have recently issued an illustrated Price List of Hot-Water Appliances, which contains also some very useful instructions on the principles of heating by hot water, practical hints on which amateurs are very often in want of.

Mr. Alderman Charles Wisbey, in whose honour the late Mr. Richard Headley named a well-known show Auricula, died at Cambridge on the 20th inst., aged seventy-seven.

A Dictionary of English names of plants "applied in England and among English-speaking people to cultivated and wild plants, trees, and shrubs," by Wm. Miller, will shortly be published by Mr. John Murray.

The many friends of Mr. Richard Gilbert, of Burghley—and their names are legion—may be interested to know that an excellent portrait of the worthy man was published in *The Garden* of Saturday last.

Dr. Wilhelm Gonnermann, the joint author with Professor Rabenhorst of *The Mycologia Europæa* ("The European Fungi"), a highly esteemed work, died a few days ago at Coburg, at the age of seventy-eight years. The last few years of his life were spent in an extended study of the cryptogams, and it is supposed that his notes will be a very valuable accession to existing knowledge on the subject.

Dr. Roden, of Kidderminster, well known as a raiser of new varieties of Strawberries, died on the 12th inst., aged seventy years.

A Committee has been formed at Bridge of Allan, to promote a testimonial to the famous Orchid-grower, Dr. Alexander Paterson, in consideration of his forty years' valuable services as a medical practitioner at that place.

Messrs. Charles Dickens & Evans have just published the second edition of the National Rose Society's Catalogue of Roses, in an enlarged and improved form.

Mr. Thomas Plumb, lately foreman at Down House, Blandford, Dorset, has been engaged as gardener to Captain Vernon Carter, Hunsdon, Ross.

Mr. James Dickie, lately general foreman at Dalkeith, has been appointed gardener to the Marquis of Waterford, at Curraghmore, Ireland, in succession to Mr. G. Fairbairn.

We are informed that the Exhibition which will be held on Tuesday, Wednesday, and Thursday next in the conservatory of the Royal Horticultural Society, being the last of the series of the most successful meetings which have been held in connection with the International Health Exhibition, will be of more than usual interest and extent. It has been decided by the authorities, as stated in another column, to allow it to remain open until the close of the "Healtheries" at 10 o'clock p.m. on Thursday, the 30th inst. All exhibits to be removed on Friday morning, October 31st.

The International Congress convened to deliberate upon the best means of preventing the spread of the Phylloxera vastatrix was opened on Monday last at Turin. After a short address of welcome from the Syndic of Turin, Signor Grimaldi, Minister of Commerce, explained the object of the Congress, and dwelt particularly upon the necessity of common legislative measures being adopted in all infected countries in such a form as not to interfere with the liberty of trade. It was, however, most requisite to raise barriers to the spread of the Phylloxera.

Asters and Dis-asters.—A neighbour who was asked by an enthusiastic grower of hardy plants whether he cultivated perennial Asters, replied that he knew most about "disasters," which seemed to be perennial enough, for they came a full crop much too often for his liking, and without cultivation.

MICHAELMAS DAISIES.

A large group of late summer and autumn Daisy-like plants is well-known in our gardens under this name. Daisy-like in the flowers at least, and very beautiful some of them are too. They flower at a period of the year when many other ornamental plants are over, and besides their showy appearance in the herbaceous border they are very useful for cutting, and stand well in water for a considerable time.

But what are Michaelmas Daisies? We ask this question because the term is somewhat loosely applied. Perhaps the general acceptation is that they are a large group of composite plants, producing starry or Daisy-like flowers in the autumn. We have seen this definition applied to the genus Aster, in an excellent and recently published book; but it is scarcely necessary to point out that several true Asters cannot by any stretch of language be included, viz., the early-flowering species. There is an autumn-flowering plant cultivated in gardens under the name of Erigeron salsuginosus, and under this name it has been mentioned in the gardening papers. It is, however, certainly incorrect. We have no specimen, but it must be an Aster, for the involucral bracts are described as "in few rows"; not in one row, as in Erigeron. Hooker, speaking of the true plant (*Bot. Mag.*, t. 2942), remarks that it is "a Spring rather than Michaelmas Daisy." There may be other plants sometimes included under this somewhat comprehensive term, but for our purpose we will limit it to autumn - flowering species of the genus Aster.

Of the genus Aster nearly 350 species have been described, and of these about 200 are now considered as distinct. It is widely distributed, though North America is the head-quarters of the genus; for no less than 124 species are enumerated by the illustrious botanist, Dr. Asa Gray, in his latest revision. Mexico follows with 24 species; Brazil has 11; a few are scattered about the Andes and region south of Brazil; Chili has four species; and one extends to the extreme southern point of Patagonia, occurring also in the adjacent Falkland Islands. Coming to the Old World, we find 18 species in Europe; 13 in the Levant; 16 in Japan; a few in China and Temperate Asia; and 14 in India. Four species occur in extra-tropical South Africa, but the genus appears to be wanting in Tropical Africa, and through the Indian Archipelago to Australia and New Zealand. Some of the above occur in more than one of these regions—some of the North American species extend to Mexico, and one to South Brazil and Uruguay. The same remark applies to the Old World, as our British A. Tripolium occurs through Europe and Temperate Asia to Japan, there as here preferring the coast region.

We are now speaking of the genus as understood by Bentham and Hooker in their *Genera Plantarum*, and these authors divide it into thirteen sections. Several of these, comprising a considerable number of species, do not come under our heading. Nearly all the North American species, with a few from the Old World are autumn-flowering, and about half of this number, say some sixty to seventy species, are in cultivation.

"Aster is far the most difficult of our genera." This is the remark of Dr. Asa Gray in his recent revision, and it applies with still greater force to our garden plants. Some of them have been cultivated for over a century, and it is with the greatest difficulty that many of them have been identified with the wild originals. Perhaps no genus is in greater confusion in our gardens. It has been questioned whether they will ever be put straight, but this can scarcely be considered as hopeless, provided they be carefully identified with wild specimens, and the true names adopted.

This week we mention a few of the best Old World species, and next week propose to deal with a selection of the more showy American ones.

Aster Amellus.—This is one of the best of the early-flowering species, and is about 1½ ft. to 3 ft. high. The stems are robust, purplish, and covered with bristly hairs; the upper leaves are sessile, obovate-lanceolate, entire, dark green, and rough; the flower-heads are 2 ins. in diameter, with golden yellow disc and rich violet-purple rays. The plant spreads very

little at the base, and when in flower produces a most beautiful effect. There are one or two varieties in gardens differing in stature, size of leaf, and diameter and colour of flower—the colour in different forms varies from lilac to violet-purple—but these differences are very slight, and the names very loosely applied. Aster Amellus is a native of South Europe, and occurs over a very wide area, from France to the Caucasus and Siberia. It is a classical flower, and is one of the few Asters which has been certainly identified from the old description. Virgil often gathered it when a boy near his native town of Mantua, in Lombardy. Its local name is *Amellus*, and this is said to be derived from Mellas, a river in Lombardy, in pastures on the banks of which the plant grows abundantly. It was introduced to England as early as 1596. Virgil's description of the plant is very good, but the original will perhaps be less intelligible than the interpretation of Mr. R. D. Blackmore, the gardener-poet, which we append:—

"A flower there is, in meadows oft espied,
Yclept 'Amellus' round the country side
A plant right easy to be found, sithence
From one small tuft it rears a forest dense.
The disc of gold; the countless petal rays
Of deepest violet shot with purple haze."

A. PUNCTATUS.—This forms a dense bush, often only 8 ins. to 15 ins. high; the leaves are linear, dull green with three nerves, and distinctly punctate with numerous minute dots. The flower-heads are very numerous, and corymbosely arranged, the rays are long, and varying in colour from lilac to purple-blue. It is a neat and showy plant, and is a native of South Europe. This, with the three following species, belongs to the section Galatella, often considered as a distinct genus. The section may readily be distinguished by the ray-florets not possessing a style, a character easily seen; another character which helps to identify them is the long rays, which are usually few and somewhat irregular, the flower-heads are invariably corymbose. Galatella is confined to South Europe and Asia.

A. RIGIDA is somewhat taller, the leaves three-nerved, very similar but a little broader and without dots. The inflorescence, too, is very similar; but unfortunately the flowers are over, and no note was taken of the colour. It is decidedly earlier than the other three.

A. DRACUNCULOIDES grows from 2 ins. to 2½ ft. high, forming a dense tuft; the leaves are very narrow, one-nerved, and slightly punctate; the flower-heads are very numerous, the rays very long and irregular, and the colour lilac-purple. The bush is very showy by reason of the great profusion of its flowering.

A. CANA is easily distinguished from all other species which at all resemble it in habit by its hoary or whitish tomentose leaves; these are lanceolate and three-nerved; the flower-heads are corymbose, rather small, and the rays deep lilac-blue. It grows to 2 ft. high, the habit is somewhat looser than the preceding, and not so showy.—*X.*

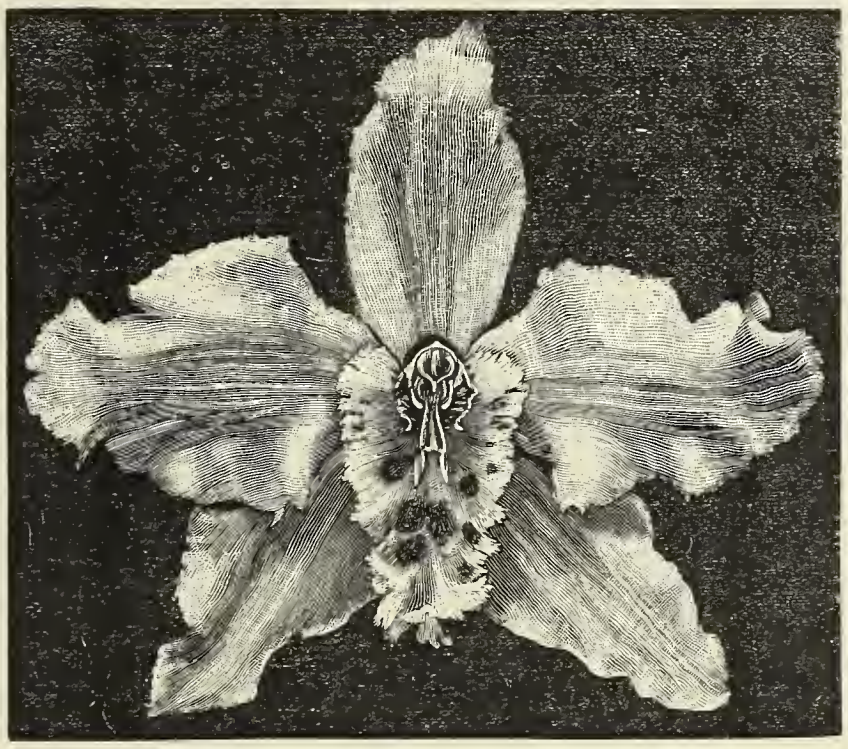
(To be continued.)

MEISSONIER AS A HORTICULTURAL JOKER.—This incident, which you quote from *The Gardeners' Monthly*, was set forth in much more circumstantial detail, and with entirely new characters, in *Once a Week* about the year 1865, under the heading of "Mr. Lorquison's Story." Which is the oldest of the two versions I cannot say, but the latter is to my mind very much the best. It can be found in the monthly part of *The West of Scotland Horticultural Magazine* for September, 1865, where it is given as quoted from *Once a Week*. In the days of Penny Readings I used sometimes to read it, and it is so droll a story that it was always well received by the audience.—*R. D.*

ODONTOGLOSSUM CRISPUM.

ODONTOGLOSSUM CRISPUM, of which we give an illustration, taken from a very fine pure white form of it in the possession of Wm. Vanner, Esq., Camden Wood, Chislehurst, needs no laudation, for it may almost now be called a favourite florist's flower, needing no apprenticeship to cultivate it well. Wherever it is grown in a cool, moist, tolerably shady house and kept liberally supplied with water, it is sure to produce its lovely flowers, be it under the care of amateur or professional. Indeed, in some cases that we know of ladies have taken them in hand and attended to them themselves, and need it be said always with success.

One of the greatest charms about Odontoglossum crispum is the great variety which exists in the flowers of the different specimens, so that with plants flowering for the first time great interest is experienced in watching the opening of the buds. A glance at the illustration of the variety figured to-day and at that of O. crispum Veitchianum published in the number for September 20th, p. 37, will suffice to show the great range the plant has for variety, innumerable grades existing between the two types figured. We hope to see the day when Odontoglossum crispum will be found in many of our suburban greenhouses, as it is now in a few. It is already cheap enough and surely easy enough to grow.—*J.*



ODONTOGLOSSUM CRISPUM: A WHITE VARIETY.

ARALIA SIEBOLDI.

I THINK that for a cold-house scarcely any other hardy plant is more useful than this. I have a large house that I can heat only by means of a spirit lamp-stove, and cannot therefore grow during the winter, unless it is a very mild one, anything of a tender character. This Aralia does capitally for such a house. It requires to be grown generously in pots, and must not be suffered to want water if it gets at all pot-bound. A fine specimen in a pot about 4 ft. in height is now throwing up a huge panicle of white flowers, and during November it will be an object of considerable interest.

This is not only a most useful addition to our nearly hardy foliage plants, but it is a capital subject for amateurs. A few plants of this, of male and female Aucubas, Phormium tenax variegatum, Retinosporas, Olearia Hastii, Aspidistra lurida variegata, Hydrangeas, Golden Box, Yucca recurva, and a few others of like character, make an excellent and very useful lot of plants for an amateur to cultivate for the embellishment of his greenhouse during winter. Add to these a few Chrysanthemums, Christmas Roses, Deutzia gracilis, the double-flowered Plum, Dielytra spectabilis, Pulmonarias, large-leaved Megaseas (Saxifrages), and he has something to look forward to for a supply of flowers up to late spring or early summer.—*Quo.*

THE INTERNATIONAL POTATO SHOW.

WHILST the subject of Potato Exhibitions is still fresh it may not be out of place to invite some attention to the International Potato Show and its future work. Most persons who have studied the progress of these annual Potato displays can hardly have failed to arrive at the conclusion that the original design of the shows seems to have been worked out, and their mission in its present form accomplished. We cheerfully admit that the past season has on the whole been detrimental to the production of first-class tubers, but still it is not possible to admit that the latest exhibitions offered any advance upon those of some three or four preceding years. Really we have got the Potato up to its very best form. For beauty, form, brightness of skin, and variety of colouring, we can hardly hope to excel what kinds we now have, and even in the varieties put into prominence as superior seedlings of the present season we find only moderate improvements, for the simple reason that improvements are now at least difficult if not impossible. We may go farther and say that it is doubtful whether we can ever hope to excel the best of our present varieties in productiveness. Indeed we have little to gain in adding to that quality so plentiful are Potatos now. As to quality we have plenty that are so good that it seems difficult to excel in that respect, and as far as disease-resistance is concerned why we could almost welcome a little decimation sometimes when Potatos become a glut in the market.

We are not writing in any pessimist spirit, but rather to show that in a considerable degree we are drifting on in the matter of Potato Shows somewhat aimlessly, and feel that the time has arrived when stock should be taken of our present position, and future movements be determined. The schedule of prizes put forth from year to year by the committee of the International Potato Show is, by virtue of its position amongst such issues, always regarded with exceeding interest, yet from year to year it shows little change or variety. We are not alone in thinking that some diversity is desirable, indeed we may say essential, if the shows are to maintain their former prestige and popularity. Very specially is it desirable that such a re-arrangement of the classes should be made as would prevent any one competitor who may be exceptionally strong from literally sweeping the board, and this year we have seen some half-dozen growers clearing off nearly all the best prizes, whilst the bulk of the competitors have had to content themselves with little or nothing. That such things will result in dissatisfaction and discontent is inevitable.

Now, the prizes offered through the schedule are liberal—perhaps too liberal, and whilst we would deprecate the lessening of the total sum, we should like to see that more equitably and widely distributed. To accomplish that we would suggest the cutting clean away of all classes that call for more than twelve kinds, as a dozen, eighteen, or twenty-four soon become monotonous and uninteresting. The public interest will centre in the Champion collection and all the rest are neglected. Yet for the two classes for twenty-four dishes and eighteen dishes it has been the rule to set apart so large an amount as

45 guineas in big sums that fell into the hands of few growers. This sum, too, was about one-third of the the entire amount offered. Now, to bring about that division of the schedule so as to give every exhibitor a fair chance, we would suggest that, in the first place, the Kingdom be divided into districts—North, Midland, and South—including England, Wales, and Scotland. The divisions should be fairly equal, and any climatic advantages or disadvantages would be fairly well balanced. In each of these divisions there might be classes of twelve, nine, and six dishes respectively, and as the twelves wonld constitute the premier ones of the show, a Champion prize might well be added to the Division prize for the very best dozen kinds ont of the selected first-prize lots. In that way alone the desired division of the honours would be secured, and and the Champion prize would be one to covet and honourable to obtain.

To carry out this suggestion would require some modification of the present prizes, but the show wonld not suffer, whilst the larger number of classes would certainly ensure a greater number of entries. Then, following on the admirable example set at the recent Health Exhibition Potato competition of having classes for garden, field, and late keeping kinds; similar ones, say, for six dishes each, open to all comers, might well be established, because interest would attach to the selections sent in these classes from diverse parts of the kingdom. Beyond beauty and other features the jndges could farther make the awards upon the ground of special fitness in the selections for the purpose named. The classes for three dishes of white or coloured kinds, round or kidney, especially as duplicated this year, are montonous and uninteresting, and the large sums offered in connection with them might well be more usefully applied. A class for the enconragement of new kinds might be offered to raisers with advantage, the sorts to have been either grown that season at Chiswick, or to have been not more than one season in commerce.

As there are still many popular American kinds in commerce, a class for nine kinds might be established, and farther a similar one for British raised kinds, but competitors should not be allowed to show in both, because there shonld be no incentives to a general scramble for prize-money. Classes of nine dishes and six dishes might well be established for non-prize winners of previous years, so as to encourage the timid, who would like to exhibit, but dread defeat. Finally, very high standards should be created for fntnre novelties, for a kind that is either but the reproduction of an old one, or is not better, is in no way meritorious, and merits no honour. The suggestions thns made will we trust receive dne consideration at the proper season.

THE BRITISH MAIDEN-HAIR FERN.

In the British Islands the distribution of the Maiden-hair is distinctly of a western type. In England its head-quarters are in the counties of Devon and Cornwall, in which it occurs in many localities, affecting low sea caves and the clefts of coast rocks; it was formerly abundant in the neighbourhood of Ilfracombe, but of late years has become very scarce there, and can only be obtained if the collector is snfficiently enthnsiastic to allow himself to be let down over the cliffs by a rope. We do not think it advisable to give detailed descriptions of the localities recorded for this beantiful fern, which is already in danger of becoming exterminated, owing to the ravages of collectors, if, indeed, it has not already disappeared from some of its localities. It has also occurred in Dorset, and is recorded for North Somerset, althongh this is doubtful, as it is said that the leaves of a flowering-plant, *Thalictrum saxatile*, have been mistaken for it at Cheddar.

On the coast of Glamorganshire it is, or was, abundant; there is a specimen in the British Museum Herbarium, collected in Jnne, 1773, at Cardiff, from "a cliff called Nine-acre Cliff, half a mile from Porth Kerrig Chnrch, in the face next the sea, where a petrifying water falls down, generally in places not accessible without much difficnlty." On some parts of the Glamorganshire coast it grows very luxuriously, forming a green tapestry on the face of the cliff, and sometimes within reach of the spray. It has long been known as growing in the Isle of Man: other English counties have been recorded for it, but its occurrence in them has not been anthenticated, and it is stated that in more than one instance yonng plants of the Bracken have been mistaken for the Maiden-hair! It is, apparently, absent from Scotland, although it has been recorded from one or two stations in that country. In Ireland it is very local, occurring chiefly, if not entirely, in the West; the Isle of Arran and the Burren mountains, are its oldest and best-known localities, it having been recorded from Arran by Lhwyd previous to 1699. It has also occurred in various places of the County Clare, from Connemara, and Sligo; and it is reported to have been fonnd in a cave near the Giants' Causeway, Antrim. The Maiden-hair of Burren and Arran is very luxnriant, and often has the pinnnles more deeply cut than in the ordinary form of the species.—*European Ferns.*

SIR TREVOR LAWRENCE ON GARDENING.

At the recent opening of the autumn session of the Richmond Athenænm, Sir Trevor Lawrence, Bart., M.P., delivered the opening address, his subject being "A Gossip on Gardens and Gardening," from which we take the following extracts from *The Richmond and Twickenham Times.*

One of the first things which foreigners say when they come to this country is, not that there are gardens in England, but that the whole of England is a garden; and really they must feel that that was hardly an exaggeration when they compared the country as they saw it in England with other countries on the Continent. He did not suppose there ever was a people who had so keen a love of gardening as the English. Wherever they went in the world they fonnd English and Scotch gardeners doing good work. Now, taste was a very delicate subject to touch upon; but at the same time, as one who was a lover of gardens, he felt bound to protest against the fashion for ribbon and carpet bedding which had displaced mnch that was lovely in our gardens. Let those who had a fancy for these things look at an old-fashioned garden, and if they did not say that the latter was infinitely the more beautiful he should be very much surprised. He thought there was to some extent now a reaction against that absnrdity. If they looked at one of the ribbon or carpet beds in Hyde Park they would see that an elaborate process of trimming and pinching and poking was going on continually, and nothing had the opportunity of growing as Nature would incline it to do. Anything more unnatural it wonld be impossible to produce. He thought they were perhaps hardly aware, when they walked ronnd their gardens, what an immense debt of gratitnde they owed to people who had bronght most beautiful productions to decorate their gardens from almost every quarter of the globe. They got so accustomed to what they called common flowers—such as, for instance, the Pelargonium, which came from the Cape of Good Hope; the Heliotrope, a Peruvian plant; and the Dahlia, from Mexico—that they forgot how many of them had been gathered together with great labour from every part of the world. That led him to think of that which had to do, not with taste, but with fashion in gardens. His experience was that if they wanted to rnin anything completely, they shonld get fashion and fashionable people to take it np. Just now the beautiful but rather stiff and comparatively formal donble Dahlias were out of fashion, and were very seldom seen. We had instead got single Dahlias. The other day he was talking to a nurseryman—one of course who had an eye to the main chance—and he told him that single Dahlias had passed their day. He explained that by saying that they had been very fashionable, but now they were going out of fashion, and soon we should see them no more. He then went on to say it was known to almost everybody that nearly all the double flowers that we saw were the results of hybridizing. It was impossible to exaggerate the great debt we owed to gardening skill in that matter. Take such a common thing as the ordinary garden Pelargonium. The petals of the one he had in his coat would have fallen long ago if it had been a single Pelargonium, and they all knew the care taken by people at Covent Garden to gum in the petals of the single Pelargonium, so that, in addition to the double variety, they got that permanence in the flower which they did not get in the single variety. There were ten or a dozen natural species of Dahlia, but almost all our double Dahlias came from one species. With regard to the exploits of gardeners, he did not think anything had been more gratifying as an instance of skill in introducing a plant which was an inhabitant of one country into another, than the services rendered by Kew Gardens in introducing quinine-bearing plants into India. Three of the great staples which produced the food of mankind—the Potato, the Vine, and the Coffee plant—were attacked by very serious diseases. Any one who would devote intelligent attention, snch as M. Pasteur had devoted to the diseases of animals, to the diseases of plants, would perhaps make a discovery which would benefit the whole human race.

Sir Trevor said that his own particular hobby was the cultivation of Orchids, which were, he thought, on the whole, the most interesting of the great botanical families. It was impossible to make any reference to Orchids without having one's mind brought to the writings of Mr. Darwin, who described with extraordinary lucidity some of the many contrivances by which Orchids were fertilized. Of late years the taste for these plants had wonderfully developed. He knew one importer who employed a staff of fourteen collectors in different parts of the world. They were nearly all Germans, as he found them more easily satisfied and more sober than Englishmen. He paid them from £75 to £150 a year and all expenses. He paid all outgoings while they were away, and their pay accumulated in their absence. Each one cost him in wages and expenses about £1,200 a year. Then he had at his establishment two acres of glass devoted entirely to Orchids, and employed fifty persons, whose wages amounted to about £80 a week, so that he must be spending about £19,000 a year on collectors and wages only, not allowing anything for coals, rates and taxes, interest on capital, and other charges.

As to the value of Orchids, he had known £250 to be given for a single plant. That was for an imported plant which, perhaps, had not cost the importer more than 5*s*., but it turned ont to be of rare and extreme beauty. He could understand a large sum being given for a hybrid Orchid, which, perhaps, could only be obtained of the person who had produced it, but the case was different with imported plants, for one which was imported to-day could be imported again to-morrow, so that a plant which fetched £100 to-day might not be worth a hundred pence to-morrow. Sir Trevor then gave, with the assistance of some diagrams, a very interesting account of the fertilization of Orchids.

LUMINOUS WOOD.

A piece of luminous wood was recently received by the writer of this note, with a request for an explanation of the curious phenomenon. The wood was part of an old decaying stump, and when opened in a dark room the whole was enveloped in a pale phosphorescent light. A brief note on the subject may be of interest, as the phenomenon has frequently been observed. A few years ago, when describing a new Agaric from the Andaman Islands, our veteran fungologist, the Rev. M. J. Berkeley, remarked:—"The cause is at present, we believe, qnite nnknown. Even the opportunities of examining the large Olive tree Agaric of the Sonth of Europe have been without result. The only instances of lnminosity which have occurred at home have been confined to Mycelia in conjunction with decaying wood or fermenting leaves."

The Agaric in qnestion is called Agaricus (Pleurotus) Emerici; the pileus, or cap, is about half an inch across, attached behind without any stem, either nearly flat or helmet-shaped, and emitting a most brilliant light; the entire substance being luminous. The luminosity is the most brilliant of any known species. Mr. Berkeley remarks that as the specimens are scarcely fully developed it is no question of decomposition, as in the case of the decaying wood or fermenting leaves. Returning now to the luminous wood, it seems clear that the mycelium of some fungus

is the direct cause, and reasoning from analogy it would seem to be the fungus itself which is luminous rather than the decaying wood on which it grows. To what fungus the mycelium belongs is not known, though the habitat might suggest a Polyporus. It would be of great interest to watch some luminous stump for the appearance of the fungus.—*X.*

CALLICARPA PURPUREA.

Amongst the many fine plants which have for years been known to cultivators and yet are now seldom seen, must be included the purple-berried Callicarpa, than which there is no more useful subject for the decoration of a cool stove, as its long shoots of beautiful purple berries, last in perfection during at least four of the dullest months of the year, viz., from October to February. The plant is a member of the family "Verbenaceæ" and has opposite, lanceolate, serrulated, and nearly sessile woolly leaves. The small greenish flowers are produced in clusters in the axils of most of the leaves, and about eighty of them in each cluster set berries, so that each pair of leaves have about one hundred and sixty berries between them, and a shoot with from fifteen to twenty pair of leaves with berries, as we have them this season, contains about three thousand berries of the loveliest purple colour—a sight worth seeing.

We grow this plant as a standard and give it about the same treatment as Fuchsias. It is pruned in the same way early in March, and after the plants have broken into growth, some three or four inches, they are turned out of the pots they have been grown in during the previous year, the roots and soil are carefully reduced, and potted again in good sound loam, in 10-in. to 12-in. pots the same size as before. As soon as the roots get well hold of the fresh soil, we feed them with manure-water, and soot, and three or four times during the season we apply a dressing of "Standen's Manure." The plant can be propagated either by sowing seeds early in the spring, or by cuttings, which strike very freely, grow rapidly, and, with attention, make good fruiting-plants the first season, if kept in a growing temperature of fifty-five to sixty-five degrees of heat.—*W. B. Latham, Botanic Gardens, Edgbaston, Birmingham.*

[This grand old plant is splendidly grown by Mr. Latham,—indeed, we have never seen it finer than in the Birmingham Botanic Gardens, and we thank him for his note on its cultivation. Many a gardener who has to make a show in his houses during the dull months, would give it much attention, if they only realized what a great beauty it is.—*Ed.*]

HOME MANURES FOR THE GARDEN.

(*Continued from p.* 109.)

Night-Soil.—In England, night-soil is often carried to pits and deposited with layers of quick-lime to remove its offensive smell: having undergone the process of putrefaction, it is thrown out in order to be employed, mixed with earth, lime, or gypsum, for the purposes of manure. We may easily perceive that in thus removing the objectionable odour of this substance we must also deprive it at the same time of a great amount of nitrogen; for the action of lime after depositing those component parts which contain nitrogen to form ammonia, also tends to drive the ammonia away altogether.

Some nitric acid will indeed be produced from the nitrogen of the night-soil, and in that case nitrates of lime and ammonia will be formed which becomes valuable plant-food, but the greater proportion of the nitrogen will combine with hydrogen and escape in the state of gas.

Probably the best-known contrivances for deodorizing and disinfecting the human excreta deposited in dry closets, are those in which advantage is taken of the deodorizing properties of dry earth, so prominently associated with the name of the Rev. Henry Moule.

The most complete and practical system, to our way of thinking, was advocated by Mr. James Soppitt a few years ago in *The Times*. He said, "Nothing conveys infection more fatally than water, and nothing so surely infects water as human excretion. To increase our water supply where it is insufficient, and to obtain a supply where it is deficient are vitally important steps, but the first and the readiest is to keep pure what we have already got, and the means for doing this are sufficiently easy if we set about it in the right way. The patent dry-earth closets are admirable things, and to the mechanically educated simplicity itself, but they will not do for the present. Nothing more is requisite than that there should be a garden-plot to each cottage. Then build to each cottage an ordinary privy, with an external vault, not too large—say 3 ft. square—not touching the house wall, perfectly waterproof, with an external sloping wooden lid that can be easily opened, and with a layer of garden mould—the dryer the better—about 12 ins. deep, spread upon the floor of the vault. The cottager must be taught to lift up this lid occasionally and to throw into it a shovelful of earth, but never to throw in any water—water in that box must be "*anathema*"—and once or twice a year, according to circumstances, the pit must be cleared out and the compost spread amongst his Cabbages, recommencing with the 12-in. layer of garden mould on the floor of the vault."

Human excreta (night-soil) converted into a compost should be well dug in, and incorporated thoroughly with the soil, when it becomes a good fertilizer for Cabbages, Broccoli, and similar deep-rooting and gross-feeding plants, but should not be employed for Potatos or shallow-rooting vegetables.

Liquid Manures.—It may be pronounced almost an axiom, that liquid manure is the soul of gardening, and on its efficient application depends the well-being of the great number of plants entrusted to the gardener's care. It has been well said that he who does not carefully collect and preserve the drainings from his dwelling-house and cattle-sheds, acts like a man who throws away dull rich silver ore because it does not shine like white silver. And a gardener who buys artificial manures, or so-called special manures, but does not look carefully after his liquid manure, nor study the best mode of its application, is not acting with economy, for he buys the same chemical ingredients at great cost which he might have for nothing, if he did not suffer it to flow or evaporate uselessly away—without saying anything about the sanitary aspects of the question.

Were it otherwise, draining tanks or simple reservoirs commodiously placed would be provided first and foremost in every garden.

Were it otherwise there would no longer be villages or cattle-yards in which a brown current of liquid manure streams forth from every enclosure, to be lost in the gutters, ditches, or the horse-pond.

The great principle for all gardeners to start from is, that the best parts of manure will either "*run away*" or "*fly away.*"

The first are seen in the fluids that drain from ordinary dung-heaps, and the second may be discovered by the sense of smell, for the offensive exhalations of manure-heaps are produced in consequence of valuable fertilizing ingredients evaporating away in an invisible and gaseous condition.

Therefore a properly made dung-hill or compost heap should neither leak nor smell.

Very accurate analysis has shown that the urine voided by an animal contains double the amount of phosphoric acid, four times as much of nitrogenous substances, and six times as much of alkaline salts as the solid fæces.

It follows therefore that the former possess a far higher manurial value than the latter, and consequently deserve to be most carefully collected.

The drainings of a dwelling-house, though not so powerful as those from the stable, the cow-shed, or the cattle-yards, are neither insignificant in quantity nor poor in quality. In many establishments, where the family is numerous, the quantity of drainage during the year is much greater than is generally supposed, as in it we may include every description of washings, scourings, soap-suds, &c., together with human urine.

It contains animal and vegetable refuse prolific in ammonia, fatty matters rich in carbonic acid, and soap, a compound of fat and soda, the latter being one of the inorganic constituents of plants. Practical evidence of the value of these liquid matters is found in the enormous growth of garden crops which have paid so well on sewage farms.

When once the benefits of liquid manure are fully recognized, and the quick growth, early maturity, and superior quality of vegetables and fruits cultivated by its aid established, there should be no difficulty in the disposal of the sewage from the dwelling-house and the cattle feeding-sheds.

Roses, Chrysanthemums, and Raspberries especially, should repay cultivation by the aid of liquid manure, remarkably well, considering their love of rich ammoniacal dressing; and abundant luxuriance would almost certainly reward the gardener's efforts in this direction. On sandy light-soil the efficiency of liquid manure is most conspicuous. On heavy clay-land its effects are less striking, and it has a tendency to impart consistency to the soil, which in most clay soils has to be diminished rather than increased by cultivation.

(*To be continued.*)

CYPERUS ALTERNIFOLIUS.

The largely increasing demand, in almost every gardening establishment, for a variety of plants for dinner-table decoration, renders it a matter of great importance, and sometimes of considerable difficulty, to keep up a sufficient stock of young plants suitable for the purpose. Owing to the fact that many of the best subjects for this work are either of slow growth, or are easily injured by the changes they have to endure, it becomes necessary to turn our attention to plants possessing the requisite good qualities, and which besides are of quick and easy growth, and not easily to be injured by sudden changes.

I think this Cyperus is one of the best of plants in these respects, its cultural requirements being so simple and well-known as to need but little description. It will grow equally well in either peat or loam; delights in plenty of moisture at the roots, and a rather shady position, and will thrive in any temperature between 50 degs. and 80 degs., but when grown in strong heat, it should be placed in a cooler position for a time before being used. To obtain handsome plants, medium-sized tops should be inserted in pans and placed in a brisk bottom heat. In a few weeks they will throw up a quantity of young shoots, which will quickly grow into plants of the required size. When grown in this way, the habit of the plant is much more elegant than in the case of those obtained by dividing the old stools. I think there are few green foliaged plants, that can surpass it for dinner-table decoration.—*H. Dunkin.*

WILD PLANT FABRICS.

A most interesting example of utilization of waste products is to be seen in a shop window in New York in the shape of a number of hanks of thread of different textures and colours, some being as soft as the finest silk, others as rough as hemp. These hanks are the result of an attempt, which seems likely to be successful, to utilize the various wild grasses and stalks for textile purposes. The cotton stalk, which in the South has been hitherto burnt as useless trash, is here made into a coarse thread fully equal to Indian jute, an article of commerce which is imported into the United States to the amount of 6,000,000 dols. per annum. Flax straw, which is also a very common waste product in many of the States, is converted into a fibre which make excellent linens, and serves also as a substitute for cotton when mixed with wool. These, however, are only a few instances of many materials which have been experimented upon with more or less valuable results. Among them are the Bear Grass, Spanish Bayonet, Okra, Nettle, Ramie, Pita, Baurbor, Wild Coffee, and the Cotton plant, all of which grew wild; and from them are produced various fibres which dye beautifully, and can be made into bagging, rope, packing thread, and paper of the finest quality, fabrics for dress, and materials for upholstering purposes. It has been found, too, that Ramie and Sisal hemp-fibre can be mixed with silk to great advantage, while the common American grasses are turned into fibre strong and good enough for false hair and wigs. The cocoa-nut shell yields a fibre quite equal to curled hair for upholstering uses. Another conversion into fibre which seems likely to be of practical value is that of the mineral asbestos, which is as fine as silk, and can be made up into fireproof curtains and hangings for walls and theatres, fireproof ropes, carpets, and, in fact, every kind of house decoration.

The Amateurs' Garden.

Heating Small Greenhouses.—There can be no doubt whatever that the modern gas-stove has solved the difficulty incidental to the heating of small greenhouses, at least where gas is obtainable, and where it is not, oil can be purchased so cheaply, and is so powerful in emitting heat, that though much less cleanly and convenient than gas it is hardly less useful. I was called upon a few days since to drop in upon a barrister at his Temple chambers, and the day being rather cold was pleased to find the consulting-room into which I was shown pleasantly warm, although there was no fire burning in it, indeed, there was no fire-place or chimney. Looking round I noted one of those curiously made yet by no means inelegant lamp-stoves, which known under various names, consist of three upright tubes, the centre one being a powerful burner with glass chimney leading into a metal tube, and this connects with the two larger metal tubes at the sides. The top is of metal, and from it and the whole of the surface of the stove is emitted the considerable heat which proceeds from the gas in combustion. The burner was fed from the gaspipe by means of a flexible tube. The barrister kept on the top of the stove a small kettle full of water, which was always convenient for handwashing.

The two great features of the stove were that it gave off a very pleasant agreeable warmth, sufficient to make the temperature of a small greenhouse genial and comfortable in cold weather, and an entire absence of any disagreeable gaseous smell or perfume. I inquired whether the tenant of the chamber ever experienced headache or lassitude from the burning of the stove, but learnt of none whatever, indeed none other disagreeable sensations were experienced than would be found from hot-water heating, or from an open fire. As to consumption of gas, that was difficult to refer to conclusively, but the most useful method of employing the stove was found in lighting it some hour or two before the chamber was required, and then it became gradually and pleasantly warm. It was more economical to do that than it was to turn on the gas to its full force for a time to produce warmth quickly. Regular burning, though not to the utmost force of the stove, is more effectual than employing full force intermittently.

Of course, in a greenhouse a stove of this kind, occupying as it does but little room, and being ornamental in appearance, might be placed in the centre, and would thus radiate its warmth evenly. It need only be employed when the weather is damp or cold, and can be lit and left for any length of time without trouble or attention. In a greenhouse also a shallow metal dish, kept supplied with water, might be stood on the top of the stove, and thus evaporation would ensue that would be productive of much good to the plants. The burner is backed by a metal reflector, and can thus be made to answer the double purpose of stove and lamp. The patentee of these stoves, Mr. J. M. Clark, 49, Moorgate Street, City, terms this particular form "The Syphon," and mentions that one of the size I saw in operation burns from 3 ft. to 17 ft. of gas hourly. Whatever moisture or vapour is condensed is caught in a tray placed at the bottom of the stove.—*D.*

Polyanthus Narcissi.—If there is any section of Dutch bulbs that the amateur gardener with limited means can manage with comparative ease, it is these richly-fragrant Polyanthus Narcissi. If, say, a couple of bulbs of any one variety are put into a 4-in. or 5-in. pot, using a fairly good sandy soil, they will grow and flower very nicely if not neglected. They are generally early to bloom, and therefore should be potted as early as the Hyacinths, and the bulbs are not expensive. Further, when they have gone out of flower, they can be planted out in the open border, in good soil, and they will then establish themselves and flower for years to come. We may say of the Polyanthus Narcissi with much truth that they are a fine decorative class of plants, particularly suitable for pot culture, producing abundantly large trusses of very sweet-scented flowers, varying in colour from pure white to deep golden-yellow. Here are a few varieties that are cheap and good:—Gloriosa, pure white, with orange cup, fine and showy; Grand Monarque, pure white, with citron cup, large and very handsome; Grootvoorst, white, with citron cup; Sir Isaac Newton, yellow, with orange cup, very fine; Soleil d'Or, yellow, with deep golden cup; States General, creamy-white, with yellow cup; and White Pearl, pure white.

Any one who can afford to pay a little higher price for something newer will find the following well worthy of attention:—Bazelman Major, pure white, with yellow cup, extra fine; Florence Nightingale, white, with orange cup; Golden Era, yellow, with orange cup, extra fine; Grand Sultan, white, with yellow cup, large, and very fine; Her Majesty, pure white, with yellow cup, new, and very fine; Jaune Supreme, clear yellow, large and fine; Princess of Wales, white, with orange cup, fine large truss; and Queen of the Netherlands, very pure white, with yellow crop, large bold truss.

Some have recommended that some of these Narcissi should be grown in glasses with water in the same way as Hyacinths. I have never seen them grown in this way with anything like satisfaction. They are certain to become drawn, and they bloom in a very unsatisfactory manner. It would be better to pot them in ordinary soil, and stand them out-of-doors in a backyard covered with cinder ashes or cocoa fibre, and then when they begin to grow take them within doors and stand them on the inside sill to flower, keeping the plants clean, giving them as much air as possible, and not allowing them to suffer for lack of water.—*Quo.*

Roses for a North Wall.—Mr. W. Johnson, who asks for information on this subject at p. 88, may plant the following half-dozen Roses on his north wall, in which position they will flower well:—Vivid (Hybrid China), Charles Lawson, and Coup d'Hèbe (Hybrid Bourbons), Gloire de Dijon, and Safrano (Teas), and Aimée Vibert (Noisette). If he wants more the following may be mentioned as good varieties for the same position:—Chénédolé (H. China), Paul Perras (H. Bourbon), Céline Forestier (Tea), and Souvenir de la Malmaison (Bourbon). It may not be generally known that all the Teas are first-class Roses for north and north-west aspects, and give finer flowers than do plants in a south aspect.—*F. Bedford, Straffan House, Co. Kildare.*

PROPAGATING EVERGREENS.

Few have any idea what an easy matter it is to propagate evergreens, as most of them strike easily either by cuttings or layers, those requiring the latter treatment being Rhododendrons and such like slow-rooting hard-wooded plants. To make sure of Conifers it is necessary to put the cuttings in under hand-lights, but Laurels, Aucubas, and Box will do almost anywhere out in the open, the best place for having the beds being under the shelter of a wall or fence, or in bare spots in the shrubbery, as in either of those situations the drifting winds are kept off, and the leaves, instead of flagging, remain in a plump fresh condition. The shoots most suitable for making the cuttings are those that are young and about half-ripe, and the way to form them is to take them off about a foot or so long, when the lower leaves should be removed, and the wood at the base cut away close up to the joint. The cutting will then be ready for putting in, which may either be done by dibbling them into the ground or making a trench along the side of a line, the latter being the most preferable, as the earth can then be pressed up close against their stems and made firm by treading, whereas when dropped into holes they are apt to remain loose, and suffer in consequence.

Conifers always root the most readily when the cuttings are made with a heel, that is by having a portion of the bark and old wood slipped off the branch, and left attached at the end, as then they callus better, and to assist them in doing this they should be inserted in sandy soil, be well watered, and then covered with a hand-light, and kept close till they root. This, if put in at once, they will do in about nine months, when they should have a little air, which may be gradually increased till they will bear the fullest exposure. All that is requisite with layers is to get the shoots down sufficiently low to bury some part, leaving the end out, and it will be found that after a year all branches so treated will afford a young plant. Rhododendrons, however, take double the time, and must be layered in sharp sandy peat, which ought to be frequently watered during the summer. To induce roots to form, it is a good plan to cut away, scrape off, or abraise the bark at the part buried, as then a healing process sets in at once, and from the callus the rootlets come forth.—*Alpha.*

PERNETTYA MUCRONATA.

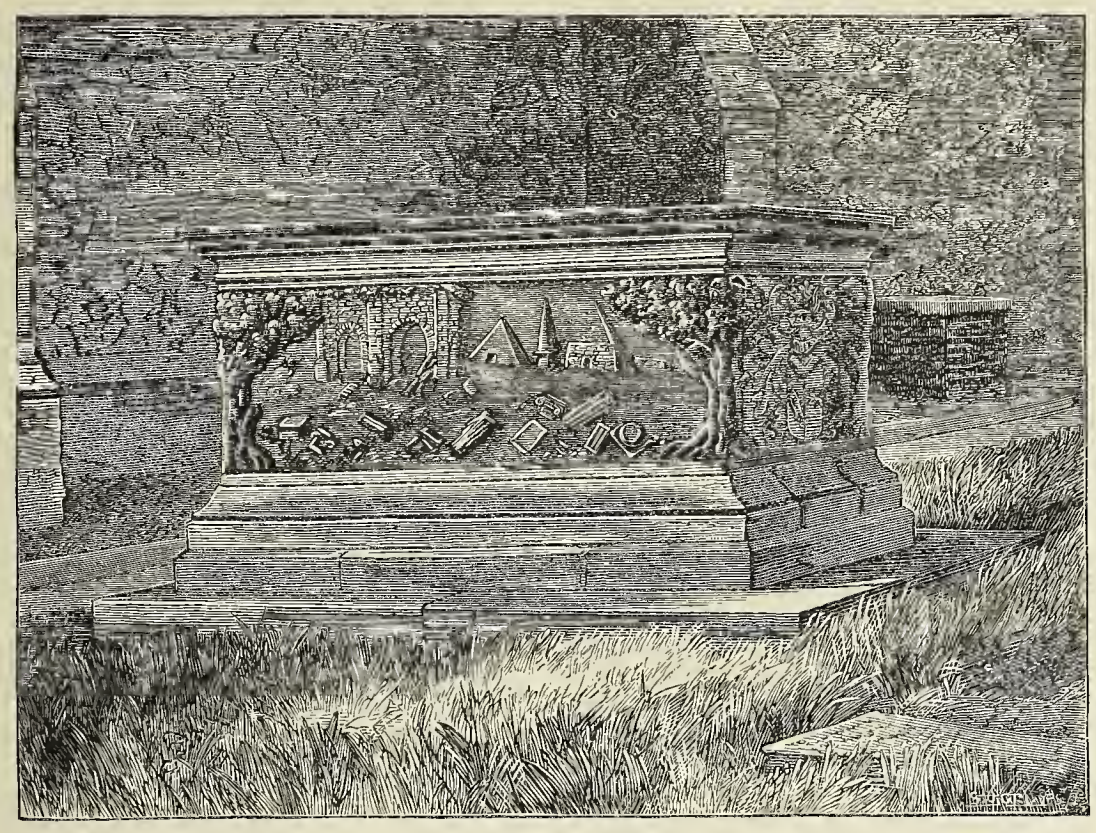
You will see by the enclosed paper that Mr. Davis, of Hillsborough, County Down, quotes me as having grown his Pernettyas successfully. We have two beds with about fifty plants in each. In the one at Oakwood in full sun the plants have berried even more freely than they had done when I first got them, but in the other, in partial shade at our cottage-garden at Weybridge, there are hardly any berries. It seems therefore necessary to succeed with them to choose a sunny situation. The berries with their many shades of colour from very pale pink to almost black are very greatly admired by visitors to the garden.—*George F. Wilson, Heatherbank, Weybridge.*

[We have seen some of the berry-bearing shoots cut from the bed which Mr. Wilson mentions as being in the full sun, and certainly nothing could possibly be more beautiful at this season. Mr. Davis, the raiser of the grand new varieties sent out from his nursery, states that "it is now some thirty years since the first batch of seedlings was raised from Peructtya angustifolia, the hardiest and best free-fruiting variety of Pernettya mucronata then in cultivation, which produced several distinct sorts, varying considerably in foliage, habits, and colour of the berries. From the most promising of these another lot of seedlings was grown, and so on from subsequent raisings till a collection has now been produced of very great merit, for variety, hardiness, and free-fruiting character." On the important matter of cultivation, Mr. Davis adds:—"The varieties of Pernettya mucronata will succeed in any good light soil, but prefer an open situation, if not exposed too much to cold east or north winds." The exposed group in Mr. Wilson's garden is on the hill side, and the soil used is described as an admixture of peat with the natural soil of the hill, and some of the black vegetable mould from the adjoining wood garden. The knowledge gained by Mr. Wilson, that the Pernettya will not fruit freely when planted in partial shade, should prove a valuable hint to planters.—*Ed.*]

TRADESCANTS' TOMB.

Much attention has lately been directed to the Church of St. Mary, Lambeth, in consequence of the removal of an ancient stained glass window representing a pedlar and his dog. This has been roundly condemned as an act of vandalism. During the somewhat acrimonious discussion that has taken place many students of botanical history have been reminded that St. Mary's, Lambeth, is the resting place of the Tradescants, a name which must be familiar to many readers of The Gardening World, who well know the plants named after these early botanists. We give a view of St. Mary's Church before its restoration in 1852, at which time attention was directed to the dilapidated condition of the Tradescants' tomb. A public subscription was raised, to which lovers of botany liberally contributed, and the result was the handsome monument now seen in St. Mary's Churchyard. This bears the following inscription:—

"Know, stranger! ere thou pass, beneath this stone
Lye John Tradescant, grandsire, father, son.
The last dy'd in his spring; the other two
Liv'd till they had travell'd Art and Nature through,
As by their choice collection doth appear,
Of what is rare, in earth, in sea, in air;
Whilst they, as Homer's *Iliad* in a nut,
A world of wonders in one closet shut.
These famous Antiquarians that had been
Both Gardeners to the Rose and Lily Queen,
Transplanted now themselves, sleep here; and when
The Angels with their trumpets shall awaken men,
And fire shall purge the earth, these hence shall rise,
And change their Garden for a Paradise."



TRADESCANTS' TOMB IN ST. MARY'S CHURCHYARD, LAMBETH.

The new tomb replaced an old monument erected by the widow of the second Tradescant to the memory of her father-in-law, husband and son in 1662, and which was purchased by Colonel and Lady North, and by them presented to the Ashmolean Museum in March, 1881. John Tradescant was a learned and industrious man, to whom we are mainly indebted for the introduction of botany into this kingdom. Parkinson informs us that so zealous was he in his love of horticulture that he entered himself on board a privateer going against the Algerines, so that he might have an opportunity of bringing Apricot trees from that country. In his travels he not only collected plants and seeds, but curiosities of every sort, which were preserved and added to by his son, who gave the collections to Elias Ashmole, thus forming the nucleus and foundation of the splendid Ashmolean Museum at Oxford.

About 1629 John Tradescant was appointed gardener to Charles I. His industry and intelligence was inherited by his son, who took a voyage to Virginia, whence he returned with many new plants. Father and son introduced a variety of curious species into this country, several of which bear their name. Tradescant's Spiderwort is well known, and Linnæus immortalized them by making it a new genus, *Tradescantia*.

Tradescant's house and gardens at South Lambeth were frequently visited by persons of rank, who patronized the gardener and aided him in his studies. Among those who were his benefactors were Charles I., Henrietta Maria, his Queen, Archbishop Laud, George Duke of Buckingham, Robert and William Cecil, and many other persons of distinction. The philosophic John Evelyn also paid visits to Tradescant's physic garden, and his "Diary" contains the following notice:—"Sept. 17, 1657. I went to see Sir Robert Needham at Lambeth, a relation of mine, and then to John Tradescant's Museum."

It is said by no mean authority that John Tradescant "by great industry made it manifest that there is scarcely any plant existing in the known world that will not with proper care thrive in our climate." In 1749 Sir W. Watson and Dr. Mitchell paid a visit to the site of Tradescant's garden. It had been then for many years neglected, but though the garden was covered with weeds there yet remained many marks of its founder. They found there Borago latifolia sempervirens, Polygonatum vulgare latifolium, and Aristolochia clematitis. There where then remaining two trees of the Arbutus, which, from being so long used to our winters, did not suffer from the severe cold of 1739-40, when most of their kind in England were killed. In the orchard there was a tree of Rhamnus catharticus about 20 ft. high and nearly a foot in diameter.

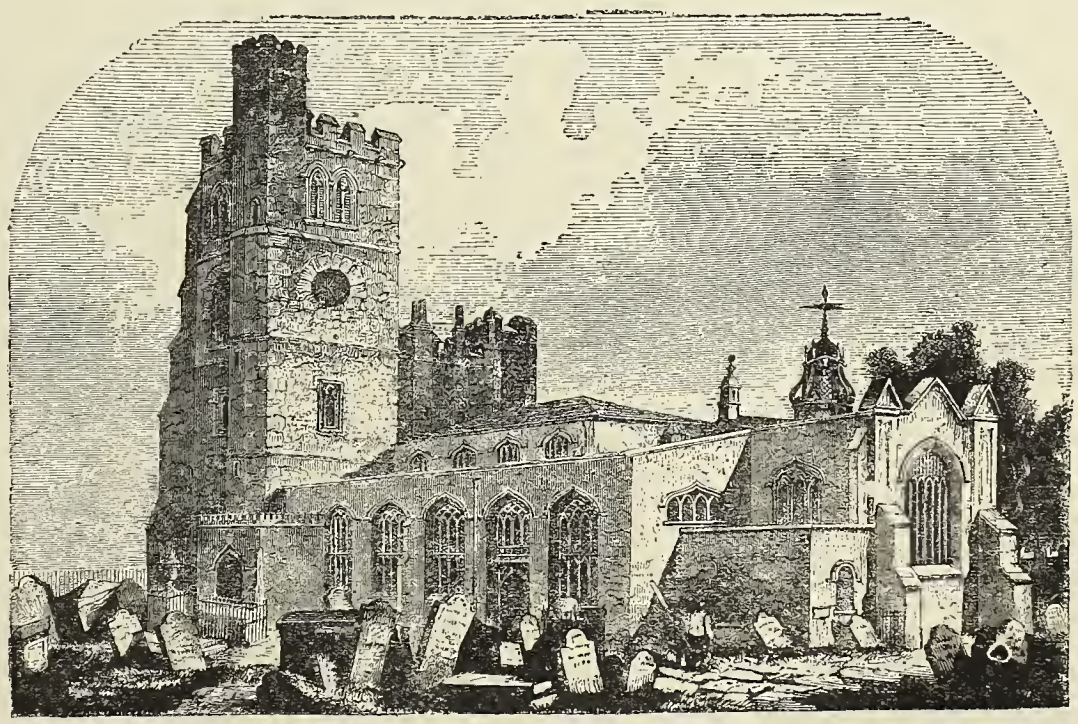
In the Ashmolean Library at Oxford is preserved a folio manuscript, probably in the handwriting of the elder Tradescant, which purports to be "The Tradescants' Orchard, illustrated in sixty-five coloured drawings of fruits, exhibiting various kinds of the Apple, Cherry, Damson, Gooseberry, Peares, Peaches, Plums, Nectarines, Grape, Hasell-nutt, Quince, Strawberry, with the time of their ripening."

The memory of the Tradescants is not likely to fade. The splendid Ashmolean Museum will always recall its first founders, the tomb in St. Mary's Churchyard will ever attract notice by its quaint epitaph, and not long since a new "Tradescant Road" at South Lambeth was named in honour of the famous botanists whose house and garden in that locality has long since disappeared.—*B.*

RAILWAY ALLOTMENTS.

The utilization of the margins and embankments of railways for garden purposes is a question of moment for the public at large, but it is of especial importance to the railway companies and their *employés*. The area under cultivation must amount in the aggregate to some thousands of acres, and these, under proper cultivation (as they are very generally), add no inconsiderable item to the food supply of the country. But a well-managed railway plot of the average size adds from 5 to 10 per cent. to the guard or porter's weekly wage, and furnishes at the same time just the kind of healthy exercise and employment that is best suited for his leisure. We were led to these remarks from a brief inspection of the garden allotments on the Metropolitan Railway between West Hampstead and Harrow. Long stretches of garden-ground occur at short intervals for the whole of the distance. The average plot is about 10 poles in area, in some cases however, where the exigencies of a large family demand it, more is undertaken. Although the land is heavy, as is usual in the basin of the Thames, there is plenty of heart in it, and, when thoroughly trenched in autumn and well worked and kept clear of weeds in spring and summer, it produces excellent crops of Potatos, Green Stuff, Beans, and Turnips.

The Metropolitan Railway Company exercise a wise liberality in this matter, for all their allotments are rent free. On other railways a charge of 4*d.* to 6*d.* a pole is made, and paid too, we have no doubt, ungrudgingly, when we consider that the charge amounts only to a fraction more than a penny per week per 10-pole plot. We were unable to ascertain the exact number of the whole of the tenants of these plots, but from the fact that of twenty-two servants employed at Harrow on the station, in the locomotive department, and permanent way, exactly twenty have gardens, we may learn something of the value attached to them by the men. The selection of plots rested at first with the men, now the rule is for the new-comer to take the plot occupied by his predecessor. The Potato harvest this year was unusually good, and sufficient, as a rule, to serve the family needs till it is time to dig the new ones. The only difficulty is with regard to manure; of course this has to be purchased and carted to the nearest point to the garden, from thence it has to be carried in baskets, frequently over tall railed fences and some distance along the permanent way. It is pleasant to see the men busily at work in the early spring, when the Potatos are put in, and one scarcely recognizes in the worker in shirt-sleeves the smart officer in the company's uniform who bids us a smiling "Good morning!" as we pass the barrier, but there is some thing in gardening, we presume, which dispenses with dyspepsia and the other ills to which sedentary employments are prone.—*Luke Ellis.*



ST. MARY'S CHURCH, LAMBETH, BEFORE ITS RESTORATION.

FRUITS.

The Early Forcing of Vines.—Vines from which ripe Grapes are expected to be cut at the end of April or early in May next should now be pruned back to a good plump bud, as close to the main stem as it can be obtained, taking care that the half-inch of wood left beyond the bud is not split in so doing. The wounds should afterwards be dressed with Thomson's Vine Styptic to prevent them from bleeding, and the house be thoroughly cleansed by having the wood-work and glass washed —the former with soft soap and warm water, the latter with clear water only—and the brickwork and plaster washed with hot lime having a couple of handfuls of sulphur stirred into it. The Vine canes should then have any loose bark that may happen to be on them rubbed off with the hand, and afterwards be well washed with a solution consisting of about 4 ozs. of Gishurst's compound, the same quantity of flowers of sulphur, and 2 ozs. of soft soap dissolved in a gallon of warm water. This, having been well mixed, should be applied to the Vines with a stiff brush, and be well rubbed into the crevices about the spurs as the work proceeds, so as to destroy any red spider or other insects that may happen to be located there, but be careful, however, not to injure the buds in doing so. The Vines being thus cleansed, should be tied horizontally to the wires over the front pipes until they begin to burst their buds, when they must be untied and trained up under the roof in the ordinary way, care being taken not to damage the buds in the operation.

The surface of the border will next require attention. This should be pricked over with a four or five-pronged fork, but not deep enough to injure the roots, which, if in a satisfactory condition, will form a network a couple of inches under the surface. Then, if necessary, lay on a couple of inches thick of suitable soil, consisting, say, of three parts of calcareous loam and one of lime-rubble, as a top-dressing, and cover the same afterwards with a like thickness of horse-droppings. Subsequently give the whole a good soaking of tepid water, which, with after applications, will wash the substance of the droppings down to the roots; the application of the former, moreover, will be the means of conserving the heat and moisture in the border.

Should the border that we have thus far been treating of be an outside one, short rotten dung might be substituted for horse-droppings, and over this 18 ins. to 20 ins. thick of fermenting manure, and leaves (about three parts of the latter to one of the former) should be laid on. This, by heating the surface of the border, will have the effect of attracting the roots thither, and in the top dressing and mulching they will form a network of feeders. This bed of dung and leaves should, according to circumstances, be freshened up once or twice during the interval from the middle of November to the middle of February by removing a portion of the old and replacing it with fresh fermenting materials. About the middle of April, when the sun is gaining in power, half the thickness of this outside-border covering should be removed, and the other half a month later, by which time the Vines will have perfected their crop.

As soon as the internal arrangements of the house have been completed the ventilators should be kept closed at night, and the process of forcing be commenced in the first or second week in November by applying sufficient fire-heat to maintain a night temperature of 50 degs., and 55 degs. to 60 degs. by day, running up 10 degs. higher with sun-heat. With these temperatures and syringing with tepid water two or three times daily—more or less frequently according to circumstances—the Vines will soon show signs of bursting their buds, and as soon as it can be seen that there are two shoots starting from one eye or spur, the weakest should be rubbed off forthwith, and the syringing of the Vine rods be discontinued.

Moisture, however, should be carefully distributed in the house both mornings and afternoons in sufficient quantities to maintain a humid rather than an arid atmosphere. As soon as the bunches appear the heat should be increased to the extent of 5 degs. at night, and the same during the day, raising the day and night temperatures 5 degs. more when the shoots have attained to a length of three or four inches, and from this stage of growth gradually upwards until it reaches 65 degs. at night, when the Grapes are in flower, 70 degs. by day, running the temperature up to 80 degs. with sun-heat. While the Grapes are in this interesting stage of growth a rather dry atmosphere should be aimed at, and the rods be tapped two or three times a day with the hand to distribute the pollen with a view to securing a good set.

As soon as the bunches show, all but one on each shoot should be removed, and after those left have set their fruit the number should be reduced to seven or eight bunches on each rod, leaving more or less according to the length and strength of the individual Vines; of course the largest and best shaped bunches should be left, and these as equally distributed over the rods as possible. The shoots should be stopped a couple of joints beyond the bunches, and all sub-laterals be removed at the first joint. Those which may afterwards be produced should be pinched close back, as the foliage thus produced will be sufficient to perfect the crop, and be as much as can be properly exposed to the influence of light, assuming the main stems of the Vines to be 3 ft. apart. As soon as the Grapes have set, the syringe should be made use of again in damping the surface of the border, walls, and path, morning and afternoon on bright days, so as to maintain a genial, but not too moist, atmosphere, until the berries begin colouring, when it should be gradually reduced to a minimum, and air be admitted to the house more liberally as the crop approaches maturity, to give finish as well as flavour to the Grapes.

The process of thinning the bunches should be proceeded with as soon as the berries are set, so that there may be no needless exhaustion of the Vine's energies in swelling berries, and bunches too, which have to be removed a few weeks later, as is the case when the operation of thinning is deferred to a more convenient time. In thinning the bunches, the crown berries should be left, and at rather more than one inch apart, care being taken not to injure those left by touching them with the hand or scissors.

The border having had a good soaking before the Vines were started, ought not, under ordinary circumstances, to require water again until after the Grapes are set, and about twice between then and the colouring period. But the condition of the weather, formation of the border (including the drainage), and strength of the Vines and the stages of growth at which they have arrived, must guide the application of water, to the Vine border, as well as the distribution of atmospheric moisture in the house.—*H. W. W.*

Late Peaches.—A question is asked, in last week's issue, "As compared with a respectable Pear, how stands the merits of an October Peach?" in reply to which I should say that much depends on the season and the kind of Peach grown. This year, as everyone knows, we have had quite summer weather all through the autumn, and the result has been that the fruit of Walburton Admirable was richly coloured, and almost, if not quite, as good flavoured as Noblesse, which is high praise, as that sterling variety is the standard of excellence among Peaches, and Walburton Admirable is its twin brother, and only wants the same amount of sun and warmth to make it as rich in the juice. Lord Palmerston, Prince, and Princess of Wales are apparently all seedlings from it, but, except in size and appearance, neither are equal to the Walburton; and as to Salway, that is but an apology for a Peach, and is only grown on account of its lateness, as when under glass it is but little better than it is ripened out-of-doors. Late Admirable is perhaps larger, and carries more colour than the Walburton, but it is not so good, and therefore as matters stand, I would advise all who want fine late Peaches to plant the Walburton Admirable, and to give the trees a south wall, that they may have the full benefit of all the sun we get at the time the fruit comes into use, as it is only the solar rays that can give it high flavour.—*Alpha.*

FLOWERS.

Autumn Propagation of Dahlias.—Whether or no the plan will apply to double Dahlias that it may be thought desirable to propagate rapidly, at least it is certain the single kinds will strike readily from cuttings of small side shoots taken off and put into gentle heat in September; indeed they seem as if they will root freely enough without heat. This fact opens up the wider one as to the possibility of having autumn struck plants established in pits to bloom in temperate houses during the winter and early spring. In any case it is evident that any seedling form may in the autumn of its first year be thus substantially propagated without waiting for the usual spring propagation from young shoots. The Dahlia is treated as an herbaceous plant because it will not live through our winters. Outdoor and old plants will not answer to lift into big pots. If we can propagate them with Pelargoniums in the autumn, however, there is no reason why we may not class the Dahlia with greenhouse perennials.

Schizostylis coccinea.—I was glad to see the Schizostylis coccinea so favourably noticed at p. 101 as it deserves all the good that is said of it, for a brighter coloured, more hardy and useful plant for winter does not exist, and yet it is not grown half so much as it should be. For cutting and the decoration of greenhouses it is quite unrivalled, as all through the winter it keeps on sending up its spikes of Gladiolus-like flowers in the greatest profusion, which open and last well in water. We pot ours very early in the spring, after shaking them out and dividing them, when we give them light rich soil and keep them close for a time in a cold frame to give them a start, after which they are plunged out in the open. The best plants, however, which we get are those from seed raised by sowing in heat during March, as they grow very strong and have long flag-like leaves and crowns, much like some of the smaller Gladiolus. As both belong to the order Iridacea, I have tried several times to cross them, but without success; and that is how and why I began with the seedlings, a lot of which I now have just showing for bloom.—*Alpha.*

Large Lily Bulbs.—We have had our attention called to the fact that Messrs. Collins Brothers & Gabriel are not the sole possessors of large home-grown bulbs of Lilium auratum as noted at p. 91. Messrs. Watkins & Simpson, of Exeter Street, Strand, also possess a fine sample of these monster bulbs; averaging over 1 lb. each in weight, some of them turning the scale at 1 lb. 5 ozs., and 1 lb. 6 ozs. Large, perfectly sound and well-formed as these bulbs are, they should give something out of the common in the way of flowers next season.

Lilium longiflorum.—We note the fact, as being one of much interest to Lily growers, that the home-grown bulbs of this Lily, obtained from the same source as the L. auratums above alluded to, are double the size of those obtained from Holland, a circumstance that we should scarcely have credited had we not seen the specimens in the possession of Messrs. Watkins & Simpson. While on the subject of L. longiflorum, we may mention that the same firm who introduced Lilium Harrisii three years ago, have again imported a considerable number of bulbs, the variety finding much favour among market-growers for forcing. It is not recommended as a hardy Lily for outdoor cultivation, but for greenhouse cultivation or forcing, it is better than L. longiflorum, being dwarfer, and producing flowers that are more reflexed than those of the latter. It is no doubt a well selected variety of L. longiflorum, and sufficiently distinct for garden purposes.

Impatiens Sultani.—Although the Impatiens Sultani is a very floriferous plant, as most Balsams are, I do not at all think it will be of any use for winter work unless it can be grown close up to the glass in a very light house, as, being of a succulent

nature, it requires much sun and only does really well when exposed to solar influence during the summer. At one time it was thought this Impatiens would turn out valuable for bedding, but except in hot summers and planted in favourable situations, it is a failure, which is to be regretted, as it would make a very beautiful bed. For pot culture it is exceedingly useful and showy, and it is to be hoped may lead to many new kinds, for, as it seeds freely, no doubt it will cross with the common Balsam, and if not with that, there is the Impatiens Ierdoniæ, sent out some thirty odd years ago, when it was figured in *The Florist* and made quite a stir. If I can get a plant of this latter I mean to try what I can do, and also with Impatiens glandulifera, the hardy species often met with in shrubberies and borders in old gardens.—*Alpha.*

Berberis Darwinii.—I send you some sprays of this beautiful shrub gathered from the bushes here. They are covered with a second crop of golden-yellow flowers and buds, and promise to be beautiful objects as long as the hard frosts keep off. They began to flower late in spring, and have continued in blossom the whole of the season, except for the last few weeks, and until the present flowering commenced. Berberis Darwinii is one of the prettiest shrubs we have, and, considering the profuse manner in which it produces its flowers, it is one of the most desirable for planting. It is surprising that it is not more used in shrubberies to break the monotony of the Aucubas, Laurels, and other commonly-used shrubs.—*James Naylor, St. Hilda's Nursery, Roxeth, Harrow.*

Begonia Martiana.—This is a very old and charming Begonia, which was not only well shown by Mr. H. Cannell, of Swanley, at South Kensington the other day, but is also employed by Mr. Barron in the decoration of the great conservatory there at this season of the year. The plants, in 5-in. and 6-in. pots, send out some half-dozen large branchless shoots to an height of 13 ins., and these are full of bold, rosy-pink flowers, forming pleasing spikes that look exceedingly beautiful, standing out of a base of dwarf ferns. Specially charming material for epergne or table decoration may be cut from this Begonia. Whilst the roots are herbaceous the blooms do not seed, but little clusters of tiny green seed-tubers are formed at the axils of the leaves, and these, at the end of the season and as they mature, fall down on to the soil or ash-bed on which the plants stand, and presently pushing shoots develop into young plants.

Salvia Greggii.—Mr. Gumbleton informs us, with reference to this plant, concerning which a note appeared at p. 90, that it takes at least two years to perfect itself, so that growers should not be in too great a hurry to cut the plant down if they find it does not come into flower so quickly as most of the others. It is a pretty, compact, and dwarf-growing plant.

Camellias in October.—Flowers out of season are perhaps the most welcome of all garden products, especially to ladies, who now look for early flowers of all kinds as a matter of course. Camellias in most places have set a wondrous crop of buds this season, and many are coming into bloom. The old Alba plena is the variety most plentiful at present, but Fimbriata and Countess of Orkney are opening fast, and the latter will make a good companion for the first-named. Its striped petals are always pleasing to the eye, and the delicate tints are so rich, that they are especially desirable at this season, when there is almost a dearth of flowers of much substance.

Aquilegia glandulosa.—In your correspondent's interesting description of "An Amateur's Garden," at p. 104, among other plants mentioned he names Aquilegia glandulosa. Perhaps "Luke Ellis" will be surprised when I tell him I doubt whether he knows the plant when he sees it, and still more so when I tell him that Aquilegia glandulosa is not in cultivation at the present time.—*Ebor.* [Our correspondent is doubtless correct as far as the true Aquilegia glandulosa of botanists is concerned. What "Luke Ellis" alluded to was the very fine variety so-called in gardens, and very well known to lovers of these plants.—*Ed.*]

VEGETABLES.

The Celery Crop.—It is seldom that we get such splendid weather for Celery as that we are now having, which keeps it in full growth; and though we have had rains that soaked the earth for a time, a watering with liquid manure will do good now, but it must be carefully administered, as, with the plants partly soiled up, there is danger of washing the soil into the hearts, which would not only damage the colour of that part and make it dirty, but cause rot, and thus spoil it for keeping. The way we have been doing ours is to pour the liquid manure close along the outer sides of the trenches, from whence it soaks right under the plants, feeding and nourishing their roots, and thus adding to the size and quality of the heads, which are never crisp, succulent, and good if they are checked from want of moisture, as then the fibres harden, and the Celery is tough, or becomes "piped" in the stem. Any Celery that is not yet earthed should have a tie of matting run round so as to keep the leaves together, which facilitates the soiling and protects the hearts of the plants by making the whole close and compact, instead of standing open, as they do when left to themselves. In gardens where slugs and worms are troublesome, it is a good plan to dust sometimes along the trenches before chopping or cutting down the earth, by doing which those insects will, in a great measure, be kept away, and the Celery be saved from their depredations, and consequent disfigurement.

Cauliflowers.—Although we have been, and are, getting lovely weather, we cannot expect it to last much longer, and it will therefore be necessary to be on the watch for Cauliflowers that are in, or any night they may be all spoiled by frost, as they are very tender in the head, which gets nipped unless protected. An easy way of doing this is to break or bend the leaves over them, and another to stuff just a small wisp of hay on the top. Later on the plants may be lifted and laid in by the heels where they can be covered with straw or mats by night, or be placed in an open, airy shed, or other dry place, such as an old pot or frame, where they can have the lights put over them, and thus be taken care of for winter. Young plants from seed sown towards the end of August should either be pricked out in some very sheltered sunny spot or potted, the latter being by far the best way of treating them, as then they can be wintered in any cold frame and be turned out very early in spring without feeling a check. The most suitable soil to pot them in is three parts leaf-mould to one of loam, in which they root very readily, but, failing the leaf-mould, any light, rich material will do almost equally well. When potted the plants should be plunged in cocoa-nut fibre or other non-conducting material, and be kept close up to the glass, so that they can have plenty of light and air, as then they will grow sturdy and strong. If the winter turns out very severe it may be necessary to close down the lights and cover the plants by night; but if kept dry, Cauliflowers will stand a good deal of frost.

Chou de Burghley.—Those who have not grown the Chou de Burghley should make a point of doing so next year, as it is one of the best and most useful vegetables any one can have, coming in as it does in the autumn, and by sowing twice or thrice for succession, lasting on all through the winter and late into the spring. In appearance it is like a very large sugar-loaf Cabbage, as it has long conical heads that fold over close, and these, when cooked, are exceedingly tender and delicious in flavour. The Chou de Burghley is said to have been raised from a cross between a Broccoli and a Cabbage, and that if allowed to stand a Broccoli forms in the heart, but it is as a Cabbage where its great value lies, and I have no doubt but that when better known it will be largely cultivated for market, as it produces a lot of food from a very small piece of ground. The plants we are cutting from now were raised from seeds sown towards the end of March, and planted out directly they were large enough in good land; and though the summer has been very dry and unfavourable for all the Cabbage tribe, Chou de Burghley has done well, and is fine. All it wants is a little more fixing, as the heads vary, but this may be done by selection, and saving only the best to get seed from, when no doubt a true stock will be obtained.

Turnips.—How greatly these vary, some sorts being adapted for one part of the season and some for the other, the best for first sowing being the hardy Milan, which comes in very quick, and is not so liable to run to seed as some of the kinds, besides which it is mild and of excellent flavour. In growth it is dwarf, and has bulbs, tinged with purplish red at the top, which look like big Radishes and are usually clear in the skin. For sowing at the same time the white stone is as good as any, and succeeds the above named, but for autumn use my favourite is Veitch's Red Globe, which stands the hot weather, and though the skin is heavily coloured, the flesh is white and firm, and instead of being strong, as many late Turnips are, it is mild and good if properly cooked.—*Alpha.*

Onions.—Evidence of the of popularity this excellent all-the-year-round vegetable is afforded in the fact that at the next South Kensington Vegetable Show good prizes are offered for collections of these bulbs as well as for single dishes. In these collections we may well hope to see as far as possible representations of all the best known and most useful kinds, inclusive of the spring-sown white Spanish, brown Reading, conical James's Keeping, Bedfordshire Champion, and others of that type, and the Yellow and Blood-red forms, all such excellent keepers. Pickling Onions, Tree Onions, Underground Onions, and as far as possible representatives of the Tripoli and Italian Onions, although these summer ripeners as a rule are bad keepers. We trust, however, no encouragement will be given to rubbish, simply because it badly represents certain kinds. A collection of some eight or ten good sorts will be more worthy of commendation than a big lot of indifferent bulbs.

Beet.—This again is a valuable winter vegetable, not the least so that it keeps long and well, and if not generally consumed except in salad form, that is rather the fault of our insular tastes, for a more wholesome and pleasant eating vegetable than good Beet when properly cooked can hardly be found. At the above-mentioned show prizes are offered for collections of kinds, but deducting the gay-coloured Chilian sorts, which are hardly edible, we may count kinds worthy of cultivation on the fingers. Gardeners almost universally grow Dell's Crimson under that or some other fancy name, and the market-growers prefer the Pine-apple, with its less dark but more spreading leaves. Without doubt in any individual sort-class, Dell's Crimson will always bear off the palm, for both colour and form. The Turnip-rooted is useful for early work and should be found in every collection, but will stand no chance singly with a tapering variety.

The Jerusalem Artichoke in flower.—The Rev. F. Simcox Lea writes from Tedstone Delamere Rectory, Worcester, to the *The Times*:—"The Jerusalem Artichokes in my garden are now in well developed bud. Perhaps at lower elevations (we are 600 ft. above sea level) the plant may be found in flower. I have only once observed the flower, in the warm October of 1865 when both on the Hampshire coast and in my East London garden the blossom was abundant. Usually the buds are cut off by early frost. The blossom resembles that of the Sunflower, and is about the size of a Daisy."

How to Ascertain the number of Plants required for an Acre.—The number of plants required for an acre, at any given distance apart, may be ascertained by dividing the number of square feet in an acre (43,560), by the number of square feet given to each plant, which is obtained by multiplying the distance between *rows* by the distance between the *plants*. Thus trees planted 3 ft. by 1 ft., give each plant 3 square ft., or 14,520 plants to the acre.

THE

Orchid Growers' Calendar.

Seasonable Work in the Orchid-houses.—Every season brings with it its work, and a knowledge of what it is necessary should be done at each change in the year is very essential to the Orchid-grower. At the present time, and during the next fortnight or three weeks, much attention should be given to settling the different species in their proper quarters for the winter. Many things not strictly speaking cold-house plants are now wisely put into cool houses for the summer, as it is generally admitted that many species are much benefited by such treatment, but it is prudent not to put off returning them to warmer quarters too long, lest the change from a cool-house in which but little artificial heat is given to one in which it is more perceptible, be injurious. If the plants which require warmer quarters for the winter are attended to now, they will not feel the change and will be quite acclimatized to their fresh situation before it is necessary to use much artificial heat.

Among the many Orchids which some of our best growers remove to a cold-house in summer and return to an intermediate temperature in winter are Odontoglossum Roezlii, O. vexillarium, O. Phalænopsis, Bolleas, Pescatoreas, Chimæroid Masdevallias, Huntleyas, Miltonias, Oncidiums, Lælias, &c., in fact almost all Orchids are treated as cool-house plants at that season, by some or other of the growers, and wherever such treatment is consistently pursued it is always with the best results. Care must, however, be taken not to push matters too far by deferring too long the return of the plants to a warmer temperature. Odontoglossum Roezlii is one of the first to show signs of impatience at the cool moisture of the cool-house in autumn, and indeed to resent changes at all times unless very carefully made, and for that reason Mr. Lee, Mr. Gaskell and Sir Trevor Lawrence, leave them in the same quarters all the year round, the houses in which they are kept being changed into cool ones in summer by having the artificial heat taken off. O. Roezlii is one of the most beautiful of Orchids and one of the freest growers, if but a suitable place can be found for it. In fixing on a spot for it to occupy, therefore, it will be well to bear in mind that the gentlemen previously mentioned and who grow it so well, all agree that it thrives best in a moist and rather shady intermediate house, where cold currents of air cannot reach it; in fact, in just such a position as the general collection of Cypripediums grow best in. Mr. Bonny, of Hackney, who grows it equally well, keeps it on a narrow moss-covered shelf in the Phalænopsis-house, and some few who do not let their cool-house go very low in winter succeed tolerably well with it there. It therefore appears that in order to succeed with this and all the other Miltonia-like Odontoglossums the first thing necessary is to find for them a place which they like, and if afterwards they are kept free from yellow thrips, by dipping frequently in weak tobacco water, they are easy enough to grow and flower, but it must be borne in mind that they will not stand so low a temperature in winter as O. crispum.

Odontoglossum Phalænopsis is grown in great quantity, and in fine order, by Mr. Cooper, gardener to the Right Hon. Joseph Chamberlain, at Highbury, Moor Green, Birmingham, in the same house with O. vexillarium, which is really a cold-house in summer but of intermediate temperature in winter. The plants are grown in shallow pans, and suspended near to the glass of the roof, which is an important feature in its cultivation. The Bolleas, Pescatoreas, Huntleyas, and Warscewiczellas are certainly benefited by a sojourn in a cold shady house in summer, but they will not stand anything like cold in winter. Lately some of the healthiest plants I have seen of these have been on blocks, but I suspect that the prime cause of their vigour was that being on blocks they were necessarily brought up to the light, and lifted in many cases out of the damp air which would have surrounded them had they been in pots and on the stages. All these plants like a clear diffused light, and plenty of water at the roots if there is a free passage for it to drain off, but bright sunlight or stagnant moisture is death to them. I therefore consider that they have a much greater chance of success if they are grown in baskets, or in shallow pans, and suspended from the roof. The resting Dendrobes, which are being kept dry in cool houses, must be watched and removed to slightly warmer structures in cases where any fear of actual injury by cold exists. For this purpose vineries at rest are very useful places, as the inactive Orchids put to ripen in them do not require much water, and while kept dry have little chance of being injured by cold.

In settling the plants down for the winter, in cases where it is doubtful whether any would not be the better for a little more heat than that of the house in which they now are, it is advisable to remove them into warmer quarters, if no reliable information can be obtained directly to the contrary; at the same time one or two of each should be left in the cooler house as an experiment, as by that means only can the best information on the point be obtained. While attending to these matters the Orchid-grower should persistently continue the autumn cleaning of the plants, their houses, stages, pots and everything about them, as cleanliness in every particular works wonders in keeping the Orchids sound and healthy through our long dull season.—*James O'Brien.*

ORCHID NOTES.

Dendrobium Wardianum flowering in the open-air.—Mr. A. H. Smee, of The Grange, Hackbridge, who is so well known for his extensive trials of Orchids from all parts of the tropics in the open-air from spring until autumn, has just succeeded in blooming this fine Dendrobe on the banks of the stream running through his garden, where it has been growing all the summer in company with a most interesting collection of other Orchids. They were all in the best of health when they were taken indoors a fortnight ago.—*J.*

Orchids in Flower at Holloway.—In a large and well-managed trade collection like that of Mr. B. S. Williams', the visitor is always certain to find something in flower to repay him for a visit to the northern suburbs. A few days ago we noted in the Orchid-houses there a remarkably fine variety of Cypripedium Harrisianium, with the large dorsal sepal of a rich bright purple brown, with rose-coloured veins, and margined with white. Lælia Perrini was coming into bloom freely, and proving, though much neglected, that it is a fine autumn-flowering species. The singularly handsome Paphinia cristata, which is so well illustrated in the first volume of *The Orchid Album*, was also in bloom, a small plant bearing two of its yellow ground and chocolate-purple barred flowers. Though an old and well-known species, it is always an interesting plant in flower. Mr. Williams, we believe, had not been able to grow it well until the last year or two, when he discovered that it liked heat and shade in preference to the climate of the Cattleya-house.

Odontoglossum crispum.—A branching spike of this popular Orchid bearing sixty flowers is a sight not often seen by Orchidists, but such an one was on view at Stevens' Rooms last week. It was grown by Dr. Paterson, of Bridge of Allan.

Odontoglossum Insleayi.—A small flowering plant, with only two leaf-bearing bulbs, of this showy Mexican Odontoglot realized eleven and a half guineas at the sale at Stevens' Rooms on the 16th inst. It was a very fine variety, however, having flowers much larger than those of the ordinary form; and the rich golden yellow lip, spotted with crimson on the margin, combined with the brown barred pale green sepals and petals, made up a flower that much took the fancy of the Orchid-growers present.

"'Tis in ourselves that we are thus or thus. Our bodies are gardens; to the which our wills are gardeners: so that if we will plant Nettles, or sow Lettuce; set Hyssop, and weed up Thyme: supply it with one gender of herbs or distract it with many; either to have it sterile with idleness, or manured with industry; why, the power and corrigible authority of this lies in our wills."—*Shakspeare* ("Othello," i. 3).

FLORICULTURE.

Indian Azaleas.—Should anyone be wanting a selection of fine varieties that would make a desirable collection, they will find them in the following list:—

Double-flowered: Alba spinosa plena, pure white, fully double, good form and substance. Baron Gengis de St. Genois, large, fine form, fully double, bright salmon, the upper lobes violet. Bernard Andrea alba, a very fine double white, form and substance all that can be desired, very free and extra fine. Comtesse Eugenie de Kerchove, semi rather than fully double, white, flaked with reddish-carmine, very pretty. Deutsche Perle, a very fine variety of good form and substance, fully double, probably one of the very best pure white varieties yet obtained; especially recommended for forcing. Empereur de Bresil, large and very fine, colour, rose banded with white, exquisite form, very showy. Francois de Vos, clear, deep crimson, fully double, and very fine. Herman Seidel, large, semi-double, crimson, marked on the upper lobes with deep red. Imperatrice des Indes, large, fully double, rose, banded with white and marked on the upper petals with clear red, very fine. Louise Pynaert, large, fully double, pure white, striped with rose and carmine. Memoire de Louis Van Houtte, very large semi-double flowers, colour, bright rose, the upper lobes blotched with crimson, fine form and good substance. Narcissiflora, fully double, pure white, very free indeed, excellent for forcing and cutting purposes; and Reine de Portugal, large, double, pure white, slightly striped with bright red, an excellent variety for cutting purposes.

The following is a selection of the best Single varieties:—Ceres, an excellent variety of extra substance, slightly striped and stained with lilac-rose. Charmer, flower large, colour, rich amaranth, the upper petals spotted with dark. Comtesse de Beaufort, beautiful, rich, rosy-lilac, the upper petals blotched with crimson. Etandard de Flandre, flower very large, white, striped with salmon, an excellent forcing variety. General Postmeister Stephan, glowing crimson, very bright and effective. Iveryana, an old but very good variety, and still one of the finest light striped varieties, the petals finely striped and spotted with lilac. Konigin des Weisse, perhaps the purest white-flowered Azalea in cultivation, fine shape and substance, good in all respects. Madame Jean Nuytens-Verschaffelt, pure white, good form, and very fine. Mrs. Turner, bright pink, the petals margined with pure white and spotted with crimson. Reine des Blanches, pure snow-white, extra fine both in form and substance; and Reine des Roses, charming bright rose, deeply spotted with dark on the top petals, very fine and effective.—*Quo.*

Rose Devoniensis.—Looking over the volume of *The Florist* for 1859 a few days ago, I came across a statement which accounts for the origin of this lovely Rose, and which may have some interest for your readers. It would appear that about 1840, or thereabouts, the writer was passing through the market at Devonport one day, when he saw a Rose in a small pot, which he purchased and carried home, placing it in his window. After the flower had dropped a seed-pod succeeded it, which ripened in the window, and for curiosity it was sown under the window. The result was a seedling-plant which grew and flowered in the place where the seed was sown. A flower of it was shown to one of the *employés* in the nursery of Messrs. Lucombe, Pince & Co., of Exeter. He mentioned the matter to Mr. Pince, who subsequently purchased the stock of the Rose, propagated it, exhibited it at one of the meetings of the Horticultural Society of London, then held in Regent Street, under the name of Devoniensis, and it was subsequently sent out. This statement was made in answer to a remark that Devoniensis was not an English raised Rose.—*Quo.*

New Bouvardias.—Two new Bouvardias are announced from the other side of the Atlantic, one is a double scarlet variety named Thomas Meehan, which perhaps may be regarded as a double form of

B. leiantha, and the flowers are therefore of a bright orange scarlet colour, and they are as fully double as those which haxe preceded it, and it will be one of the best of this section. The other is Vulcan, a new single scarlet variety, in size of truss and free-flowering qualities it is equal to the single white variety, B. Davidsoni, subsequently named Vreelandi; the colour is brilliant and very striking. We have received some good varieties from America, and therefore may confidently look forward for the varieties named above as being valuable acquisitions.—*E. W.*

Double Black Auricula.—I am under an impression that "R. D." must go to Belgium for the information he requires. I believe Van Houtte first sent it out, many years ago, and I received one of the first plants that came to this country. As for the old double yellow, I well remember seeing in an old farm house garden in West Yorkshire, more than fifty years ago, a large clump, 2 ft. through of the Double Yellow and the old Blue Polyanthus, and have frequently drawn supplies from there. Being in the neighbourhood a few years back, I called to see the old garden again, when I found that the old people had been gathered to their forefathers, and, to my disgust, Cabbages and Onions usurped the place of the favourite flowers. There are three distinct varieties of Double Auricula in cultivation, one being much superior to the others.—*Ebor.*

Lifting Dahlias.—Foresight is an essential qualification in gardeners, and those who fail to exercise it are lucky if they do not often bring themselves into frequent conflict with those whom they have to cater for. The demands of the drawing-room, pantry, still-room, and kitchen have at all times to be kept well in view. An instance of the judicious exercise of foresight came under our notice the other day at Worden Hall, near Preston. Mr. Frisby, the gardener, having received intimation that an unusual supply of flowers would be required about the middle of this month, had lifted and potted a number of Single Dahlias, and placed them in a partially open shed, which, by means of spare lights placed upright to preserve the atmosphere as quiescent as possible, answered the purpose much better than any glass-house he could have devoted to them. Indeed, the probabilities are that before they had been in such a place twelve hours they would have been as worthless as if Mr. Frisby had left them in the ground for twelve hours longer than he did; for frost visited this part on the 9th inst. which destroyed every Dahlia exposed to it, as well as other things that are hardier. There had been no previous light frosts for a night or two followed by the sharp one; the blow came first and the "nipping" after. The snow that fell on the morning of the 9th indicated that we might expect a frost that night, and so it came in a manner that surprised most of us. If the mild moist weather we are now experiencing should induce these potted Dahlias to form roots and in a measure to re-establish themselves, we may reasonably expect more of them than was at first anticipated, and their value for supplying cut-flowers will be further enhanced. As it is, there are few plants that have forced themselves into public favour more rapidly than the single Dahlia has done. These plants have found their way into many amateurs' and cottagers' gardens where the Dahlia of the florist had not been admitted, and no doubt it is the ease with which they may be raised from seed that has induced this class of growers to cultivate them generally. This is obvious in West Lancashire, at all events, where most cottage-gardens can sport a few of them.—*R.*

Cyclamen persicum.—Too much cannot be said in praise of this useful winter-flowering plant, and as the period of blooming extends throughout the winter months, they must be considered as invaluable where a supply of flowers is required. When well-grown, there are few flowering-plants to surpass it in beauty and usefulness as a pot-plant, and it is also very useful in a cut state, as the flowers stand well in water. Although many varieties of Cyclamen persicum have been named, and I find that since 1872, twenty-eight First-Class Certificates have been awarded by the Floral Committee of the Royal Horticultural Society, for varieties under different names, yet these cannot be perpetuated with certainty, as they can only be propagated from seed, and seedlings are sure to vary to some extent.

To secure a good strain of Cyclamen, much care must be taken in saving the seed, and plants that are intended for this purpose should be selected as soon as they begin to flower. In selecting the plants for seed, three points should be considered, *i.e.*, distinctness of colour, the form of the flower, which should be good, and the habit of plant, which should be neat and compact, and each variety should be kept by itself as much as possible. It is also desirable that a separate camel-hair brush should be kept for each variety where it is necessary to fertilize them by that means.

The present is a good time to sow the seeds. In preparing the pots or pans, care should be taken that they are well drained; any good light compost will suit them, but as the seed is rather slow in germinating, it is necessary to be careful in watering, as if too much water is used the soil will become sour before the plants are large enough for pricking off. I like to prick them off as soon as the seedlings are large enough to handle. They may remain in the store-pots until April, when they should be potted off singly in small pots, and as soon as they have well filled these with roots they may be potted on into their flowering-pots. Five-inch pots are a good size for flowering Cyclamens in, and the compost should consist of good fibrous loam and leaf-mould, with a little silver sand added. It is a good plan to mix a little soot with the leaf-mould before adding it to the loam to destroy any worms or insects, and it will also be beneficial to the plants. After the plants are well-established in their flowering-pots, a little liquid manure should be given occasionally, and as they begin to show flowers it is of the first importance that they should be in a position where they will get plenty of light, and where the air can circulate between the plants, as if kept too much crowded, the flower-buds will remain dormant and eventually die off.—*H.*

WATER-LILIES AT KEW.

In the Water-Lily House at Kew we noticed the other day quite a number of these beautiful aquatics in flower, the colours comprising white, yellow, and various shades of red and blue. They are lovely plants, and a selection of them are well worth cultivating, though from the nature of their surroundings they cannot be attempted everywhere. We hope the following brief account of the above will prove interesting to our readers:—Nymphæa gigantea is a large-flowered Australian species, with pale blue very numerous petals of a most pleasing shade, and numerous long pale yellow anthers. It is one of the best.—N. flava is a very pretty little species from the South United States, with small leaves and bright canary-yellow flowers.—N. ampla, from Jamaica, is also a comparatively small species, with white flowers. —N. Lotus is a species of rather wide range, occurring in the warmer parts of India and Africa, also in Hungary, Java, and the Philippines. Its range of coloration is also considerable, as it varies from crimson to pure white, and thence to deep blue. Formerly these were ranked as distinct species, but as there seems to be no good distinguishing character, they are now considered as forms of one variable species.

Returning to Kew we notice the following varieties: Var. rubra, a fine crimson; var. Devoniensis, somewhat paler than the last; var. Ortgiesianus, a very large pale crimson form; var. dentata, a very fine white, with somewhat deeply notched leaves; and var. thermalis, a pure white form, occurring wild in Hungary.—N. stellata has medium-sized blue flowers, somewhat varying in intensity of colouring; the var. versicolor has very pale blue or lilac flowers. The species is a native of the warmer parts of India and Africa.—N. zanzibarensis is a large-flowered species, with very numerous petals of the most intense violet-blue. Its name indicates it to be of Tropical African origin; and it is sometimes rightly or wrongly considered a variety of N. stellata. It is perhaps unsurpassed in the genus for effect.

We also observed three fine spikes of the beautiful blue Eichornea cœrulea, and several blossoms of the pretty yellow-flowered Limnocharis Humboldtii in the same tank.

KITCHEN GARDEN WORK.

The work requiring attention in the kitchen garden just now consists in the main of taking up and storing roots for the winter; the earthing-up of autumn-planted Cabbage, and late plantings of Broccoli, Winter Greens, Celery, and Leeks; and the destruction of Weeds, for all of which operations the long spell of fine weather has been most favourable. Such roots as Beet and Carrots are best wintered in a dry border, having a south or west aspect, in which situation they will retain their freshness until the middle of the following summer.

The roots, especially of Beet, which if damaged in the process of lifting or in being laid-in would, by bleeding, loose its colour and crispness, should be taken up carefully, and, a trench about 12 ins. or 14 ins. deep and the same in width having been previously opened and the soil taken therefrom, put down where the work is likely to be finished, two or three rows of the roots may be placed therein perpendicularly, and then covered with soil burying the crowns about 1 in. under the surface. As the trench so opened is filled with roots and soil, another trench is thus formed for the next series of rows, and so proceed until all the roots are safely laid in. The Beet should be laid in without interfering with the leaves which will protect the roots from being injured by a few degrees of frost, but in the event of its being severe a slight covering of litter or Fern will secure them from injury in that direction. Carrots can have the tops cut off at the time they are being laid-in in the manner recommended for Beet, as also can Parsnips be wintered in the same way, if the ground in which they were grown in is required for other purposes, otherwise they will be quite safe in their summer quarters.

ORNAMENTAL TREES IN AMERICA.

Many, many years ago (just fifty) in the Preface to the first volume of *The Magazine of Horticulture*, I urged upon lovers of trees the riches of our own native species. I then stated that the "immense number of indigenious trees, shrubs, and plants which are scattered so profusely throughout the woods and forests of the country, offered facilities for the beautifying and decoration of the pleasure garden, which are too often overlooked. In the desire for exotics, ... the lofty and noble trees which add picturesque, beauty and grandeur to our woodland scenery seem to be too much neglected," and later I endeavoured to induce them to employ a greater variety in the formation of pleasure grounds and parks and the very great addition such variety would be to our landscape scenery. Abundant as the material was, and rich also, giving not only variation of outline, but diversity of foliage; not only the verdure of summer, but the glorious autumn colouring which no other country can claim; not only the formal round-headed horse Chestnut, but the pyramidal Oak, or canoe Birch; not only the stately Maple, but the massive grandeur of the Magnolia; not only the flowing grace of the Elm, but the exurberant richness of the weeping Beech; not only the stiffness of the Linden, but the fringy luxuriance of the Kentucky Coffee tree; not ouly the showy scarlet berries of the Mountain Ash, but the purple drupes of the elegant Supelo.

Gilpin (whom Loudon so often quotes as his best authority), in his classic volume on "Forest Scenery," remarks, "If a man was disposed to moralize, the ramifications and spray of a thriving tree affords a good theme," and he devotes several pages to descriptions of the spray of the Oak, Beech, Ash, and Elm, illustrating his remarks with engravings. In fact, to a real lover of trees a winter view is a study. An Elm forming one of a long row near my daily walk, is a never failing source of pleasure the winter through. It is what I might justly call the zig-zag, or perhaps, serpent Elm. The outline of the head which is about sixty feet high, appears, when in leaf, full and round, but the main branches which form it, are very large and run in every possible direction, looking like huge anacondas curled beneath the leaves. Yet these limbs contort and twist in a regular order of their own, and only in winter, except by close observation, show their peculiar

character. Several trees in the same long row, have the same peculiarity.

Besides the spray, which is so varied and pleasing, we have the lightness or heaviness of foliage; the early or late leafing, as well as the early or late fall of the foliage; the roughness or smoothness of the bark; the light or dark colour of the same; the yellow, buff or scarlet autumnal tints of the leaves; the beautiful flowers of some and the conspicuous fruits of others, each possessing some agreeable characteristics which make variety, and add to the expression of every landscape or ornamental plantation.

Impressed with these ideas, I endeavoured to introduce every tree which would be likely to prove hardy in our climate, and in 1844 when abroad I selected from the leading nurseries of England and France every tree I could procure of this description. The quantity was large, though only a few specimens of each. Some proved to be too tender, others were so much like those we had that they were cut down, and burned for want of space. Yet to my surprise I found, after all, I had nearly two hundred varieties left. The first of these trees I planted in 1844, and every year subsequently the whole of those enumerated up to 1869. Since then I have many additions, but they are too small to be worthy of note here. Every tree was planted out in nursery rows, for two or three years, with good cultivation, when some of them were removed and the others remain where they originally stood. Such a collection in the limited space of twenty-five acres, is not often seen. They form in fact an open volume, full of interest every month in the year. A poem as it were, in twelve cantos, each as distinct and progressive as the theme of the poem, or as representative of the processes of nature as the overture is of the changes in the opera. Every month brings its transformations. Now it is the bare and naked stem and branchlets, then comes the slowly swelling buds; and, later, the flower buds and blossoms; then the soft green of the bursting shoots, followed by the full leafage; again the fading foliage reminds us that summer is flitting away and we begin the declining year; and where the fruits do not take the place of leaves, the autumnal tints of scarlet and gold invest all with a new charm. The falling leaves as they come eddying down, bring us a carpet upon the now cold and frosty ground, as we saunter among them, and as the first snows softly fall, mantling the half-naked branches, bending them to the ground, we are brought near the close; again to enjoy the delight of that dreary season of frost and snow which is scarcely less interesting than the sylvan beauty of summer's heat and drought.—*C. M. Hovey in the Massachusets Ploughman.*

THE "ILLUSTRATION HORTICOLE."

In the August number we observe coloured figures of he following interesting plants:—Dianthus Caryophyllus, vars. (t. 529), a double-page illustration, showing six handsome varieties of this popular florist's flower. Fig. *F* is a fine, deep crimson, Clove-Carnation, and the remainder are flaked Bizarres. Figs. *A*, *B*, *C*, and *D* are yellow grounds, and fig. *E* a white ground, all of which are more or less heavily flaked with rose and carmine or crimson. Fig. *B* is especially pleasing, being a bright yellow ground lightly flaked with rosy-crimson.—Cypripedium ciliolare (t. 530): a charming species, closely allied to C. superbiens, and a native of the Philippine Islands, whence it was imported by Messrs. Hugh Low & Sons. The leaves are pale green, marbled with a much lighter shade; the scapes are very hairy and the flowers nearly 5 in. in diameter. The upper sepal is fringed, purple at the base, with very deep purple lines and shading off to pale green at the apex; the petals are beautifully fringed, pale purple, with darker lines and very dark blotches, and the lip purple-brown.—Gunnera manicata (t. 531). A fine-foliaged plant, much smaller than the well-known Chilian species, G. scabra. The leaves are about 18 in. across, with a nearly circular outline, and many short lobes with an irregularly toothed margin. The petioles are somewhat prickly, and the sheaths at the base of a light rosy-red. It is a native of Brazil and luxuriates in a rather moist soil.

BLACKBERRY JELLY.

For years past we have converted the Blackberry into jam, both by itself and in conjunction with other fruit, especially Apples. But this is the first season that we have attempted to make jelly from them. The flavour is most pleasant, and we are astonished that this method of utilizing Blackberries has not suggested itself to us before. The seeds, which are much larger in some varieties than others, are always objectionable to those who are dentally defective, but unpleasant experiences of that kind can be obviated by dealing with the fruit in the following manner. To three quarts of berries add one quart of water, and boil them for half an hour; then strain through a sieve fine enough to retain the seeds, or, failing this, through a piece of muslin. Add to each pint of juice 1 lb. of lump sugar (or what answers equally as well, lump dust, which is cheaper), boil for twenty minutes, or till such time as it will adhere to the spoon, jelly like, when it must be taken to a cool place. Those who may not have a copper pan, which, by the way, is a common mantelpiece ornament in the workmen's cottages in this part of Lancashire, must use a clean iron one, but by no means tin, as it will spoil the colour, which is as pleasing to the eye as the jelly itself is to the palate.—*R.*

ANSWERS TO CORRESPONDENTS.

Heating.—*J. H.*—In the stove division you would require three rows of 4-in. pipes, two flows and one return, along each side. In the other compartment, intended for Melons and Cucumbers, you ought to have a flow and return under each bed, to provide bottom heat, and a flow and return above the bed, and along the sides, to warm the air. The boiler would be best placed against the division in the centre, so that you could carry the mains into the centre of the house, and by the use of valves heat each house, either together or independently. You must arrange, however, for the boiler to be set low enough to allow of the mains being carried under the paths.

Shrubs for Window-Boxes. — *J. S., Watford.* — In a general way there are no better dwarf hardy shrubs for window-boxes than the green and mottle-leaved Aucubas and the common Euonymus japonica, and its golden and silver variegated varieties. These seem able to stand any weather, however severe. In seasons like the last, Veronica Andersoni, or its variety, The Gem, do well in window-boxes, but severe frost is fatal to them. If you like variety you may use with the plants named some young Conifers, such as Thuia aurea, Cupressus Lawsoniana, and C. Lawsoniana crecta viridis, and small bushy Retinosporas, small Box trees, &c. If you can add, after planting, a mulching of cocoa-fibre refuse it will materially protect the roots from frost.

Fruits to name.—*F. Bedford.*—The Apple found in the old worn-out orchard is named Trumpington, a pretty, but only second-rate dessert variety. It is also called The Old Trumpeter, Deleware, and the Eve Apple.—*W. Scott.*—Your Pear is Beurré Bosc, an old favourite of ours, but not much grown now.

Lime-tree Seeds.—*J. T. F.* asks if some of our correspondents will kindly say if they have ever known the Lime tree to seed in this country? He is desirous of raising some seedlings but has failed to discover any seeds.—The seeds very seldom ripen in this country, and then only in exceptionally favourable seasons. Raising Lime trees from seeds is a very slow process, consequently they are usually propagated by layering.

Names of Plants. — *G. H.* — 1. Cupressus nutkaensis; 2. Probably a form of Cupressus Lawsoniana; 3. Juniperus virginiana; 4. Pulmonaria saccharata; 5. Correa alba; 6. Dendrobium aqueum.

Town and Suburban Planting.—In the article on this subject at p. 103, for Platanus occidentalis, read the Oriental Plane, Platanus orientalis.

Communications received.—E. H. A.—W. T.—P. P. G.—H. D.—J. H.—G. T.—W. D.—D. C. L.—C. R. & Co.—F. B.—E. D.—T. O.

NOTICES TO CORRESPONDENTS.

The Editor *begs to inform his readers that special attention will be paid in the columns of* The Gardening World, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

Trade Catalogues Received.

Charles P. Kinnell & Co., 31. Bankside, Southwark, S.E.—Illustrations and Price List of Hot-Water Appliances.

Frank Law, Ewood Maltkiln, Burnley Road, Todmorden.—Carnations and Picotees.

Thomas S. Ware, Hall Farm Nurseries, Tottenham.—General Nursery Stock.

R. B. Laird & Sons, 17, Frederick Street, Edinburgh.—Dutch Flowering Bulbs.

LONDON SEED TRADE.

October 23rd.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report that the market continues in a very inactive state. A few lots of new English Red Clover have changed hands, but the majority of the samples are too small grained to tempt early buyers. White Alsike and Trefoil Clovers are firmly held. Winter Tares are in good request at unchanged rates, and some business has been done in Rye-grasses, but the market for perennial is dearer. Birds' Seeds sell slowly at last week's prices.

COVENT GARDEN MARKET.

October 23rd.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Melons, each	1 0- 2 6
Figs, per dozen	0 6- 0 9	Pine-apples, Eng., lb.	4 0- 5 0
Grapes, per lb.	1 0- 4 0	,, St. Michael's ea.	3 0- 6 0
Kent Filberts and Cobbs, per 100 lb.	60 0-62 6	Peaches, per dozen	3 0- 8 0
		Pears, French, p. doz.	1 6- 3 6

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Lettuces, Cabbage, per dozen	1 6- ...
Beans, French, lb.	0 4- ...	— Cos, each	0 2- ...
Beet, per dozen	2 0- 3 0	Marrows, each	0 3- ...
Cabbages, per dozen	1 6- 2 0	Mint, green, bunch	0 4- ...
Carrots, per bunch	0 8- ...	Mushrooms, p. basket	1 0- 2 0
Cauliflowers, English, dozen	3 0- 4 0	Onions, per bunch	0 6- ...
Celery, per bundle	1 6- 2 6	Parsley, per bunch	0 6- ...
Cucumbers, each	0 6- 0 8	Radishes, per dozen	1 6- ...
Endive, French, per dozen	2 6- 3 6	Small salading, per punnet	0 4- ...
Garlic, per lb.	0 6- ...	Spinach, per strike	2 0- ...
Herbs, per bunch	0 2- 0 4	Tomatos, per lb.	0 9- ...
Horse Radish, bundle	3 0- 4 0	Turnips, bunch	0 6- ...

Potatoes.—Kent Regents, 80*s.* to 100*s.* per ton; Kent kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lapageria, white, 12 blooms	2 0- 3 0
Azalea, 12 sprays	1 6- 2 0	Marguerites, 12 bun.	4 0- 9 0
Asters, 12 bunches	4 0- 6 0	Pelargoniums, per 12 sprays	0 6- 1 0
Bouvvardias, per bun.	0 9- 1 0	Pinks, various, 12 bunches	...- ...
Camellias, 12 blooms	3 0- 6 0	Primula, double bun.	1 0- 1 6
Carnations, 12 blooms	1 0- 2 0	Pyrethrum, 12 bun.	-
Chrysanthemums, 12 bunches	3 0- 9 0	Roses, out-door, 12 bunches	9 0-12 0
— large, 12 blooms	1 0- 4 0	Roses, indoors, p. doz.	2 0- 6 0
Cornflower, 12 bun.	2 0- 4 0	Stephanotis, 12 spr.	6 0- 9 0
Dahlias, 12 bunches	3 0- 6 0	Sweet Peas, 12 bun.	2 0- 4 0
Eucharis, per dozen	4 0- 6 0	Tuberoses, per dozen	1 0- 1 6
Gardenias, 12 blms.	3 0- 6 0	White Jasmine, bun.	0 6- 1 0
Gladiolus, various, 12 spikes	1 0- 3 0		
Heliotropes, 12 sp.	0 6- 1 0		
Lapageria, red, 12 blms.	1 0- 2 0		

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ferns, in var., dozen	4 0-18 0
Asters, per dozen	3 0- 6 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Fuschias, per dozen	3 0- 6 0
Chrysanth., dozen	4 0- 6 0	Heliotrope, dozen	3 0- 6 0
Cockscombs, dozen	-	Lilium, various, p. doz.	-
Coleus, varions, doz.	2 0- 4 0	Marguerites, per doz.	-
Cyperus, per dozen	3 0- 9 0	Palms in variety, each	2 6-21 0
Dracæna term. doz.	30 0-60 0	Pelargoniums, scarlet per dozen	2 0- 6 0
— viridis, per dozen	12 0-24 0	Petunias, per dozen	-
Evergreens, in var., per dozen	6 0-24 0	Solanums, dozen	9 0-15 0

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From **THE GARDENERS' MAGAZINE,** *September 13th.*

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From **THE GARDEN,** *September 20th.*

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From **THE AGRICULTURAL GAZETTE,** *September 15th.*

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From **THE HUDDERSFIELD EXAMINER,** *October 4th.*

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From **THE FLORIST AND POMOLOGIST,** *October.*

"'The Gardening World.'—Under the title of 'The Gardening World,' Mr. Wynne, who was for many years associated with *The Gardeners' Chronicle*, has commenced a weekly penny horticultural newspaper. It is well done so far, and we wish it the success which it deserves, and which the well-known energy of the editor will go far to secure for it. This makes the fourth penny gardening weekly, and truly the constituency is large enough to support them all, if they can but make themselves sufficiently widely known."

From **THE EUROPEAN MAIL,** *September 26th.*

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From **THE CROYDON REVIEW,** *October.*

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THE AMATEURS' BUNDLE, containing 25 of the Choicest Varieties grown, including the best of 1883, carefully packed and sent to any address on receipt of P.O. for 12*s.* 6*d.*—S. J. PAVITT, Rose Nursery, Bathwick, Bath.

GARDEN FRAMES AND LIGHTS, from 20*s.* GREENHOUSES, 10 ft. by 5 ft., from £6. FRAMES OR LIGHTS TO ORDER, any size or shape.—ALBERT HARRIS, Wavendon, Woburn, Beds.

GREENHOUSES, CONSERVATORIES, &c., heated on most approved principles, and Repairs to Hot-Water Pipes, Gas Stoves, &c., promptly attended to, in Town or Country, at reasonable charges.—WILLIAM HOWE, Grayshott Road, Clapham Junction, S.W.

Ask for, and see you get it.

GEORGE'S ROLL TOBACCO PAPER and CLOTH, the best in the Market. Wholesale and retail—trade price very low, samples sent on application.—J. GEORGE, 10, Victoria Road, Putney, Surrey.

GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 oz. to the gallon of soft water, 4 to 16 oz. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots Dry and Soft on wet ground. Boxes—6*d.* and 1*s.*, from the trade. Wholesale from PRICE'S PATENT CANDLE CO. (Limited), LONDON.

ANTIMONIAL RED RUBBER GARDEN HOSE, Last four times as long as ordinary white vulcanized hose, stands severe Government tests, thus proving superiority of quality; lighter in weight, greater in strength, and cheaper in the long run than any other hose for garden use. A correspondent writes:—"I have had a length of your Red Rubber Hose in use nine years, and it is now as good as ever." Beware of counterfeit red hose, and order direct. Samples and priced catalogue of hose, garden engines, and fittings free.

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Sales every Monday, Thursday, and Saturday.

DUTCH BULBS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C. (next door but one to Bennett's Clock), every MONDAY, THURSDAY, and SATURDAY, at half-past 11 o'clock precisely each day, extensive consignments of the best named HYACINTHS, TULIPS, CROCUS, NARCISSUS, SNOWDROPS, and other ROOTS from Holland, in lots to suit the Trade and Private Buyers.

On view mornings of Sale. Catalogues of the Auctioneers, 67 and 68, Cheapside, E.C.

Tottenham.

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SALE of remarkably well-grown NURSERY STOCK, Dwarf ROSES, HERBACEOUS PLANTS and BULBS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. T. S. Ware to SELL by AUCTION, on the Premises, the Hale Farm Nurseries, Tottenham, on TUESDAY, November 4th, at 12 o'clock precisely, a large quantity of unusually well-grown NURSERY STOCK, including 3,000 Laurels, 1½ to 4 ft.; 1,000 bushy Aucuba japonica, 1 to 1½ ft.; 3,000 Standard Ornamental Trees, 5,000 well-furnished Euonymus, good for potting; 1,000 Tree Carnations in all the leading varieties; 2,000 Tree Carnation "Andalusia," the finest yellow tree variety; 1,000 Pinks "Mrs. Sinkins;" 2,000 Violets, 8,000 Dwarf Roses, in first-class varieties; 3,000 hardy Climbers, 40,000 Seakale and Asparagus, extra strong; 10,000 Christmas Roses (Helleborus), 1,000 Anemone japonica, 50,000 double and single Narcissus, and large quantities of other HERBACEOUS PLANTS and BULBS.

May be viewed. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.

Sidcup.

By order of the Executrix of the late Mr. R. Sim.

CLEARANCE SALE.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the Premises, The Sidcup Hill Nursery, Foots Cray, on WEDNESDAY and THURSDAY, November 5th and 6th, by order of Miss Sim, who is reducing the Stock, a further portion of the NURSERY STOCK, fuller particulars of which will appear next week.

N.B.—The NURSERY BUSINESS carried on for so many years by the late Mr. R. Sim is for SALE on very reduced terms. Messrs. P. & M. will be happy to furnish particulars on application.

Forthcoming Sales of Nursery Stock.

MESSRS. PROTHEROE AND MORRIS beg to call the attention of intending purchasers to the following SALES, the dates of which will be announced in next week's Advertisements:—

THE NURSERY, ASHFORD, KENT.—CLEARANCE SALE of the whole of the Stock growing upon that portion of the Nursery taken by the Burial Board for the extension of the Cemetery, and required by January 1st next. One day's sale.

THE ROYAL NURSERIES, ASCOT. By order of Messrs. John Standish & Co.—IMPORTANT TWO DAYS' SALE of NURSERY STOCK, for the growth of which this Nursery is so justly celebrated.

67 and 68, Cheapside, E.C.

GARDEN REQUISITES.

TWO PRIZE MEDALS.

Quality, THE BEST in the Market.

(ALL SACKS INCLUDED.)

PEAT, best brown fibrous, 4*s.* 6*d.* per sack; 5 sacks for 20*s.*
PEAT, best black fibrous, 3*s.* 6*d.* ,, 5 sacks for 15*s.*
PEAT, extra selected Orchid, 5*s.* ,,
LOAM, best yellow fibrous .. ..
PREPARED COMPOST, best ..
LEAF-MOULD, best only .. ..
PEAT-MOULD, ditto ... ...
} 1*s.* per bushel (sacks included).
SILVER SAND (coarse) 1/3 per bushel, 12/- half ton, 22/- ton.
RAFFIA FIBRE, best only... ... 8*d.* per lb.
TOBACCO CLOTH, finest imported 8*d.* per lb., 28 lbs. 18*s.*
TOBACCO PAPER, ditto (Spécialité) 8*d.* per lb., 28 lbs. 18*s.*
MUSHROOM SPAWN (finest Milltrack), 5*s.* per bushel.
SPHAGNUM MOSS, all selected, 2*s.* per bushel, 6*s.* per sack.
COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1*s.* each; 10 sacks, 9*s.*; 15 sacks, 13*s.*; 20 sacks, 17*s.*; 30 sacks, 25*s.*; 40 sacks, 30*s.* Truck-load, loose, free on rail, 30*s.* Limited quantities of G special quality, granulated, in sacks only, 2*s.* each.

TERMS, STRICTLY CASH WITH ORDER.

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ORCHIDS, Special Offer of.

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LILIES, Rare and Cheap.

WILD GARDEN, Cheap Plants.

AURATUM. First Arrival of this fine Lily, Splendid Bulbs, 6*d.*, 9*d.*, 1*s.*, 1*s.* 6*d.* each.

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HAVE MANY HUNDREDS OF

DENDROBIUM FORMOSUM GIGANTEUM, in magnificent varieties;

SACCOLABIUM GUTTATUM AND BLUMEI MAJUS;

AND FROM 600 TO 700 FINE PLANTS OF

ODONTOGLOSSUM ROEZLII & ROEZLII ALBA,

WELL SET WITH SPIKES.

SAMPLE BLOOMS FREE BY POST.

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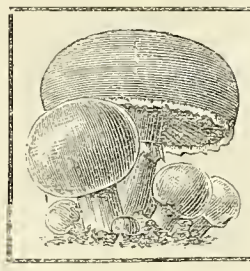

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IMPROVED MUSHROOM SPAWN, per bushel of fourteen cakes . . *s.* 5 *d.* 0

The best in the market: never fails.

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FERNS AND SELAGINELLAS,

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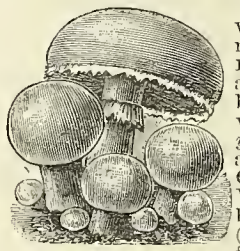

IF ONCE USED no other will be willingly taken. Testimonials of high merit received every day.—"THE GARDENS, SANDRINGHAM.—I have tried all other Mushroom Spawn advertised, but none to be compared with yours, which I have used for the last *twenty years* without once failing a quick and good crop.—CHAS. PENNY, Gardener to H.R.H. The Prince of Wales."—Price Six Shillings per bushel, One Shilling extra per bushel (for packing), One Shilling per Cake free by Parcels Post.

HIGHGATE NURSERIES, LONDON, N.

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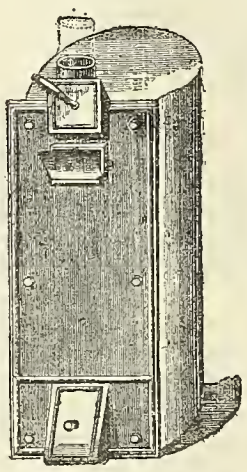
HORSE-SHOE BOILER.



THIS BOILER, which gained the Silver Medal (First Prize) in Class 1, at the Royal Horticultural Society's Show at South Kensington last year, has been further perfected by the addition of *two patented improvements*, the first being a combination of a tilting bottom grate and a hot blast into furnace, the second an automatic valve *acting under any conditions*, by means of which the boiler *regulates its own combustion*, equally avoiding a needless consumption of fuel or the slightest risk of the fire going out.

As now constructed, this boiler will challenge the world on each of the three essentials of a good boiler, viz., simplicity of construction and action, economy in consumption of fuel, and maintenance of an equal temperature in the pipes through a long period without attention.

No brickwork required; builds into the end of a greenhouse; front only outside.

PRICES { No. 1, £2 15 0 / No. 2, £4 5 0 / No. 3, £5 17 6 } Delivered free in Glasgow, Edinburgh, Dublin, or Belfast, or any station in England or Wales.

New Illustrated Catalogue, containing guide to amateurs in the heating of greenhouses, and explanation of the principles and construction of the hot-water apparatus, post free.

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Iron Founders, Engineers, & Contractors,

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NEW HARDY SWEET SCENTED WHITE PASSION FLOWER,

"CONSTANCE ELIOTT."

1st Class Certificate, R.H.S., 1884.

LUCOMBE, PINCE & Co., The Exeter Nursery, Exeter, will be prepared to send out this novelty in the Spring of 1885. They have purchased the whole stock from the raisers, Messrs. FULLER & SON, of Newton Abbott.

Price 5s. each.

A few extra-sized Plants, 10s. 6d. each.

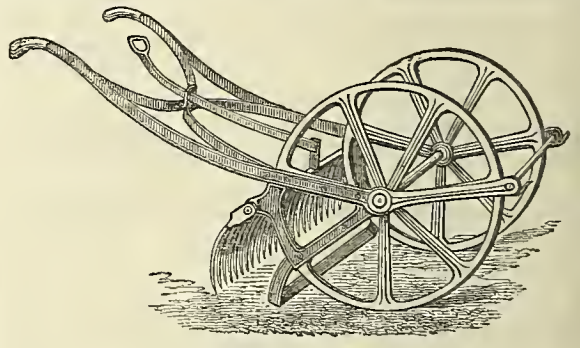
Terms to the Trade on Application.

NEW IMPLEMENT.

WEEDY WALKS OR AVENUES NEED NEVER offend the sight, if the newly-patented

PHŒNIX HOEING & RAKING MACHINE

is used. It will do the work of 40 men in a day, and in a more efficient manner. Several in use, all giving the utmost satisfaction.



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PROPRIETOR:

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GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE.

4*d.* per bushel; 100 for 25*s.*; truck (loose, about 2 tons), 40*s.*; 4-bushel bags, 4*d.* each.

LIGHT BROWN FIBROUS PEAT, 5*s.* 6*d.* per sack; 5 sacks for 25*s.*; sacks, 4*d.* each.

BLACK FIBROUS PEAT, 5*s.* per sack; 5 sacks, 22*s.*; sacks, 4*d.* each.

COARSE SILVER SAND, 1*s.* 9*d.* per bushel; 15*s.* per half ton; 26*s.* per ton; in 2-bushel bags, 4*d.* each.

YELLOW FIBROUS LOAM, PEAT MOULD, and LEAF MOULD, 1*s.* per bushel. SPHAGNUM MOSS, 8*s.* 6*d.* per sack.

MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c.

Write for Free Price List.

PURVEYOR TO HER MAJESTY.

21, Goldsmith's St., Drury Lane, London, W.C.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, NOVEMBER 1st, 1884.

GARDENING STATESMEN.—Cincinnatus at the plough, resting by labour in his fields from the onerous responsibilities of statesmanship, presents to our minds a pleasing though exceedingly antique feature in history. Fortunately Cincinnatus, whatever may have been his party politics, is of such ancient fame that reference to his recreative pleasures can hardly evoke party manifestation now. We do not now, in alluding to the associations of some modern statesmen with gardening, desire to evoke any kind of party sentiment. We rather refer to them as pleasant evidences of the charm which hinges round gardening to even those who, burthened with the cares of State, yet are glad, in moments of leisure, to turn to their gardens for change and rest.

Mr. Gladstone, by reason of the high office he holds, is without doubt the foremost figure in political life, and his fondness for gardening is well known. Ordinarily he is most heard of in association with tree felling, and it is assumed that such labour, though with him recreation, is a sort of momonia, but that is a manifest absurdity. Mr. Gladstone cuts down only doomed trees, and finds pleasure even in such laborious work. But he is as fond of planting young trees as of felling old ones, and thus, if felling for present pleasure, plants for the pleasure and profit of posterity. Some persons, too, have thought that the Premier is just a little too sanguine as to the possible profits arising from Fruit and Vegetable culture for market. However that may be, at least we must all pay hearty respect to the warm interest thus shown in a vocation in which we are all so much concerned, but of course the chief object and desire is to secure for the masses a far greater share than is now obtainable by them, of the unquestionable benefits found in garden products. It will be a good day for England when statesmen can turn their attention from wars and rumours of wars, and from strictly party political movements, to those very serious and purely social reforms to be carved out of our land system and food production.

Possibly by reason of his surroundings Mr. Joseph Chamberlain ranks in politics as the next most prominent figure to that of the Prime Minister, and therefore we have read with no inconsiderable interest in the pages of *The Gardeners' Chronicle* an able description of Mr. Chamberlain's gardens at Highbury, near Birmingham, and of the very extensive collection of Orchids there seen. Just what that estimable M.P., Sir Trevor Lawrence, is amongst Orchids on one side of the House of Commons, Mr. Joseph Chamberlain seems to be on the other; and an equal love, indeed we may say devotion, to these beautiful epiphytes seems to animate both. Mr. Chamberlain has sometimes given offence to some of the more querulous of his political opponents by appearing in the House of Commons with an Orchid flower in his buttonhole. We hope that sort of feeling is rarely felt, for whilst the poorest may without offence sport Violets, Primroses, or Pinks without criticism, it is indeed hard that a prominent public man may not enjoy the pleasure which love for a favourite flower gives him to the full.

It is to be feared that some regard the devotion of a man who has hitherto been but a manufacturer of hardware to such aristocratic flowers (pardon the simile) as rather impertinent, especially as we must admit that Orchids, of all flowers, toil not nor do they spin for the advantage of mankind; indeed they almost invariably exist upon others. But few of us grow flowers of any sort merely for the sake of their toiling and spinning. The very poorest, as a rule, grow flowers for their exquisite sweetness and beauty, and from those elements we derive exceeding pleasure. Mr. Chamberlain, Birmingham man though he be, may well be permitted to enjoy his loved Orchids to the full without evoking envy. A century since and statesmen employed their leisure too often in less enlightened ways. We may, therefore, well be pleased that whatever may be our political predilection, we have fallen upon times when prominent statesmen find pleasure in leisure moments in gardening.

The late Lord Beaconsfield, as we have learnt, had something more than a common-place attachment for his garden at Hughenden. His appreciation took a sentimental order, and his stoutest opponents have not found their respect for his memory lessened because the greatest statesman the Conservative party has produced during the past decade, was fond of a pretty though old-fashioned garden. Glancing at somewhat more neutral though still prominent figures in the political world, we see in the late Speaker of the House of Commons, a lover of his garden and a learned agriculturist; and in Viscount Eversley, now a novogenarian and Speaker of the House twenty-five years since, one of the warmest lovers of gardening in the kingdom. Instances of this fondness for horticulture amongst statesmen might be abundantly multiplied. We have culled from the list a few prominent names, and in doing so, can hardly doubt but that our readers will feel as we feel, that in such associations Statesmanship is thereby honoured.

THE WEATHER.—If a change from singular dryness to much-needed rain has not taken place ere this appears in print, we shall be in the singular position of actually urgently wishing for rain at the end of October. It may be said that the weather has been lovely, and that whilst dry it is very delightful, which we cheerfully admit, but then there is work to be done at this season of the year which cannot well wait, and that work is planting. So dry is the soil and to an appreciable depth in most localities, that much surface rainfall will be needed ere we can plant with safety; therefore, for planters, the sooner rain comes the better. We may well look forward with feelings of considerable apprehension as to the probable nature of the winter season, which may be cold as the time of year suggests, but it may be excessively wet also, and that would give us a wretchedly uncomfortable winter season. The anticipation of a wet winter is based upon the natural anticipation that nature will in some way endeavour to compensate the earth for its long lack of rainfall. We have never before seen the subterranean or earth-water so low as now. Ditches have been dry that never were known to have been dried up before, and though trees do not seem to have materially suffered, yet it is certain that if the winter does not create compensation, we could not hope to face another dry summer without serious results following. No doubt all will come right in the end for the seasons, if now and then eccentric, fall back into their old ploddding ways presently. The weather too commonly forms the subject of light-hearted gossip, but it is almost the chief thing upon which hinges our material welfare and prosperity.

JERUSALEM ARTICHOKES.—Some little attention has been recently drawn to the Jerusalem Artichoke because this tall and by no means elegant plant has in not a few instances developed flowers. That these phenomena are chiefly due to a lengthened and dry season there can be no doubt, because it is only in seasons of similar nature that flowers appear. These bearing some resemblance to small blooms of the common Sunflower shows alliance with that now popular flower, as both are members of the Helianthus family, but the Artichoke is tuberous-rooted, and practically is a perennial. Artichokes bloom so seldom and seed so rarely, if ever, that it is a matter of surprise some of our enthusiastic experimentalists have not ere now attempted grafting or inarching a Sunflower top upon the stem of an Artichoke plant. If a successful fusion resulted the effect would necessarily be watched with exceeding interest. But whilst speculating as to the possible results of what might prove to be but speculative experiments, it must not be overlooked that the Artichoke is a useful garden plant, and in many cases is highly favoured. In the kitchen good cookery can accomplish much to render Artichoke tubers that naturally are far from being nice, very pleasant and enticing. In seasons when Potatos have been dear and scarce the Artichoke has proved a very profitable article to the market-grower, but just now when Potatos are so abundant as to be a glut in the market, it is feared that Artichokes hang heavily on hand. Yet this season, owing to the drought, they are probably not a big crop. Those who now and then write about Artichokes favour trenched and well-manured soil; good sets, and ample space for the plants to grow in. That is all very well, but few after all care about big tubers and prefer the medium-sized ones that are less watery and are most abundantly produced in any garden corner and in soil fertilized with leaf or garden refuse.

FRUITS AND VEGETABLES *v.* FLOWERS.—It is, we believe, the common experience of editors of gardening papers that their contributors are always more ready to supply matter relating to flowers than to fruit and vegetables. Why this should be so it is not easy to explain, except it be that flowers present more attractive themes, and, perhaps, admit of wider dissertation. The Rose, for instance, is a flower respecting which some writers will dilate with wondrous enthusiasm and interminable prosiness. We have in fruits or vegetables no subject which admits of such wondrous word painting as is found in these dissertations, although the Vine has proved to be a very fertile and to many an inexhaustible theme. Still the Rose and its myriads of beautiful congener flowers holds sway in the minds of contributors, whilst, we fear, fruits and vegetables are voted commonplace. And yet we are sure that in no department of the garden can horticultural papers render both amateurs and professionals more real service than in making oft and practical references to products for the kitchen. In all private gardens we find, as a rule, the fruit and vegetable departments to be, if not always the most extensive, at least those most cared for. These really contain the substantial elements of gardening, whilst the flower-garden adds beauty and refinement. Again, we find most gardeners rather priding themselves upon their ability to cultivate fruits and vegetables than boasting of their flower-garden achievements, though these latter we freely admit, as a rule, deserve high praise. Still there remains the interesting fact that gardening writers so often fight shy of informing the public of useful facts relating to the culture of their kitchen-garden products, and prefer mention of flowers of some sort. In this respect our age is not so utilitarian but that it might usefully be a little more so.

THE COST OF ORCHIDS.—In the columns of an evening newspaper one hardly expects to find a well-informed writer discoursing on Orchids, yet in *The Evening Standard* of Tuesday last was a pleasantly-written column of Orchid lore, from which we extract the following remarks on the cost of these interesting plants:—"The question of cost is important for those whom we would fain address, and it makes the third great superstition attached to our theme. Professional hints and sensational paragraphs in the newspapers have encouraged the most ludicrous misapprehensions on this point. At a great sale last year, when, as was reported through the universe, something eccentric was bought for two hundred and thirty-five guineas—what it was escapes us — we personally bought six healthy, well-grown pots of Dendrobium nobile for six shillings, besides other species almost as cheap. Four of these half-dozen gave us several scores of the loveliest blooms in the spring. He who would buy flowers of the rarest class ready made, thoroughly 'established,' that is for several years, and big in proportion, must pay Mr. Bull and other nurserymen a very long price, but one not unreasonable under the circumstances. Such an Orchid formed part of the spoil, may be, obtained by an expedition that cost thousands, and it has to pay its quota of expeditions as costly which returned not the plant nor one sixpence. It has been housed and tended with a science beyond price, at great charge, and the result is such as the tropics could not show. For that we must expect to pay. If Roses could be brought to such artificial perfection grand specimens would bring a price as high. But if Mr. Bull asks—and gets—two hundred guineas for an Odontoglossum vexillarium, he is quite satisfied with a few shillings for a hundred sorts as lovely, or more so, to him who seeks beauty and interest alone. The matter of expense may rest there, but not for want of similar illustrations. One, indeed, we cannot refrain from quoting. At the end of a sale we observed the sweeper brushing chips and fragments into a heap. A tiny morsel of Oncidium caught our eye, dry and withered. We gave him sixpence for it, hung it on a bit of cork, and waited. That is two years since, and at this moment a long spike with thirty blooms perhaps, enlarging hour by hour, give us that keen delight which none but orchidacians can feel, watching the expansion of a flower unnamed, assured that it will be beautiful and quaint, but assured of nothing else.

THE CHRYSANTHEMUM SHOWS.—From Wednesday next, when the Chrysanthemum Show season opens at Ealing until November 26th, when it closes at Liverpool, exhibitors will have a busy time of it, as may be seen from the following list of fixtures:—5th, Ealing; 6th and 7th, Southampton; 7th, Cheshunt; 7th and 8th, Havant; 10th and 11th, Stoke Newington; 11th, Putney; 11th and 12th, Brighton, Croydon, Kingston-on-Thames, Lambeth; 12th, National, at the Westminster Aquarium; 12th and 13th, Bath, Colchester; 13th, Walton-on-Thames; 13th and 14th, Brixton Hill, Richmond, Teddington, Tunbridge Wells; 14th, Reading; 14th and 15th, Crystal Palace, Canterbury, Huddersfield; 18th, Borough of Hanley; 18th and 19th, Lincoln, Winchester, Woodford; 19th, Wimbledon; 19th and 20th, Birmingham, Northampton; 20th, Dublin, Taunton; 20th and 21st, Hull; 25th, Manchester; and 25th and 26th, Basingstoke and Liverpool.

MESSRS. MESSENGER & Co., Horticultural Builders, of Loughborough, have just completed a novel conservatory for the Mayor of Bradford. It is 40 ft. long by 25 ft. wide, and heated by the same firms' Patent Elastic-jointed Pipes, which are now so much in use, owing to the ease with which the joints are made or taken apart.

Gardening Miscellany.

MR. TURNER states that, with rare exceptions, the Dahlias at Slough were cut down by the frost on the morning of October 9th, but those of the Dahlia Juarezi section entirly escaped.

MR. TALLACK has left Prideaux Place, Padstow, and has been succeeded by Mr. E. Brown.

MR. W. SUTTON, formerly gardener at Eshald House, Leeds, has been engaged as gardener to C. J. Leaf, Esq., Pain's Hill, Cobham.

OWING to the break up of Mr. W. Leach's establishment at Oakley, Fallowfield, near Manchester, Mr. William Swan, who for nearly twelve years has had charge of the choice and well-grown collection of Orchids there, is seeking another engagement. The services of such an enthusiast should not long go begging.

THE annual display of Chrysanthemums made by Mr. Turner, of Slough—always a great treat to admirers and growers of the queen of winter flowers—will be opened to-day, Saturday, and be continued to the end of the month.

MESSRS. JOHN LAING & Co., of Forest Hill, were intrusted with the floral decorations on the occasion of the recent marriage of the Marquis of Stafford, M.P., and Lady Millicent St. Clair Erskine, and were highly complimented on the tastefulness of their arrangements. The boudoir decorated for the Princess of Wales was very prettily done.

THE opening meeting of the Manchester Horticultural Improvement Society (Session 1884-5) will be held in the Committee Room of the Old Town Hall, King Street, on Thursday evening, November 6th, when Professor Ward, of the Victoria University, will read a paper on the subject of "Roots." The chair will be taken at seven o'clock.

MR. GEORGE COPELAND, Western Hill Nursery, near Durham, and Mr. John A. Freemantle, Barsledon, Hants, market gardener, have been adjudicated bankrupts.

IN the published list of awards to the exhibitors at the Health Exhibition, we note that Messrs. James Carter & Co., of High Holborn, have received a gold medal; Messrs. John Warner & Sons, Cripplegate, take one gold, three silver, and three bronze medals; and a gold medal has also been awarded to the Native Guano Company, Aylesbury.

A RECENT calculation shows that Paris has 172,000 acres in parks, or one acre to every 13 inhabitants; in Vienna the proportion is one acre to 100 persons; in Chicago, one to 200; in Philadelphia, one to 300; in Brooklyn, one to 639; and in New York, one to 1,363. New York, however, proposes to buy 3,808 acres for additional parks at an estimated cost of 2,000 dols. per acre, or in the aggregate an expenditure of 7,616,000 dols.

"A LYTTLE Boke of ye Narcissus or Daffodyl Flowre, and hys Roots, with hys historie and Culture, etc., with a Compleat list of all ye kinds grown in Englishe Gardines," will shortly be published by "Peter Barre and hys sonne at their shoppe in King Street, by ye Convent Garden, nigh ye Strand." It contains, A May-day Idyl, A.D. 1610, Mr. Burbidge's Daffodil Congress' paper, chapters on Double Daffodils and Narcissi, Hybridization of Narcissi, The Poetry of the Daffodil, Cultural Water, and an illustrated descriptive Catalogue of all the Wild Species, Hybrids, and Seedlings grown in English Gardens.

"REGEL'S GARTENFLORA." — In the September number of this Magazine we notice the following:—Fritillaria imperialis var. inodora purpurea (t. 1164). A fine variety with dull crimson-purple flowers with longitudinal stripes of a slightly darker shade.—Orthocarpus purpurascens (t. 1166). A dwarf Scrophulariaceous plant, with pale green pinnatifid leaves with very narrow segments; and terminal ovoid spikes with bright purple flowers. It is a native of California, and the plate was prepared from plants grown in 1883, by Messrs. Haage and Schmidt.—Saxifraga aquatica (t. 1167). A new erect plant, with numerous trilobed leaves which are again deeply toothed; and terminal branched racemes of numerous white flowers. It grows in the Pyrenees at an altitude of about 7000 ft. The lithographed plate of this is uncoloured.

JAPANESE LILIES.

IT is seldom that these are potted in time, as almost as soon as the tops die down the bulbs begin to root afresh, and it is impossible then to handle them without doing some injury, which, being so, the best way is to see to them at once. In turning them out the right mode of procedure is to work away the old ball and then pull out the stalks, which leave the crowns freely, taking with them the mass of fibres formed at the base, which, if left, would be in the way of the young shoots, and, in all likelihood, lead to decay of the scales, as the stem-roots are generally found matted among them. Unless the bulbs are very thick and crowded it is not advisable to separate them, but, instead of that, to give them larger pots, which should be well drained and have some rough soil over the crocks, when the Lilies may be placed carefully on it, and then have a handful or so of sharp silver sand scattered amongst them. This will keep them clean and healthy by preventing water from lodging about them, and the sand will also act as a deterrent to worms, which are often a great trouble to Lilies in pots.

For filling up around the bulbs a mixture of equal parts of peat and loam is the most suitable, and both should be fresh and fibry, in which state they are more open and porous. The best place for Lilies after potting is a cold frame, where they ought to be kept somewhat close to prevent the soil drying, as water should not be given if it can be avoided till the bulbs start into growth. When they do this and the shoots have reached some length the pots may be filled up by degrees, and, after danger from frost is over, stood out in some open, sheltered spot, where the plants will do better than they will if kept under glass, as their growth will be more sturdy and strong. With the pots full of roots liquid manure should be administered once or twice a week, and continued till the plants have done blooming, when they must again be placed out in the open and kept drier to assist them in ripening.—*Alpha.*

TOWN AND SUBURBAN PLANTING.

IN continuation of the descriptive list of trees and shrubs suitable for this purpose at p. 103, I will now name a few of the most effective flowering-trees, then some of the best weeping trees, and conclude with a selection of beautiful flowering-shrubs. Amongst flowering-trees for town and suburban planting the Almond (Amygdalus communis), and the Flowering Peach (A. persica flore pleno), and others, are deserving of the first consideration, as nothing can surpass their beauty in the early spring, and they grow to perfection in and around London. The double-flowered Cherries may be noted as fit companions for the above. Cerasus Watereri is a very superior variety of flowering cherry which deserves to be largely planted. In Cotoneaster frigida we have a very ornamental London tree, more especially in autumn when it is covered with clusters of scarlet fruit, and it may be seen in many situations about town. The Laburnum is well known to be one of the ornaments of early summer; it grows freely almost everywhere, and nowhere can it be more appropriately planted than in London and the suburbs. The varieties best known are the Common Laburnum, the Scotch, and Waterer's variety, which is looked upon as the finest of all the Laburnums.

For general planting out of town, the most majestic of all flowering-shrubs are the Magnolias in variety; M. grandiflora is the one best known and most often seen, because it is frequently trained against the walls of residences. The varieties M. exoniensis and ferruginea are more hardy than the type, the latter having the preference. Some of the deciduous varieties are very fine, and three of the best which should be planted everywhere are M. Soulangeana, M. Lenné, and M. conspicua. The blossoms of the first are tinted with rosy-purple, in the second they are purple, and the last named are white. The genus Pyrus affords an interesting group of plants to select from. The well-known Mountain Ash (Pyrus aucuparia) is one of the most conspicuous of berry-bearing trees in autumn, and the yellow-fruited variety, P. aucuparia fructu-luteo should be largely planted if only for the contrast in colour. Pyrus Malus baccata is a most desirable

variety, not alone for its beautiful rosy-tinted flowers in spring, but for the profusion of bright red fruit which it bears in autumn. Pyrus Malus floribunda is without doubt one of the finest of spring-flowering low-growing trees, and it should find a place wherever flowering-shrubs are to be planted. The blossoms are of a rich shade of crimson outside and white within, contrasting finely when they begin to open. Pyrus spectabilis rosea pleno, when in bloom, may be compared to garlands of pink roses; it is one of the most beautiful varieties. The Robina hispida (Rose Acacia) must not be omitted from our list; it is a low-growing tree with prickly branches, producing drooping racemes, of deep rose-coloured flowers, in summer. Robina hispida grandiflora is much in the same way, but more vigorous in growth, and having almost smooth branches. The Pavias may be described as miniature Horse Chestnuts, indeed Pavia flava is known as the yellow Horse Chestnut. Pavia californica (Californian buck-eye) is a desirable kind, bearing spikes of sweet-scented flowers.

Weeping Trees.

I will now note a few of the most striking weeping trees, of which there are a goodly number to select from, and I say to select from advisedly, for they are unlike the generality of trees, and may not be planted in quantity. The garden pleasure-ground should indeed be of some considerable extent to allow of more than two or three weeping trees being planted. In all cases they should be planted singly in prominent places, so that the spreading and drooping branches may develop themselves, and be seen to the best advantage. Ulmus montana pendula is a weeping tree of great beauty, and few lawns, even in suburban gardens, are so small but that a place might not be found for it. The same remarks are equally true as regards the Weeping Ash (Fraxinus excelsior pendula). The most conspicuously grotesque of weeping trees is Fagus sylvatica pendula, the Weeping Beech, which requires plenty of room for the many turnings and twistings of its ample branches. When the Weeping Purple Beech becomes plentiful and better known it will surely command deserved attention. One of the most strikingly beautiful of weeping trees is Young's Weeping Birch (Betula alba pendula Youngii), which is most graceful in outline, either as a standard or in the pyramidal form. The Weeping Cherry (Cerasus sinensis pendula) is a charming tree for small enclosures, so also is Pyrus salicifolia pendula.

In the Willow we have possibly more weeping forms than is to be found in any other genera: Salix purpurea pendula (American Weeping Willow), Salix babylonica, and Salix cuprea pendula (the Kilmarnock Willow), are all desirable trees. The latter has larger leaves, and being more compact in growth, is a suitable tree for planting near rock-work or on a raised bank where it can be looked up to. Salix babylonica when large is one of the most picturesque trees. Salix mascula, S. Petzoldii pendula, S. rigida pendula, and S. sericea pendula (silver-leaved) are introductions of recent date, interesting as weeping trees, and may be planted with advantage, on the margin of lakes and in shady low-lying ground. The Weeping Thorn (Cratægus Oxyacantha pendula) is one of the few weeping trees that will thrive in town gardens or parks; it is a beautiful object both in spring while in flower and when covered with fruit in autumn. More kinds of deciduous weeping trees might be noticed, but I will mention only one other, Sophora japonica pendula, which although noticed last is by no means the least important in this class, for it is one of the most beautiful of trees, though not so generally grown as it should be, owing, as I believe, to the fact that its good qualities do not appear while it is in a young state.

Evergreen Weeping Trees.

I must not leave the subject of weeping trees without noticing some evergreen kinds, of which the Weeping Hollies are the most important. These are of a most attractive character at all seasons of the year, and particularly at the present time, when covered with berries, as they often are. The Weeping Green Holly and Perry's Weeping variety are at the present time covered with berries. The New Golden Weeping and the Weeping Milkmaid Hollies are also strikingly ornamental. The Weeping Yew (Taxus Dovastoni) is very handsome as a specimen on the lawn, or when worked low, as it often is, it makes a striking addition to the rock-garden. Retinospora filifera, although not looked upon as a weeping plant, yet from its pendulant habit, and long slender branches, it forms a great contrast to the usually stiff growth of most Conifers, and especially of the Retinosporas, and should be more extensively planted. Juniperus oblonga pendula and Juniperus sinensis pendula are also deserving of consideration where contrast of form as well as colour is studied. The Weeping Hemlock Spruce (Abies canadensis pendula) is very handsome, dense in habit, and of a dark green colour, and well deserves a prominent place.

HYBRID RHODODENDRON, PRINCESS FREDERICI.

Flowering-Shrubs.

In describing the weeping trees, we have been tempted to stray somewhat from our text, viz., Town and Suburban Planting, and hasten to take the flowering-shrubs into consideration, and as they are mostly of a deciduous character, they may be understood as well suited for our purpose. The Lilac is one of the most important flowering-shrubs we have, it being planted extensively in and around London and the suburbs, as well as abundantly all over the country. The Persian Lilac (Syringa persica), S. vulgaris, S. vulgaris alba, are each and all of them well known as useful for the decoration of the shrubberies in spring, but there are many newer varieties now extensively cultivated and with good effect, such as Syringa vulgaris grandiflora, S. Dr. Lindley, S. Charles X., S. Lemoinii flore pleno, and others. The Mock Oranges (Philadelphus) are very beautiful deciduous shrubs, with large white sweet-scented flowers. P. coronarius, P. coronarius flore pleno, and P. Gordonianus, being the most useful. Spiræas are most useful for general planting, comprising as they do great variety of form and colour. S. ariæfolia is an elegant shrub with large panicles of feathery-like flowers. S. callosa, pink and S. callosa alba, are dwarf, and well-suited for front-row plants, continuing to flower during most of the summer; S. Bumalda is also very dwarf, and has deep-rose flowers. S. Douglasii, S. prunifolia flore-pleno and others, may be planted with advantage.

Wiegila's are most useful for town and suburban planting, a few of the best being W. amabilis, W. rosea, W. grandiflora and W. hortensis nivea. The Ribes (flowering currants) in variety, are most beautiful spring-flowering shrubs, growing freely almost everywhere; the red, white, and double-red, should find a place in all shrubberies. Then again, what grand plants we have in Pyrus (Cydonia) Japonica, and its varieties either trained on a wall or fence, grown as a pillar-plant, or planted on a bank or near to rock-work where it can ramble at will. The varieties, alba, cardinalis, rosea, and flore pleno, all produce large apple-blossom like flowers in the early spring. Hydrangea hortensis is a grand suburban plant, and H. japonica and H. japonica variegata thrive under like treatment. H. paniculata and H. paniculata grandiflora are, without doubt, two most beautiful deciduous flowering-shrubs which well deserve to be largely planted, but to the last-named variety should be given the first place, for it is the finest of all deciduous shrubs, and should be planted in a rather cool, rich soil. In Hibiscus syriacus (Althæa frutex) we have a delightful autumn-flowering shrub, of which there are a number of varieties, double and single, flowered and well-varied in colour, and the fact of their being autumn-flowering should ensure extended cultivation. In the Viburnums we have some choice flowering-shrubs. V. Tinus (Laurustinus) is so well known that it may be left to rest on its reputation. V. macrocephalum and V. plicatum are not so well known, but they have only to be seen to be appreciated. Both came from Japan, and bear large globular masses of white flowers. V. Opulus (the Guelder Rose) is an old favourite also known as the Snowball Tree.

Deutzias must not be overlooked, for where white flowering-shrubs are desired they are invaluable. In appearance they are not so handsome as some other shrubs, yet when in flower nothing can well be more beautiful, and they are of easy growth. D. crenata flore-pleno, D. scabra, and D. candidissima flore pleno are most to be desired, the last named being a great improvement on D. crenata flore-pleno. Exochorda grandiflora (Spiræa grandiflora) is a most desirable shrub, flowering as it does in April and May, and bearing spikes of beautiful white flowers. There are many more interesting flowering-shrubs, but it may be considered that enough have been enumerated to fulfil the expectation anticipated at the commencement of this article.—*G. T.*

HYBRID RHODODENDRONS.

Few introductions of recent times have added more beauty to our greenhouses than the beautiful section of Rhododendron to which the subject of our illustration belongs, and on which Messrs. James Veitch & Sons have laboured so successfully, that they now produce colours and tints in their flowers which a few years ago it was deemed impossible to get, because the known varieties did not seem to offer the necessary features. But the hybridizer has more working for him than the material under his hands seems to warrant, for in many cases the hybrids produced by his skill, exhibit colours and forms so unlike either of

their parents, that it is only to be accounted for by their reverting to some unknown ancestor. The Jasmine-flowered section of Rhododendron gives us a very beautiful and easily cultivated race of greenhouse plants, the following being the best:—R. Jasminiflorum (the original species), white; Princess Royal, pink; Princess Alexandra, white; Duchess of Teck, buff; Duchess of Connaught, bright red; Duchess of Edinburgh, scarlet; Taylori, white tube and pink petals; Maiden's Blush, pale pink; and Princess Frederica, creamy yellow. They are all tolerably easy to propagate if a small frame or handlight be placed in an intermediate house ready to receive the cuttings at this season of the year, and when so propagated they can often be flowered in pots, as shown in our illustration on p. 133, in the ensuing summer. Good stout cuttings of well-ripened wood should be taken and placed singly in small pots filled with sandy peat, after which they should be placed in the cutting case and carefully shaded against sun, but not kept quite close at any time, the quantity of air given to them being steadily increased until when rooted the glasses are wholly removed and the plants potted into good-sized pots. Princess Alexandra is very free to strike, and as some of the others are slow, it is advisable to strike as many of it as possible, and to use them as stocks for the less free kinds, which take to it very readily when side-grafted on it.

Once good plants are secured there is little trouble with them, for even in the matter of re-potting they do not require much attention; indeed they will go for years without re-potting, and flower profusely, whereas if frequently shifted they often get stubborn in growth and shy to flower. Disproportionally large pots are very much against them, a circumstance which will be readily understood when we consider that the species from which they sprang are almost epiphytes.—*J.*

BOX EDGINGS.

The present is a good time to fill up any blanks that may have occurred during the current year in the edgings of Box which border the walks in most kitchen gardens, by removing separately a little of the gravel and soil to the depth of 6 ins. and putting therein sufficient pieces of Box (rooted or otherwise) to correspond in thickness and height with the edging being mended. Replace the soil and gravel, tread it firmly together, and give sufficient water to moisten the soil and settle it about the roots or base of the cuttings. In the event of the whole of the Box edgings having become unsightly through age or neglect, they should be taken up, the ground be dug, trodden, and levelled in accordance with the gradient of the walk, but making both sides level with each other, so that the tops of both edgings when laid and the crown or centre of the walk may be about the same height. This done, measure the width, say 6 ft., of the walk at both ends, putting four stiffish sticks firmly in the ground (two at each end) to mark the position of the edgings. Then strain the line from stick to stick on one side, and with a spade cut away the soil perpendicularly from the line to the depth of about 4 ins. In this trench lay the Box, after the roots and tops have been shortened back and trimmed, evenly and about 1½ ins. to 2 ins. thick. Press the soil firmly about the roots, or rootless slips, as the case may be, and afterwards, when the soil has been trodden down the entire length of the edging, fill up the gutter-like space with gravel, a coat of which should also be laid on the walk at the same time, and then be rolled.—*H. W. W.*

STORING ONIONS.

The most suitable position for this purpose, according to my experience, is an open shed facing the north. The Onions are first divested of all loose skin that will come off when slightly rubbed with the hand, and those having long enough tops of the late keeping varieties are plaited in ropes; others with shorter tops are bound with string on to a stick; and some are tied together in bunches, as many as can be conveniently held in the hand at one time, and which are useful for sending into the kitchen when only a small quantity is required. Nails are driven into the rafters of the shed to suspend them. We one year fixed some against the back wall, and the moisture in the wall or their actual contact with it induced them to grow some time before those that had the air freely playing around them. We do not spend so much labour on those which are not considered good keepers, but they are usually located in thin layers in an open shed, where they maintain their freshness as long as can be expected. Onions will commence to grow sooner in a cold, damp room, if placed on the floor, than in a warm, dry one, and this fact was demonstrated to me very conclusively by an accident. Some Onions were placed on the flagged floor of a shed near the channel of the main hot-water pipes, which were also covreed with flags. The temperature in the middle of the room was about 50 degs., which seldom varied, as the room was entered through another. More Onions lay in an adjoining shed unaffected by heat from the pipes, but incited by the damp stones, grew whilst the others remained sound. This is only what one would naturally expect, though one would probably not arrive at that conclusion and act accordingly in selecting a place to store our Onions. We are sometimes advised by writers to exercise caution, and protect our Onions from the frost, but we have not experienced any mischief from that source hitherto. —*R.*

GRAPE GROWING AT LONGLEAT.

Through the publication of Mr. Taylor's treatise on the "Vines at Longleat," this subject has become pretty familiar to readers of horticultural literature, and the success achieved by Mr. Pratt, Mr. Taylor's successor, in the management of the gardens and grounds at Longleat, in securing three first prizes at the recent Grape Show at South Kensington serves to show that Mr. Taylor's treatment of the Vines, which he struck and planted, as well as planned and superintended the erection of the large range of vineries in which they have been so successfully grown on what is known to gardeners as the "Extension System," was sound and eminently practical. That Mr. Pratt is competent to obtain from the said well-established Vines the best possible results, was fully demonstrated by the magnificent examples of Muscat of Alexandria, Black Alicante, and Black Hamburgh which he staged at South Kensington on the 23rd of September.

During the interval I have been to see the gardens at Longleat in company with two gardening friends, and therefore have had ample opportunity of seeing the Muscats and Alicantes (the Hamburghs having been finished a day or two before), and comparing the numerous bunches then on the Vines with those put up in competition a few weeks since, and can honestly say that the latter, while being the best show-bunches in the vineries at the time they were cut, were but a fair sample of those then and now to be seen in the vineries at Longleat. The Muscats average from 3 lbs. to 5 lbs. each bunch, and the Alicantes from 5 lbs. to 7 lbs. each, and it is quite possible that one or two bunches of each variety may exceed these figures. The Lady Downes, too, are fine in bunch, berry, and finish. A fact worthy of notice in connection with the Grapes is that in every case the largest and best finished bunches of Muscats, and, I think, Alicantes too, were located on the Vines immediately over the front hot-water pipes, thus plainly showing (1) that the largest and best matured buds were situated on the lower extremity of the Vines, and within the immediate influence of the heat radiating from the front hot-water pipes, which are liberally supplied to the house both in the front and on either side of the central pathway; and (2) that even during a tropical summer like the past one the necessity of being amply provided with artificial heating power and the utilizing of the same in order to thoroughly ripen late crops of Grapes, especially long-keeping varieties, such as Alicante, Lady Downes, and Gros Guillaume, which, if they are not thoroughly ripened, do not keep well.

The Vinery in which the Grapes in question are growing is a span-roofed house, 220 ft. long, 30 ft. wide, and proportionately high. The air is admitted through the front sashes, which are regulated by machinery from the pathway, and through a ventilating lantern in the roof (where, however, a lot of heat and unnecessary space is wasted), the top of which has an angle of about 35 deg., which corresponds with that of the roof. This range, which is in three compartments, runs north and south; and each compartment, if I remember rightly, contains four Vines each (excepting the Black Hamburgh division, which contains six), one having been planted in each corner of the house between the pipes and the front wall and the rods trained horizontally, from which sufficient canes to fill the house at 5 ft. apart are trained up under the roof to a curvilinear-shaped trellis until they meet, a considerable distance underneath the apex. The main stems of these Vines, which have been planted about sixteen years, are from 18 ins. to 20 ins. in circumference, but the individual rods and fruit-bearing shoots proceeding from these are by no means over strong, though they were liberally fed at the roots during the time the Grapes were swelling. The huge bunches of Black Alicante not having shown to sufficient advantage on the individual rods this season through being too close to the base, Mr. Pratt has, with a view to remedying this small grievance, decided at the proper time to apply the short-rod system of pruning to this variety—that is, to prune back to within three or four buds of the main stem, and at the same time cutting out the buds between the terminal one and the base.

In conclusion, I may be allowed to say that Melons, too, are grown well on the extension system at Longleat, there being at the present time a good average crop of Eastnor Castle and Hybrid Cashmere—two varieties greatly esteemed at this place. In one of the forcing-houses, on shelves near the glass, is a good batch of fruiting plants of the Vicomtesse Hericart de Thury Strawberry, which have been recently potted up from a warm border. In the plant-houses are a clean healthy lot of decorative plants, including a variety of Palms, Dracænas, Crotons, Ferns, Gesnera cinnabarina, Eucharis amazonica, a fine batch of Calanthe Veitchii, and large well-flowered plants of Bougainvillea glabra, planted out in raised beds about a yard square in one of the lean-to furnishing houses; Gardenias occupy similar positions in, I think, the same house. A plant of Nepenthes Rafflesiana having several large and well-developed pitchers suspending from the roof in one of these houses is very attractive to visitors as they enter. As also is a houseful of Carnations just bursting into flower. In the frame ground are, among many other good things, large quantities of well-established pot-Strawberries; and in the kitchen gardens, large breadths of Veitch's Autumn Giant Cauliflower, Scotch curled Kale, and other winter greens, and a fine border of Brown Cos Lettuce tied up for blanching is seen in front of the plant-houses. In short, Mr. Pratt, seems to be as much at home in the kitchen and flower-garden as he undoubtedly is in the fruit and plant-houses; there being evidence of skilful management in each and every department.—*H. W. W.*

MICHAELMAS DAISIES.

(*Continued from p.* 117.)

North American Species.—Before commencing an enumeration of the more showy kinds, we should like to offer a few general remarks on the nomenclature. Last week mention was made of the fact that several of our garden names are spurious ones. For instance, we have plants cultivated as A. bicolor, A. discolor, and A. formosissimus, and under these names they have been noticed in the gardening papers, but on referring to the *Flora of North America*, we find no such names. Now, if they were florists' flowers, there could be no objection to this, though even then we think Tom Thumb preferable to a Latin specific name, as no one mistakes it for the wild species, and we have not yet forgotten the resolution passed at the Daffodil Congress. To cite a case in point:—We think the name Aster Archer Hind (under which name Mr. C. Woolley Dodd distributed an Aster for which he failed to find a name), preferable to A. formosus, but now it has been identified with A. lævis—as we shall show in the enumeration—we think the original name should be replaced. It is this multitude of names for a smaller number of species that makes nearly all the confusion. In the following enumeration we follow Dr. Asa Gray, in his *Synoptical Flora of North America*. No one has studied them more carefully, and by adopting the names of this latest revision (1884), we hope to remove at least some of the confusion which at present envelops the Michaelmas Daisies of our gardens.

Aster Curtisii.—A pretty species of recent introduction, 2 ft. to 3½ ft. high; leaves lanceolate, smooth; panicle, much-branched; heads above medium size, with purplish or deep violet-blue rays.

A. GRANDIFLORUS.—A fine species, 2 ft. high, with rigid, hispid branches; leaves oblong-linear, rough; flower-heads large, solitary on each branchlet, with long violet-purple rays.

A. NOVÆ-ANGLIÆ.—A handsome species, one of the best, 4 ft. to 8 ft. high, and very leafy; leaves lanceolate, pubescent; flower-heads large and numerous, with rich deep-purple rays. It is often cultivated as var. pulchellus. The variety ROSEUS is equally beautiful, and differs in having deep rose-coloured rays; it is also generally taller.

A. OBLONGIFOLIUS.—Grows to 2 ft. or 3 ft. high, very leafy; leaves oblong to linear, a little rough; flower-heads medium-sized, with long bright-violet rays. Very similar to the last.

A. PATENS.—A pretty species, 2 ft. to 3 ft. high, with slender, rigid, spreading branches; leaves oblong to lanceolate, rough; flower-heads solitary with long deep-violet rays.

A. SHORTII.—An elegant late-flowering species, 4 ft. high; leaves lanceolate, slightly pubescent; panicle large and branching; flower-heads numerous, with long and narrow pale violet rays.

A. UNDULATUS.—Branches somewhat rough and rigid; leaves oblong to lanceolate with clasping base, the lower ones cordate on slender petioles; flower-heads numerous, racemosely arranged, with pale or bright violet rays.

A. CORDIFOLIUS.—A tall species, 3 ft. to 5 ft. high; leaves cordate-ovate below, lanceolate above; panicle much branched; heads small and very numerous, with pale violet or whitish rays.

A. TURBINELLUS.—A most effective late-flowering species, 3 ft. to 5 ft. high, with slender, wiry, almost naked branches; leaves oblong to narrow lanceolate; panicle much branched; heads medium-sized, with large bright bluish-violet rays.

A. LÆVIS.—One of the best of late-flowering species, and existing in gardens under various names, as A. formosus, A. Archer Hind, and A. lævigatus, but A. lævis is the correct name. The plant figured as A. lævigatus in *Bot. Mag.*, t. 2995, is really this plant, while the true A. lævigatus is A. novi-belgii. A. lævis grows from 3 ft. to 5 ft. high; leaves lanceolate, smooth; panicle large and much branched; flower-heads medium sized, with long bright blue rays.

A. VERSICOLOR.—A beautiful species, sometimes met with under the names A. bicolor and A. discolor. It varies from a few inches to 3 ft. high; leaves oblong-lanceolate, smooth; panicle dense, corymbose; flower-heads medium sized, rays white at first, changing to rose or violet. We have seen a form under 6 ins. high, a little gem on the rock-work.

A. POLYPHYLLUS.—A showy early-flowering species, 4 ft. to 5 ft. high; leaves narrowly lanceolate; panicles ample; flower-heads medium sized, with numerous white rays.

A. ERICOIDES.—A pretty species, often nearly 3 ft. high and much branched; leaves narrowly lanceolate; panicles much branched; flower-heads small and very numerous, with white rays. The variety REEVESII is a little gem of about 8 ins. high.

A. MULTIFLORUS.—A free-flowering species, about 4 ft. high; leaves linear and very small; panicles much branched, flower-heads very small but exceedingly numerous, rays white.

A. DUMOSUS.—A densely branched species, 1 ft. 6 ins. high; leaves narrowly lanceolate, smooth; panicle corymbose, with very numerous medium-sized flower-heads, rays slaty-blue.

A. DIFFUSUS.—A free-flowering species, 4 ft. high, with spreading branches; leaves lanceolate, smooth; panicles racemosely disposed; flower-heads very small and numerous, with white rays. The variety HORIZONTALIS is dwarfer, with very spreading branches, very floriferous, and with more conspicuous white rays. A beautiful variety.

A. TRADESCANTI.—Varies from 3 ft. to 5 ft. high; branches erect; leaves lanceolate; panicles ample; flower-heads small and very numerous; rays white, or sometimes tinged with lilac.

A. PANICULATUS.—Closely allied to the last, but with larger flower-heads; usually rather taller; panicles large and freely branched; rays white, varying to purplish.

A. LONGIFOLIUS.—A fine, early-flowering species, about 2 ft. to 3 ft. high; leaves lanceolate; panicle corymbosely arranged; flower-heads medium sized, with purplish-lilac rays.

A. NOVI-BELGII.—A very variable species, usually rather dwarf; leaves linear-lanceolate; panicles much branched; flower-heads medium sized, with bluish-violet rays. The variety LÆVIGATUS (often grown as A. lævigatus) is more common in gardens, differing chiefly in the shorter involucral bracts. The var. MINIMUS (often grown as A. lævigatus var. minimus) is a dwarf and very floriferous plant with rosy-purple rays.

A. PUNICEUS.—A pretty late-flowering species, 5 ft. to 8 ft. high; leaves lanceolate, large; panicle large and much branched; flower-heads medium sized, with large purplish-blue rays.

A. LINARIFOLIUS.—A lovely species, often cultivated as A. pulcherrimus. It grows from 1 ft. to 2 ft. high; branches straight and leafy; leaves narrowly linear; panicles corymbose; heads medium sized, with large violet rays.

A. PTARMICOIDES.—A very neat early-flowering species, 1 ft. to 1½ ft. high; branches rather rigid; leaves linear to lanceolate; panicles corymbose; flower-heads small, with broad white rays.

A. CHAPMANNI.—A fine species, 3 ft. to 4 ft. high; stems bearing a few slender branches at the summit; leaves linear; flower-heads large, solitary on the branches, with long violet-blue rays.

A. BIGELOVII.—A robust species, 1½ ft. high; stems rough and branched above; radical leaves large, spathulate-lanceolate, stem leaves oblong, with broad, clasping base; flower-heads large, solitary on the branches, with long and very deep violet-purple rays.

In conclusion we may say that there are some others besides the foregoing in our gardens, which are well worthy of cultivation in large collections. Respecting the size of the various species it is well known that it varies considerably, not only in different seasons and in different soils and situations, but between the varieties of any given species; thus forms of A. versicolor grown together will vary from 6 ins. to 3 ft. high. A considerable range of variation, too, is seen in the colour of some of the species. Indeed, considering this variation, it would appear possible by selection to to obtain some exceedingly beautiful varieties of the more sportive species.—*X.*

HOME MANURES FOR THE GARDEN.

(*Continued from p.* 119.)

FARMYARD MANURE, ITS EFFECT ON SOILS AND PLANTS.—In the present article we propose to deal with the question of the application and effect of farmyard manure upon the working condition of the soil, and the growth of cultivated plants. In the first place the gardener is accustomed to look upon this substance as the natural manure for all his crops, and without plenty of "muck" the practical gardener is aware that the supply of vegetables, fruit, and flowers, would run comparatively short. The old adage is, "the more 'muck' the more Rhubarb," and the same thing we find holds good with many other plants besides Rhubarb.

Farmyard manure not only conveys to the land a supply of every ingredient which is essential to plant-food, but it provides very much more of every chemical constituent that can possibly be taken out of the soil by the growth of crops; thus, when the application of dung has extended over a series of years, as is the case with an old-established garden, the accumulation of plant-food in the soil is very great indeed.

It follows, therefore, that from the slow decomposition of dung, and the tardiness with which a large proportion of its nitrogen becomes available for the use of plants, three or four times more plant-food in the form of dung, than in active artificial manures must be applied to produce the same effects upon the immediately succeeding crop; hence the advisability of digging in stable dung in the autumn, where the land is intended for the growth of vegetables required for early summer use. On this account also, fresh strawy manure is inferior to rotten dung in the rapidity of its action, for the simple reason that it requires time to decompose and decay, its operation, therefore, does not commence until these processes of decomposition are in full career, whereas rotten dung has already passed through these preparatory stages, and consequently containing a part of its fertilizing constituents in that condition which plants require for their immediate nourishment. Fresh stall manure is accordingly better suited to plants of lengthened duration—perennials or hardy species for instance—than to those which require only a few months for their full development—that is to say, rather to winter than to summer crops.

In order to illustrate the slowness with which farmyard manure comes into action, and the reason why its application should precede by some months the crops for which it is intended, we may quote some valuable results obtained by Sir J. B. Lawes, at Rothamsted, Hertfordshire, upon the growth of various field crops.

In the first year of experiments with Potatos, the produce without any manure at all was 77 cwts. per acre; and in the same year, and in the same field, by the application of 14 tons of farmyard dung, the produce of Potato tubers was 85 cwts., being an increase of only 8 cwts. per acre from the use of the dung. During the next five years, however, the average increase of the farmyard dung over that without manure was 69 cwts. per acre.

Again, in the first year of experiments with wheat, the produce without manure was 15 bushels of dressed grain and 10 cwts. of straw per acre; and in the same season, by the application of 14 tons of farmyard dung, the yield of dressed grain was 20 bushels with 13 cwts. of straw, being an increase of but 5 bushels of wheat grain and 3 cwts. of straw from the manurial constituents supplied by the 14 tons of dung. Whilst in the next thirty years in which wheat has been grown during the whole period in the same field, and with the same description of manures, farmyard dung applied at the rate of 14 tons per acre every year, gave an average increase of 20 bushels of dressed wheat and 21 cwts. of straw over the unmanured plot. With Barley, grown year after year on the same land for thirty successive years, the results are very similar and equally significant.

Dung possesses two very important properties, one mechanical, and the other chemical. By reason of its bulk and the quantity of organic matter it contains it serves to render the soil more open and porous, and so enables it not only to retain more water in a favourable condition, but also to absorb and retain more of the valuable fertilizing properties of the dung, and so to arrest the passage of them in solution below the range of the rootlets of plants. The extent to which farmyard manure may increase the water-holding powers of soil is strikingly shown by one of the Rothamsted experiments. During a very wet winter (January, 1869) samples of soil were taken from several plots of the experimental wheat field. On analysis three of the soils were found to contain the following amount of water, expressed in tons per acre, to the depth of 3 ft. from the surface.

	Plot 2. Farmyard Dung.	Plot 3. Unmanured.	Plot 8. Artificial Manures.
	tons.	tons.	tons.
Water in saturated soil.....	1,610	1,396	1,549

The soil of Plot 2, thus contained when saturated, 214 tons more water than the soil of Plot 3, and 61 tons more than the soil of Plot 8; quantities corresponding to 2·12 and 0·60 ins. of rain respectively.

Further, by the gradual decomposition of the organic matters of dung, the pores of the soil become filled with carbonic acid, which probably serves to retard the conversion of ammonia generated from the dung, into the more soluble forms of nitric acid, in which shape the valuable properties of all manures are found to be most liable to be washed away by heavy rains, and lost by drainage.

Wherever vegetable matter exists, and is undergoing decay in the soil, the falling rain makes its way to the roots of the growing plants, more or less laden with carbonic acid. Any material, therefore, that hastens the decomposing and dissolving of those substances that are necessary to healthy growth of cultivated plants, whether they belong to the floral or to the horticultural department, must be a boon to the gardener. For this reason it is that lime (upon which we propose to say a few words upon a future occasion) judiciously used is such an invaluable agent for bringing into useful activity the otherwise sluggish ingredients of garden refuse and of farmyard manure.

(*To be continued.*)

The Amateurs' Garden.

Exhausted Zonal Geraniums.—"What shall I do with my Zonal Geraniums?" said an amateur gardener to us the other day. "They have gone out of bloom, the soil is somewhat soddened, and a green moss-like substance has covered the surface." We went to see our friend's plants, and saw at a glance what was the matter. He informed us that they were potted in September, 1883, and no shift or top-dressing of any kind had been added during the summer. They had been watered freely, and our friend, though to some extent a careful and thoughtful man, had fallen into the error of supposing that a plant requires a certain quantity every day, whether they are in active growth or not, and whether the weather be wet and cool or drying and hot. Really some amateurs, and, indeed, some self-styled gardeners, do commit amusing errors, and it is not uncommon, when a plant is given to a person, to hear them say, "How many times a day must I water it?" I hope The Gardening World, by disseminating correct and simple rules of culture, will lead amateur gardeners to *think*, and exercise a little common sense. When it accomplishes this, as I firmly believe it will, we shall witness a marked improvement in the management of plants by *bonâ fide* amateurs. But I am getting away from my story.

I advised my friend—First, to withhold water from the plants; secondly, to cut them back rather severely, leaving only the main stem and shortened main branches 3 ins. or so in length; thirdly, as soon as the cut-back branches began to show signs of breaking into growth he was to turn them out of pots, shake all the soil from the roots, cut back any long ones fairly close, and re-pot them in pots only just large enough to take the trimmed roots. Further, the pots were to be well drained, and the compost used one made up of soft yellow loam, leaf-soil, silver sand, and a little well-decomposed manure that will crumble finely when rubbed by the hands. As soon as re-potted, the plants are to be placed on a shelf of the greenhouse, in full sunlight, and only watered just sufficiently to keep the soil fairly moist, and of a nature to cause the roots to become active. The plants must be kept from frost during the winter, but not incited to growth by keeping them too warm. They require to be kept from frost and cold draughts—nothing more. In the spring, when active growth commences, they should have a shift into a larger pot, and be kept shaded for a time, and then well looked after in the matter of watering. I find that these make excellent plants for flowering during the summer, and towards the middle, when the plants are blooming freely, they will be greatly helped by a slight sprinkling of Clay's Fertilizer put over the surface of the soil once a week and watered into it.

Then as to the cuttings from the plants. They need not be wasted. The stoutest and hardest can be made into cuttings, put into pots of light sandy soil pressed firmly about them, and the pots stood on the shelf of a greenhouse, but not neglected during the winter. A proportion of these will root, and they will be found to come in very useful for flowering at mid-summer and later on.—*Quo.*

Cocoa-nut fibre refuse.—This is such a useful help to amateur gardeners in many ways, that no apology is necessary for calling attention to it. It is no doubt one of the very best materials for forming a plunge-bed, as it most effectually protects the roots of the plants from an excess of heat or cold, prevents the worms entering the pots, and when pots are placed out-of-doors for the summer season much labour in watering may be saved and injury to the plants prevented by plunging the pots to within an inch or so of the rim in a bed of refuse, and for all plunging purposes it is much nicer to handle than ashes. Heavy garden soils are made much more workable by mixing with them a quantity of cocoa-nut fibre refuse; it serves to keep it open, and the roots run freely in it. In summer it is very useful for mulching purposes, and especially for flower-beds on lawns; while in winter many a choice herbaceous plant can be preserved safely through a time of severe frost by means of a heap of refuse being placed over it. In potting Auriculas, Polyanthuses, and many other things, I have found it highly serviceable to put a thin layer of refuse over the crocks used for drainage; it prevents the soil from being washed down among and clogging the drainage. It is a true amateur gardener's friend. —*Quo.*

Dahlia, White Bedder.—This is one of the best plants extant for the backing up of ribbon borders, especially where the border skirts a belt of shrubs. If planted 2 ft. apart in the row, this distance will give them sufficient room to fill up the ground well. This, I find, is the most tender Dahlia to keep through the winter. The plan I adopt is to put the roots into a pit where a little heat can be turned on in the event of frost. Cover the bottom of the pit with a layer of ashes, and then place the tubers upon it and cover them over with the same material to about an inch in depth. This keeps the tubers plump and also free from the dry rot.—*W. G.*

Fuchsias.—Fuchsias that are planted out in the flower-garden should now be taken up and stored away under the stage of a greenhouse or similar structure. Those that are in pots may be shaken out, and the pots be washed and used for other purposes, while the plants are stored in a similar manner to Dahlias.—*W. G.*

Echeveria secunda glauca.—The plants used in the flower-garden should now be taken up, the lower leaves and offsets taken off, and part of the root cut off and then dibbled in a cold frame where the soil is of a sandy nature and well drained. They should have one good soaking of water after they are put in, and then no more till the spring. In the event of frost there should be a lining of leaves and manure mixed, put round them and a thick covering of mats on the top. In favourable weather they should have all the air possible.—*W. G.*

Roses for a North Wall.—From Mr. Bedford, Straffan House Gardens, Co. Kildare, we have received a box of beautiful Tea Rose buds gathered from plants growing on a north wall, as indicated in his note in our last issue. The varieties are Gloire de Dijon, Safrano, Madame Berard, Reve d'Or, Niphetos, and Souvenir d'un Ami, and considering that they had passed through 9 degs. of frost, were wonderfully fresh and bright. Mr. Bedford remarks that he has none so good on south walls.

Ampelopsis Veitchii.—What a glorious plant for covering walls is this hardy Japanese creeper! It seems to thrive in almost any soil and under the most adverse conditions as to root accommodation, and another of its good qualities is, that it does not require nailing, but clings with unfailing tenacity to either stone or wood-work. At the present time few, if any, creepers surpass it in beauty; especially where planted on a Southern aspect. Just now it presents a most enchanting picture on the south-west side of Wyeombe Abbey, where it covers the front of an arcade, running up the pillars and hanging in festoons of vivid crimson in the archways.—*C. H.*

Aquilegia glandulosa.—We frequently see accounts of this plant, which is rather singular, as I believe it is not in cultivation. There are several varieties of A. glandulosa, which are well worth notice, and preferable to the type, as far as show is concerned. I have the following in cultivation:—A. glandulosa so-called, which is nearest to the true type, and which Dr. Regel states is not in cultivation. I believe he is the only botanist who knows it. It is a self-coloured dark purple flower, nothing near so ornamental as the A. jucunda, or A. bicolor varieties, and would disappoint those who expect so telling a flower as Aquilegia glandulosa var. Jucunda of Regel. The varieties I have are, bicolor, intermedia, jucunda, (the beautiful variety so well grown by Messrs. Grigor of Forres), longicalcarata, parviflora, stenopetala, and unicolor. I may state that the whole of the above varieties came direct from Dr. Regel.—*Ebor.*

MYOSOTIS DISSITIFLORA.

This is one of the most charming things for pots that can be had, as it is quite unrivalled among plants for its lovely shade of blue, which, though delicate and beautiful outdoors, is even more so under glass, as, when exposed to frost or cold, it is apt to be a little red in the petals. Under glass the flowers lose this tinge or do not assume it, and as they can be had so much earlier by potting up a few plants any that are fit should be lifted at once. The strongest and best are those from seedlings that have been grown in some shady border, and if these are taken up carefully with fair-sized balls, and put into light, rich soil they will bloom profusely very early in spring.

The way to manage them, when lifted and potted, is to stand them in a cold frame, where they should be well watered and have plenty of air by tilting the lights or withdrawing them on fine days, as the plants are impatient of confinement and when kept at all close are very subject to mildew. If this shows on them the only remedy is to dust with dry sulphur at once, and let it remain on the leaves for some days, after which it may be washed off by water used with some force through a syringe. By-and-bye, when the plants are brought into the greenhouse or window and begin to flower, liquid manure will be a great help, the best and most inodorous being that from soot, which suits all soft-wooded things, and should always be at hand in a garden. The way to make it is to have a large tub with a tap, as then it can be drawn off clear, a state it is seldom in when stirred from dipping, as more or less of the soot will float at the top.—*Alpha.*

TWO USEFUL ADIANTUMS.

There is no doubt that with plant-growers, either for decoration, cutting, or market purposes, the reigning favourite among Maiden-hairs is the common A. cuneatum, whose beauty and usefulness has taken such a legitimate hold on the gardening world that none of the new-comers—not even the stately and beautiful A. Farleyense—have ever been able to depose, or even attempt to rival it as a general favourite. That circumstance, however does not prevent each of the Maiden-hairs from having its share of admirers and contributing their beautiful and diverse foliage to give variety to our plant-houses. But not only to the stove or greenhouse is their usefulness confined; as plants for indoor decoration they are most effective and durable, qualities which the London floral decorators were not slow to recognize in the two varieties, the subjects of our illustration, as they seemed to withstand the dry atmosphere of the dwelling-house perhaps better than any others, their tall graceful habit, at the same time rendering them very desirable for such work.

Adiantum Sancta Catheriniæ (the cut-leafed variety) is an old inhabitant of our plant-houses, and one very easy to cultivate without much heat. It is of the A. cultratum section. and when well grown it is often 2 ft. to 2 ft. 6 in. in height, and with fronds 2 ft. across. A. Victoriæ is a garden variety raised by Mr. Bause, and supposed to be between A. decorum and A. scutum.—*J.*

LOBELIA CARDINALIS.

Any one seeing this plant, unless possessed of some knowledge of botany, would hardly know it to be a Lobelia, as instead of being anything like the popular bedding varieties, L. cardinalis more closely resembles the Salvia, both in habit, appearance, and colour, as it sends up tall stems or spikes ranging from 2 ft. to 3 ft. high, that become clothed with large bold scarlet flowers. For autumn blooming, either in pots for the embellishment of the greenhouse or planting out in borders or beds, it is one of the finest and most telling things that can be had, as besides bearing the bright coloured blossoms referred to, it has rich purple foliage, much like that of the dark coloured Beet.

When used in beds it is best to plant it among other things, arranged so as to carpet the ground, in which way it is very striking, especially if the plants chosen to associate with it be suitable, and afford a nice contrast, such as the golden-leaved Abutilon, variegated Pelargoniums, Centauria candidissima,

or Cineraria maritima. A fine effect is also produced by having it in the foreground, or at the back of plants of Chrysanthemum frutescens, in which, and many other positions, it is employed most successfully at Gunnersbury Park, where Mr. Roberts makes such happy hits in his mixed combinations, and breaks through the formality of arrangement that prevails too much in most gardens.

To grow the Lobelia cardinalis well out-of-doors, it requires good soil and plenty of water, as it is a moisture-loving subject, and delights in being quite wet at the roots. Although considered hardy, plants are not safe during the winter except in favoured situations, and should therefore be either protected or taken up, the latter being the best and least troublesome plan, as they can be laid in closely together, and kept from frost, in any cold frame. Like most herbaceous subjects, the Lobelia cardinalis admits of ready increase by division, the right time for propagating by that means being the spring, when the plants break up from the crown, as then they may be separated according to the number of shoots they show, and each can be potted singly or be dibbled out in a bed of light soil, to be lifted from there and grown on in a greenhouse, or planted out in the garden at pleasure.

If for the former, the best way is to pot in small pots at the first start, and to shift on after, when the plants may either be plunged in some cool, half-shady spot outdoors, or be kept in any spare pit or frame till the flowers begin to appear. Besides being propagated in the manner referred to, Lobelia cardinalis may easily be raised from seed, which should be sown early, or the plants will not bloom the same year. During their early stages seedlings have green leaves, but after a time these give place to the dark ones, which make their appearance when the plants are advancing for bloom.—*J. Sheppard.*

THE BUCKWHEAT.

Among the multitude of charming wildings that garnish the roadsides and margins of fields and commons in England during the summer time, there is one that is worthy of more than a passing glance, not only on account of its homely beauty, but also of its value and importance as a food plant. Let us examine a specimen: it is an annual; it is sown, grows to perfection and dies within a year, in the course of a few months indeed. The plant is an upright grower, with broad-arrow shaped leaves and reddish, glossy stems, bearing at the end of each drooping, short, racemes of tiny pale pink flowers. Botanists may recognize in this short description Fagopyrum esculentum, or the common Buckwheat. The question will naturally arise, How came it here? Wheat and Barley don't grow even by chance by the roadside; care and trouble must be taken to prepare the soil for their reception, and protect them from birds and insect pests and weeds. From the seed-bed to the granary, vigilance must be exercised in order to secure a crop. But this wayside waif takes care of itself! Whence came it?

Well, probably the seed from which this particular plant sprang was driven by rough usage of wind and weather to settle here, or perhaps a dainty field mouse dropped it out of its silken paws, or it was shaken from the flitting plumage of a pheasant from the squire's preserves. Near the corner of the wood then, by the keeper's cottage, a plot of ground was sown early last May with Buckwheat. Within a week the earth was covered with a carpet of green leaves, and by the end of July it was aglow with rosy colour. It is now November, and for months past the gorgeous long-tails have been feasting on the seeds as if totally unconscious of the existence of breechloaders or the various contingencies of bread sauce.

But the small, black, rough, three-sided seed, called, from its resemblance to Beech-mast, "Beech-wheat," after the German "Buch-weizen," is not only nourishing food for pheasants, but for men. Do not Germans and Russians make delicious cakes and porridge therewith, and did not a certain Royal Russian, who worked for a time as a ship's carpenter in one of our English dockyards, delight to sup off a dish of boiled Buch-weizen mixed with butter and such savoury condiments as his Imperial Majesty ordained to tickle the royal palate?

"Blé Sarrasin," as our French neighbours call it, owes its name to a general belief that the seed travelled westward with the Crusaders. In a light, dry soil, with fine weather, it is one of the quickest green crops grown, and it makes excellent food for cattle and sheep. It is, however, wholesome and nutritious as human food. The seeds contain about 10 per cent. of glutten and 60 per cent. of starch and sugar. The Americans make buckwheat cakes of the meal, which resembles oatmeal in appearance. A batter is made with the help of milk or buttermilk, and a tablespoonful of the mixture placed for a minute or two on the griddle-plate and tossed. The Americans eat the cake with molasses.

Buckwheat is extensively grown in France and Germany, where it is employed as food in the form of a coarse kind of bread. All animals of the farm like it, and when given to cows it causes them to yield an abundance of excellent milk. Birds and bees, too, are very fond of it; bee-keepers frequently sow the seeds near their hives. Buckwheat is also sown in order to serve as a green manure. In this case it is cut when in full blossom, and ploughed in. All the nutriment the plant has gathered and stored up from the air, water, and earth is thus returned to the soil for the benefit of the succeeding crop.—*L. E.*

ADIANTUM SANCTA CATHARINIÆ AND A. VICTORIÆ.

FRUITS.

Strawberries: Autumn Treatment.—There are few things in gardens more badly treated than Strawberries, which as soon as their leaves get a little shabby, and often before, are stripped and left naked, as they are subject to a trimming and have all the foliage removed, when the hearts are exposed to hard frost and whatever inclement weather we get during winter. Instead of thus denuding them, all they should have done with them is just the runners cut off and the weeds and litter cleared away, when all will be ready for a top-dressing of dung, which will not only enrich the soil but feed and encourage the surface roots, and assist in protecting the crowns of the plants. Digging among these, as is frequently done, is almost as bad as robbing them of their foliage, and on no account should the ground be disturbed, except by hoeing, as the firmer Strawberries are in the earth, the better they do.

Where new beds have to be prepared, this is a good time for doing it, and the way to set about this work is to well manure the land, and then deeply dig or trench it, after which it should be trodden firm and, when levelled, marked out in rows. The proper distance for these will depend on the sorts of Strawberries to be grown, but there is nothing gained by stinting them for room, and it is, in most cases, advisable to have the lines a yard apart, and 18 ins. or so from plant to plant. This gives plenty of space for the purpose of getting between to gather the fruit, which, by having full light and sun, colours well, and is first-class in flavour. Many are very particular about having young runners in forming fresh plantations, but some of our best market-growers, seem to prefer what they get from old stools, which, when destroying worn-out beds, they dig up and pull to pieces, and plant the best and most promising, which being strong, break well, and soon throw out a number of fresh crowns around them.

What I like best are the plants that have been forced, which bear heavy crops the year following, and after standing another season are got rid of, instead of being left to cumber the ground. Why Strawberries fail is in letting them remain too long as they grow themselves out and form quite stems above the soil, with exposed collars, that are bare of young roots, when the crowns cease to flower.—*Alpha.*

Raspberries.—These, like Strawberries, are subjected to much ill-usage, as they are either forked or dug amongst as if there were no such things as roots belonging to them, instead of which their active feeders are mostly on the surface, where they should be left undisturbed, and have a top-dressing of manure to act as a mulching, to lie on and rot gradually during the winter. Before this is given, however, it is necessary to go over the plants and pull up any straggling suckers that stand away from the stools, and cut out any canes not wanted. The requisite number, if the plants are at the usual distance of 4 ft. apart, being from three to five, according to their size and strength. This done, the next thing is to examine the stakes to see if they will go another year, and if not, they should be renewed by placing others, or substituting iron, which, in the end, is the cheapest, as it lasts for an indefinite time. Some train or support their Raspberries by using strained wire, which answers admirably, as the canes may be spread out, and the fruit more exposed, which gives it better colour and flavour. If the training is done to stakes, it is a good plan to give the canes a twist round, carrying half one way and the remainder the other, by doing which they hold up stiffer, and will almost stand of themselves. Autumn-bearing kinds may be cut quite down, as they fruit from the young growth, and when beheaded, the ground should be manured the same as advised for the others.—*Alpha.*

Whinham's Industry Gooseberry.—"As a grower of several years' standing," writes Mr. Geo. Fawkes, Bransford Road, Worcester, to *The Gardeners' Magazine*, "I can safely say that Industry Gooseberry surpasses any of the older varieties for growth, bearing, and what is of great importance to market-gardeners, weight and size of berry. From a plantation of two-and-a-half years, say three summers' growth at the time of gathering, my average crop this season was from ten trees one pot (local measure) or 84 lbs. of berries. The growth is so good that the trees planted 6 ft. by 5 ft. are nearly, and in some cases are, touching each other. It is an upright growing sort, and, I think, impatient of much pruning, where the shoots are left long, they fruit to the very tips. It has this very desirable quality (when the spring frosts are frequent) in flowering later, and the berry swells quicker than is usual in any other variety." Mr. Fawkes adds that Messrs. R. Smith & Co., St. John's Nursery, Worcester, are cultivating this variety largely.

Fruit Show at the Health Exhibition.—The last of the admirable series of Fruit Shows organized by the Health Exhibition authorities took place on Tuesday, Wednesday, and Thursday last, and if anything the show was visited by a larger number of persons than either of the others. It was in all respects an excellent Show, some nineteen hundred dishes of Apples alone being staged. The trade growers were well represented, such firms as Messrs. Rivers & Sons, Messrs. James Veitch & Sons, Messrs. Cheal & Sons, Messrs. G. Bunyard & Co., Messrs. Lane & Son, and Messrs. G. & J. Lane, of St. Mary's Cray, Kent, having large collections of fine samples, carefully named and well put up. The prizes for 100 varieties were won by Messrs. H. Lane and Son, Berkhamstead, Messrs. G. & J. Lane and Messrs. Bunyard. The amateurs' class for 50 sorts was also a strong one, and in a brisk competition Mr. Haycock, Barham Court, came in first; Mr. Sidney Ford, Leonardslee, Horsham, second; and Mr. G. Goldsmith, Hollanden, third. Good collections were also shown by Mr. Evans, gardener to J. S. Hodgson, Esq., Lythe Hill, Haslemere; Mr. Waterman, gardener, Preston Hall; Mr. Cummings, gardener, The Grange, Wallington; Mr. J. Gilmour, gardener, Seacox Heath, Sussex; and J. Searl, Esq., Crediton, Devon, whose samples were, however, much speckled, and nothing like so fine as those grown in Kent, Surrey, and Sussex. Class 3 was confined to growers in the Northern and Midland Counties of England, but it did not bring out much competition, the only collection we saw being one put up by Mr. J. H. Goodacre, Elvaston Castle, Derby, which contained, however, an excellent lot of samples. From Scotland there was only one collection, and that a poor one as regards quality. France and the Channel Islands were unrepresented, but Messrs. Northard & Lowe, Cotton's Wharf, sent a fine exhibit of Nova Scotian varieties. The best half-dozen culinary varieties were Mère de Ménage, Brabant Bellefleur, Peasgood's Nonsuch, Blenheim Orange, Lane's Prince Albert, and Annie Elizabeth, all very large specimens, shown by Mr. C. Ross, gardener, Welford Park, Newbury. Mr. Haycock staged the best dozen varieties, which consisted of Mère de Ménage, Belle Dubois, Reinette Tres Tardive, Warner's King, Blenheim Orange, Peasgood's Nonsuch, Reinette du Canada, Lord Derby, Dr. Harvey, Dumelow's Seedling, Stone's Apple, and Bedfordshire Foundling. In the dessert classes, Mr. Rutland, gardener to the Duke of Richmond and Gordon, Goodwood, staged the best twelve sorts, but it was a close race for first honours between him and Mr. Haycock. The Goodwood varieties were the Scarlet Pearmain, Ribston Pippin, Pennington's Seedling, Lewis' Incomparable, the Nannie Apple, Melon Apple, Adams' Pearmain, Cockle Pippin, Cox's Orange Pippin, Ingestrie Yellow, Nonpareil, Golden Russet, and King of the Pippins. For six dessert sorts the first prize went to Mr. Goldsmith. Mr. Rutland also had the six heaviest fruits, samples of Gloria Mundi, which collectively weighed 7 lbs. 2½ ozs., the next heaviest being Mère de Ménage, 6 lbs. 8 ozs., from Mr. Walker, of Thame. The first prize for the highest-flavoured variety fell to a splendidly-coloured sample of Cox's Orange Pippin, shown by Mr. Waterman, while the same variety was also second, and Ribston Pippin third. The first prize for Filberts and Cobnuts was won by E. D. Lee, Esq., Hartwell House, Aylesbury, with a nice collection of fourteen dishes.

In the class for six dishes of Pears there were half-a-dozen competitors, and Mr. Haycock came in first with superb specimens of Pitmaston Duchess, Duchesse d'Angoulême, General Todtleben, Passe Crassane, Doyenné du Comice, and Conseiller du Cour.

FLOWERS.

Eucharis.—At p. 86, "X." very correctly describes the Eucharis I referred to at p. 69 as being erroneously called E. candida. As "X." points out, the growth is very similar, in fact no one but an expert would detect the difference unless it happened to be pointed out to them; but when E. subedentata does flower, which is seldom, its distinctness can at once be seen. From a gardener's point of view I think the latter variety worthless. I knew a plant for four years which only flowered once in that time, though under the care of a good Eucharis-grower, who at last threw it on the rubbish heap. I would like to inform "R. P. G." that I find E. candida flowers equally as freely as E. grandiflora. I have never seen more than eight flowers on a spike of the last-named variety, whilst I have had ten flowers on a spike of E. candida. As to the flowers of the latter being equal to E. grandiflora, I would say that it depends upon what use we put them to; and I think this is the best way of deciding upon their merits. Both of them are indispensable. I do not attempt to claim superiority for E. candida as a decorative plant, or for arrangements of cut-flowers for either drawing-room or dinner-table decorations, over E. grandiflora, although for all these purposes it will be found to fill a by no means inconspicuous position, and is certain to come in for much admiration. But for button-hole or other bouquets which have to be thought of nowadays, I do claim for E. candida the first position, and for this purpose I feel confident "R. P. G." will readily do the same. I have not grown E. Sanderiana, which is evidently a favourite with "R. P. G." I may perhaps, however, be permitted to say that I formed an adverse opinion of it from plants I saw in flower at Messrs. Veitch's nursery; but as tastes differ, I hope no one will object to our enjoying our respective opinions.—*E. Dumper.*—[Eucharis Sanderiana will undoubtedly become a favourite with gardeners, when they know more of its easy cultural requirements and free-flowering habit.—*Ed.*]

Salvia Blue Beard.—Amongst the novelties to be introduced next year by Mr. B. S. Williams, we note a very handsome hardy annual bearing this name, which grows about 8 ins. high, and is of free-branching habit, with square stems and sage-like foliage. "The spikes are furnished at the apex of the shoots, with a number of brilliant deep mauve-purple bracts, which give to the plant a most unique appearance. The flowers, which are produced in a series of whorls, are small, and of a bright purplish colour, with the lower lip white." It should be sown in February, and grown on for planting in large beds and borders, in which position, Mr. Williams remarks, it has a very effective appearance.

Willdenovia teres.—A specimen of this graceful plant may now be seen in the Cactus-house at Kew. It is a most interesting subject, and belongs to the Restiaceæ, an order seldom seen in cultivation. This species, however, has long been cultivated, as it was introduced from the Cape of Good Hope as long ago as 1790. The stems are sedge-like, and erect for over 2 ft. high, after which the numerous branches arch over, and hang down in the most graceful fashion. The very numerous branchlets are bright green, and each bears at the end a little spikelet of deep brown bracts, forming a charming contrast. It grows well in a mixture of loam and peat, and is readily propagated by division of the root.

Ardisia mammillata.—This is a new Ardisia, described by Dr. Hance in the October number of *The Journal of Botany*. He there remarks:—"This charming compact little plant is worth cultivating for the rich bright foliage and wax-like blossoms, and, as Mr. Ford has it growing in a strong and healthy condition, I have no doubt it will soon find its way into English collections. Its nearest affinity is with the Hong-Kong A. primulæfolia." It was collected in Lo-fausham in the province of Canton, by Mr. Ford.

It is remarkable for having a stem only 3 ins. to 6 ins. high. The leaves are oblong, softly hairy, obscurely cremate, and 3 ins. to 4½ ins. long by 18 to 21 lines broad. The umbels are 2 ins. long, each with 12 to 15 nodding flowers; the corolla is 5 lines in diameter, and white with red spots; and the stamens pale straw colour.

Sternbergia lutea.—This handsome autumn-flowering bulb may now be seen in many gardens. It is one of the few really handsome hardy bulbs to be met with at this dull season. The leaves are narrow and very dark green, the plant forming a dwarf, compact, little tuft. The flowers, which much resemble a Colchicum, are of a clear bright yellow. It was introduced from the South of Europe in 1596.

Roses for Spring Forcing.—The present is a good time to make a selection of Hybrid Perpetual Roses for potting. It is by no means an easy matter in making a selection to secure such sorts as are sure to prove satisfactory, and I think that many of the older varieties are still preferable to the newer sorts. Although the following list may not include all the best sorts, yet I believe it will be found to include none but useful varieties for forcing:—Anna Alexieff, Annie Wood, Abel Grand, Alfred Colomb, Baroness de Rothschild, Baronne Prevost, Beauty of Waltham, Boule de Neige, Countess of Oxford, Dr. Andry, Duke of Edinburgh, Dupuy Jamain, General Jacquiminot, John Hopper, Jules Margottin, La France, Magna Charta, Madame Lacharme, Madame Victor Verdier, Madlle. E. Verdier, Marie Baumann, Prince Camille de Rohan, Pierre Notting, Paul Ricaut (H. B.), and Reynolds Hole. For potting, good, rich, rather heavy loam should be selected, to which should be added about one-third of well-rotted stable-manure and a good sprinkling of horn or bone-manure, and the plants be potted as firmly as possible. After potting the plants may be placed in any sheltered position out-of-doors, and the pots be covered with ashes or any other material that may be at hand. About January is a good time to prune them, and after this it will be better to have them in a position where they can be protected from frost. Although plants that have been established in pots are best for early forcing, yet those potted in the autumn will be very useful for a second-early crop the following spring, especially if they can be started where there is a moderate bottom heat, and where plenty of air can be given, so that the roots make a good start before the plants make much growth.—*H.*

Piper porphyrophylla.—This fine-foliaged plant has long been known as Cissus porphrophylla, the fact of it belonging to the Pepper family does not appear to have been suspected when the plant was described. It is a climber, and well suited for covering a wall or tall pillar in the stove. The leaves are cordate-elliptical with acute points, dark green, with whitish-green blotches, which are most numerous along the veins. In the young leaves these blotches have a rosy tinge. We saw the plant a few days ago in the stove at Kew.

Seasonable work in the Plant-houses.—By this time all plants should be in their winter quarters, so that there is not much work of importance going on in the plant-houses just now. Chrysanthemums should be looked after as they flower, to ascertain if they are properly labelled, and a note should be taken of the best sorts. Much useful work may be done in the way of exterminating insect life. If plants that are subject to mealy-bug, scale, &c., are thoroughly cleansed during the winter months, they will give far less trouble in the spring when they begin to make young growths. Although I do not hold with the use of paraffin as an insecticide generally, yet it may sometimes be used with advantage especially for Stephanotis, Gardenias, or other thick-leaved plants, and where mealy-bug abounds, the walls and sashes may be thoroughly washed with it. In using any kind of insecticide, care should be taken that it is properly dissolved in the water, and it will be found in all cases to be far more efficient if used while warm. I have tried experiments with all the popular kinds of insecticide, and have generally found them to be of equal merit if used carefully, and at the proper strength and temperature.—*H.*

VEGETABLES.

Parsley.—Other herbs might perhaps be done without, but Parsley is indispensable as an agent for flavouring, and is used more or less in most dishes, which being the case, the beds should at once be looked over to see what can be spared, and all that is fit picked for the purpose of being taken to the kitchen and dried that it may be stored and ready to hand when there is little or none in the open. The way to dry and preserve it is to subject it to heat in an oven, when it will break up, and may then be bottled and corked tight, after which it will keep for a length of time in any dry place. Those who wish to have it fresh and green during the winter will do well to take a portion of the roots up, and replant them in some warm sunny spot where they can be covered with a frame or handlight, according to the quantity likely to be wanted. By managing this the plants will be able to grow during frosty weather, and emit young leaves, which will be fresh and nice-looking for garnishing.

Lettuces and Endives.—It is an easy matter to keep up a supply of salads during the summer, as then Lettuces are abundant and good, but not so now, and most of us are glad to fall back on the Endives. This varies much in quality, according to the way it is treated, the best flavoured and most crisp and tender being that subjected to a little heat, which starts it growing and improves the texture and fibre. A Mushroom-house, or any dark place where there is a little warmth, answers well for putting it in, as there it blanches, and after being in for a week or ten days is ready for use. In taking it up, the plants should be lifted with good balls and then put into moist soil, but not watered, as wetting the leaves would cause them to damp. Those who have not a Mushroom-house may make a frame answer the same purpose by standing it on a bed of fermenting material, and filling the frame with soil and then planting the Endive. This is also a good way of treating Lettuces that have turned in, as it keeps their roots moving, and prevents flagging, which brings on toughness of leaf. Young plants intended to stand the winter are best without the warmth, and should be kept with plenty of air to make them sturdy and strong. Any that are planted out ought to have a warm sunny border, or be placed close along the foot of a south wall, where they will be safe from hard frosts, and will turn in very early in spring. The hardiest and best for this season is the old Bath Cos, which is a compact-hearting sweet-flavoured Lettuce. Hick's Hardy Green is also a good one, but does not stand so well as the one just referred to.

Perennial or Spinach Beet.—I do not think this vegetable is known, or grown so much as it ought to be, considering its usefulness, especially on light and gravelly soils, where the ordinary summer Spinach so quickly runs to seed. It is some years ago since I became acquainted with its merits, and since then I have completely given up growing the common sort. A sort which I found did much better was the monstrous Viroflay, which has much larger and thicker leaves, and stands longer, but it also was given up in favour of the Spinach Beet. Its cultivation is identical with that of other Beet, only that in mild winters or with protection it will go on yielding quantities of leaves all through the season; and the amount of produce to be had from it when liberally cultivated is something enormous. When cooked it is quite as succulent and not to be detected from other Spinach. To guard against accidents during winter, however, I always sow a piece of the prickly winter Spinach, and between one and the other we can supply a dish all the year round. Unless sown too early, the Spinach Beet is not apt to go to seed. Ours is generally sown about the middle of March.—*R. Stevens, Paston.*

Celery, Henderson's White Plume.—This is an American novelty introduced last season, and it is so named because of its natural peculiarity, namely, that the stalks and portions of its inner leaves and heart are white, so that by closing the stalks, either by tying them up with matting, or by simply drawing the soil up against the plant, and pressing it together with the hands, and again drawing up the soil with the hoe, so as to keep that which has been squeezed against the Celery in its place, the work of blanching is completed. Thus it is we get a Celery blanched in proper condition for the table, just as easily as a Cabbage, or a Lettuce, and so avoiding the slow and troublesome process of earthing-up. The introducers say "The great bugbear in the cultivation of Celery, by those engaged in growing it for market, has been the labour entailed in the 'earthing-up' to whiten or blanch it: and with the unskilled amateur growing a few hundreds for private use, the troublesome process of 'earthing-up' has usually been a detriment sufficient to prevent him from trying. Now he can grow this new sort just as simply as Endive or Lettuce. All that is necessary to complete blanching being to tie it up as we do Endive or Cos Lettuce." Now our readers are as fully acquainted with the merits of this new type of Celery as we are ourselves. If any enthusiastic amateur is desirous of realizing a fortune in a short time, now is his opportunity.—*Quo.*

Brussels Sprouts.—I am tempted to ask whether the passion for big things so rife even yet amongst gardeners is not carried a bit too far in the case of Brussels Sprouts. The present methods of culture all tend to produce Sprouts as big as hens' eggs, rather than those hard compact little knobs about as big as walnuts with which we were once so familiar. In the anxiety thus shown to obtain huge examples, the chief recommendation of these Sprouts, viz., that they are small and solid really tiny or miniature heads, seems to have been overlooked. For consumption at table the Brussels Sprout is assumed to be of the most useful and perfect form when whole, it is just a convenient mouthful for a lady. Now we see them so big that they form mouthfuls for giants. It is as absurd to have to carve a Brussels Sprout in one's plate as to carve a Green Pea, for both are meant to be eaten whole. But there is more than this to be said, for with size in this member of the Brasseca family we also get strong flavour and a decided loss of that singularly tender and refined succulence found in the old-fashioned Sprouts. It is true that big as any kind may under good cultivation become, we have but to grow them in poorer soil to have them smaller and more acceptable. But even then we lose something, as the Sprouts would lack that hardness or solidity which is so essential a feature in them. Anyone who will turn aside from the coarse giant forms of the day and select for us a strain that from bottom to top of the plant stems sets a solid coating of small, good-coloured, and firm Sprouts, and does that throughout will render good service, not only to lovers of Brussels Sprouts, but also to the reputation of one of our best vegetables.—*D.*

The Stamfordian Tomato.—Having in past seasons grown heavy crops of handsome Stamfordian Tomatos, and been in every way well satisfied with the result, but we have this season experienced a difficulty in getting it to set a crop of fruit, and the difference is so great that I think of abandoning it and growing some other variety. Perhaps some of your readers will kindly give the result of their experience with it. We have done so well up to now that I feel loath to give it up.—*W. B. G.*

New American Peas.—One of these is Bliss' Abundance, a very dwarf, free-branching, early variety that bears a large number of fine pods, and was during last summer awarded a first-class certificate of merit by the Royal Horticultural Society. It seems to be just the very thing for small gardens. This is the latest novelty among American Peas, and we place it first on the list. Another raised by Bliss also is named Everbearing; it grows about 2 ft. 6 in. to 3 ft., is very free, and produces a remarkable succession of large pods. Then there is Henderson's First-of-all, which is illustrated by a very elaborate woodcut in the list before us. We are not quite certain if the artist desired to make the plant the bearer of the pods, or the pods the bearer of the plant; most probably the former. It is a very dwarf, and very early variety, bearing large clusters of fine pods. We really have had some valuable acquisitions from across the Atlantic.—*Quo.*

THE

Orchid Growers' Calendar.

Potting Orchids.—There can be no doubt but that Orchids are re-potted far too often in many collections, and that much mischief is done by having a set time for doing the work, and at that time going through the collection and re-potting each plant as it comes to hand. While it is at all times advisable to be on the watch for what are called "shaky plants" and potting material which has become bad and sour, and to re-pot them at any season, and even three or four times a year if need be until they are established, when once a plant has become thoroughly well established, firmly rooted, and in vigorous health, it becomes a matter for consideration whether it wants re-potting this year or whether it shall be left over until next. If the plant be healthy, the material about its roots sweet, and the pot large enough, in many cases there is no reason for re-potting it; indeed some of the best specimens of Cattleyas and Lælias we have in the country have not been disturbed in their pots for years, and have produced a far greater crop of flowers than they would have done if oftener re-potted.

When is the proper time for potting Orchids? Well, this is a question that is frequently asked, and considering the variety of the subjects it refers to, the vast area from which they are obtained, and their great differences of habit, it is impossible for any one to say when is the proper time of year for re-potting the general collection. All our best growers follow their own inclinations in this matter, and each on some points of detail differs from the other; but as all obtain good results, though by different means, it is comforting to the amateur to know that he need not be bound to the letter of any one's opinion, so long as he can see his way to secure the health of his plants. For my own part, I early found that it was necessary to fix a time for the periodical inspections of the Orchids, with a view to seeing which required re-potting, and I soon came to the conclusion that it was better to go through all the plants in October, when many Cattleyas and other things are to be found vigorously rooting, and to re-pot at that season than to leave it later; but I always found it better only to re-pot those in the autumn, which could not well be left over until the new year, and to make the autumn inspection rather one for cleaning and re-arranging, than for potting. This I did for several reasons. In the first place, I found that many plants which in autumn gave signs of growing away at once, often when the winter set in, became inactive and at a standstill. Were such plants re-potted in autumn the disturbance consequent on the operation could not fail to be hurtful in some degree, whereas if they were re-potted in early spring they would have the advantage of being able to at once avail themselves of the fresh material around them, and the active condition of the roots would immediately compensate for any damage done to them in shifting.

When to Pot Orchids.

For the general re-potting I found it best, particularly in the neighbourhood of towns where we have fogs as well as dull weather to contend with, to commence the work in the first week in January with the Masdevallias, continuing with the Odontoglossums, but leaving untouched those with flower-spikes, and (as in all other cases) those which did not require re-potting, and following on with all the other occupants of the cold-house which required re-potting. The East Indian Orchids (Aerides, Vandas, &c.) were gone over after the cool Orchids, and after them the general collection of Cattleyas and Lælias were seen to, and so on through the rest of the Brazilian plants, Oncidiums, Miltonias, &c., finishing up with the remainder of the collection. This spring-potting I found the most favourable of all, but at that season as at all others, when looking out for plants that require potting, I always availed myself of the opportunity of having the thorough cleansing of the plants seen to and the pots of those not shifted scrubbed, never re-potting any plant at any time if I thought it might be more properly done at another.

As at the preliminary autumn-potting and the general spring-potting, a great number of things are passed over as not being in a proper condition to re-pot, it of course entails vigilance throughout the whole year in order to see when such plants want re-potting, if they require it at all, and a now commonly accepted indication of a fit and proper time for shifting, is to be found in the plant sending out fresh young roots. That is perhaps the most propitious moment to pot any Orchid, as the new material used in potting is at once taken hold of by the young roots and is much more beneficial to them, and consequently to the whole plant, than it would have been if the plant had been re-potted a month or so before.

Cypripediums, Evergreen Calanthes, and all other evergreen terrestrial Orchids are best re-potted soon after they have done flowering, and deciduous terrestrial plants just as they begin to grow and root, and in the case of all, both terrestrial and epiphytal, extra care must be taken with the watering for the first few weeks.

Orchid Potting Materials.

Various attempts have been made at introducing innovations in the materials used for Orchid-potting, but few of them have stood the test of time, the fibry peat, sphagnum, crocks, and charcoal of thirty or forty years ago, still being the staple commodities in use; indeed, in the case of the peat, all our Orchid-growers would ask for nothing better than the chance of getting such as that which was in use in the early days of Orchid culture. Good peat is of the most vital importance to Cattleyas, Lælias, most of the Brazilian and other Orchids, and it is a deplorable fact that year by year it gets worse, more expensive, and more difficult to obtain. Many hundreds of plants are killed annually by the use of bad peat, as many a grower can testify. Let us hope that a good field for obtaining the deep, light peat, composed of Bracken-roots, will soon be found again, and it is certain that a really good sample would command a heavy sale. In the matter of material used in potting, good fibry peat without any other mixture is best for Cattleyas, Lælias, strong Oncidiume and most strong-growing Brazilian Orchids; sphagnum moss alone is best for Aerides, Vandas, Saccolabrums and such like; while peat and sphagnum in about equal proportions is best for the cold-house plants, which are kept moist all the year round; the healthy growth of the moss being conducive to the health of the moisture-loving plants. With any of these materials, charcoal may be used *ad libitum*, as it assists in keeping up that perfect drainage which all Orchids love, but, as where it is used, it is apt to form an important item in the expenses it can well be done without, it is better not to call in its aid unless it can be obtained at a cheap rate.

Free drainage is one of the most essential things to Orchids, and therefore the pots should be carefully crocked two-thirds of the way up or more, but let this be ever so carefully done, it is not sufficient unless the material used in potting be easily permeable to and afford a free passage for water, hence the peat used should be broken into lumps and not rubbed fine, the mixing with sphagnum where that is used, being done in the potting and not by previously rubbing and manipulating them together as some do, for when so mixed, the material is apt to form a hard mass, and not give such a free passage to the water as it does when the peat is used in lumps. Plants which are well-rooted and do not require re-potting, should have the old stuff taken out as far as practicable, and replaced by new as soon as it is determined to leave it over until another year. Should a plant by any means become sodden and the stuff around it sour, it is best to re-pot it, no matter at what time of year it may be, in fact it is a good rule for Orchid-growers never to let a plant alone while it is unhappy, and never to meddle with it so long as it is in a perfectly thriving condition.—*James O'Brien.*

Valoradia plumbaginoides.—This dwarf and pretty autumn-flowering herbaceous plant is a native of China, and is under a foot high. The branches are dull red, spreading, and clothed with oblong-lanceolate bright green leaves. The flower-heads are terminal, bearing beautiful blue flowers, darker, but otherwise very similar to those of the well-known Plumbago capensis.

ORCHID NOTES.

"The Orchid Album."—The October number of Mr. B. S. Williams' *Orchid Album* contains coloured plates and descriptions of the following species:—Epidendrum bicornutum, a well-known, though not too often seen, evergreen species, which blooms during April and May, bearing spikes at the top of the stem, when the growth is completed, of large white flowers, slightly spotted with lilac-purple towards the centre.—Phalænopsis speciosa, a pretty species introduced by Lieut.-Colonel Emeric S. Berkeley, from the Andaman Islands. It is a small compact evergreen plant, with light green leaves about 6 ins. long, and flowers of a deep crimson-purple, faintly barred with white. Mr. Williams states that it is best grown in the East India house, in a small basket, or on a block of wood.—Brassia antherotes, a rare species, evergreen, with bright, shining pseudo-bulbs, and growing to about 18 ins. high. The flowers are deep yellow, and the sepals and petals beautifully spotted towards the base with dark purple-brown. The plant is best grown in the Cattleya-house in a pot, with fibrous peat and perfect drainage.—Aerides virens, a very handsome old East Indian species, with white flowers tipped with crimson-purple and deliciously scented.

Lælia Perrinii.—This is certainly one of the most beautiful Orchids now enlivening the Cattleya-house here. I am referring to a plant of the pale form of it, the deep purple lip, with a pure white throat, being in striking contrast to the pale rose-coloured sepals and petals, and giving it a very chaste and refined appearance. The plant is at present grown in a pot, but I intend to transfer it to a block before growth again commences. That system appears to me to be the best to ensure success, as by that method the best plants I have seen were grown, being clean and free from the dark blotches too often accompanying pot-culture.—*E. Dumper.*

Cypripedium Spicerianum.—This free-growing and equally free-flowering Lady's Slipper is also now in flower here. I grow it in the hottest house, treating it to liberal supplies of water at all times, but less during the duller months of the year than when the sun shines on both sides of the hedges. I grow it in a compost of peat and fibry loam, with pieces of limestone mixed through it, and surfacing the soil with living sphagnum, which suits it admirably, so much so indeed that I have two flowers on one spike open at the present time. Can you tell me whether this variety is liable to produce two flowers on a spike?—*E. Dumper, The Gardens, Somerville, Limerick.*—[We have seen several specimens with two flowers on one spike, and one of our correspondents, Mr. E. H. Adcock, has a very fine variety which recently bore three spikes with two flowers on each.—*Ed.*]

FLORICULTURE.

Notes on Gladioli.—Mr. W. J. Murphy, of Clonmel, an enthusiastic cultivator of the Gladiolus, contributes the following interesting notes to the columns of *The Irish Farm, Forest, and Garden*:—"Of the newer varieties I would name first James Douglas, a robust grower with a very peculiar combination of colour. There is crimson and white, and, as if this was not enough, rose shading off into purple and lavender. It seems destined to perpetuate the name of a very worthy grower. It has many colour tints in common with Duchess of Connaught, but with me one is a stronger grower than the other. Two other new ones were introduced last year of the rosy lilac combination of tinting—Lord Digby and Lady Cavendish; if the experience of others be like mine, neither will equal older introductions. A. F. Barron is a fine flower, but far outdistanced by James McIntosh, which it resembles, the ground colour in both being brilliant scarlet, and the petals streaked or blotched white. Another, and a finer spike too, having a crimson body colour and light bluish stripe is Dr. Benson. Duke of Edinburgh I saw referred to at several shows as fine; if it comes at all near the Duchess it will be an acquisition. Lord Sefton resembles another great beauty, Mr.

Derry, in having a salmon or amaranth colour and tall spikes. These were my only new ones, but I am bound to say they were far outdistanced by earlier introductions in several cases both as to the size of the individual blooms, length of spike, and the number of spikes to a single corm. One, and one only, had four perfect spikes from a single corm—Lamarck. This is an old variety; I cannot tell who is the raiser, but I received it from a London seedsman a few years since. The colours are a pleasing combination of light rose striped with salmon. Electra, Bertha Rabourdin, a good old variety and certain bloomer; Orphée, Mr. Thornton, La Fiancée, and a few more that I did not make a note of produced three spikes.

The number producing two spikes fit for show purposes—that is from the base—was considerable; among the rest, Democedes and Flora, both very similar; another, differing from the last two in the shading of purple with the salmon, was Herald. I like to mention these old-established kinds when they deserve it, as usually they can be had cheap and are most certain flowers, a fact likely to encourage young beginners. One of the finest I had last year, and that gave me two fine spikes also this year, was Brennus, many years in commerce, the colouring of which is unique. The upper petals are crimson shading to brown, splashed with blue, which becomes violet on the lower divisions. For the first time for years there has been no failure among the whites, though they are probably more tender and delicate; old Mdme. Desportes nodded graciously to the still more venerable Shakespeare, and both had to yield precedence to Reine Victoria, which is still an object of admiration with two 18-inch spikes. One of the shyest bearers I have, and from which I never got a good spike since its introduction, is most inappropriately named after the famous rosarian, Canon Reynolds Hole. One of the reasons why I make these notes of individual flowers is that some of your Gladioli-loving correspondents might kindly say if their experience is anything like mine. Canon Hole has but two companions in retirement out of at least 200 named varieties—Helenor and Citrinus. I may have lost others, but I did not notice any blanks, while those I am rearing from spawn and seed are very vigorous and promising. If you plant early you have blooms early. To this rule there are many exceptions; three notable ones with me this year will be Duchess of Edinburgh, James McIntosh, and Mdme. Vilmorin, great beauties that will not bloom for a month to come. It only remains to say the earliest, and I am inclined to say the finest, spike I had this year was from Callipon, a prince of rose colours. On the subject of storing the corms, Mr. Murphy remarks that those which flowered in July and August may now be lifted if the foliage and stem are withered, not otherwise. His plan is to place them standing upright, stem and all, in a cool back room where frost may not enter, and cover the corms around with a layer of moist river sand. Here stems and corms gradually ripen and dry, and need not be disturbed, except for labelling or examination, until the time for planting comes round again.

CROP-DESTROYING INSECTS.

In a lecture delivered before the British Association at Montreal, Professor Fream, of the Agricultural College, Downton, said:—"A hopeful sign for the future is to be found in the well organized and intelligent efforts which have in recent years been directed to combating the insect pests which create such havoc amongst our crops, and from time to time give rise to losses which are simply ruinous. The last serious attack of Turnip fly occurred in the summer of 1881, and from returns collected from twenty-two English and eleven Scotch counties it was estimated that over the area indicated the direct loss on Turnip and Swede cultivation due to the ravages of this beetle was £671,936—considerably more than half a million sterling spent in the purchase of new seed and in defraying the cost of cultivating and re-sowing a second and even a third time.

"Of the Hop crop, the most fickle and uncertain of all English crops, we grow an average of about 70,000 acres per annum, the cultivation being confined to a few of the southern and western counties. An average crop is about 7 cwts. per acre, and the average value £7 7*s.* per cwt. In 1882 so very severe was the attack of Hop aphis that in many parishes not a Hop was picked, and on very many Hop farms in all parts of the Hop country not a single Hop could be seen. On a moderate estimate the loss to the country that year was £1,300,000, and of this no less than £200,000 was lost to the Hop-pickers. One result of these attacks has been the patenting of several ingenious machines for washing the Hop vines."

VEGETABLES AT THE HEALTH EXHIBITION.

The display of these garden products at the Health Exhibition on Tuesday and two following days was well worthy of the remarkable and most successful series of shows that have been held there during the summer, and which we take leave of with so much regret. Only in a few instances were there classes for collections, the others being for some one kind of vegetable, such as for Gourds, Onions, Endive, &c. Throughout the competition was good and quality excellent.

Did any one aspiring scribe to some local paper desire to astonish his readers with a reference to some mammoth product of the garden, he might have revelled in a contemplation of the gigantic Gourds staged in competition in the class for the biggest samples. All members of the Gourd family are, of course, Cucurbita, and these monsters, differing as they do from the small and tapering Cucumber, are yet its brothers. The biggest, of oval form, weighed 156 lbs., and the second biggest, of round form, would hardly have been 10 lbs. less in weight. There were in the collections a wondrous variety of Gourds, great and small, long and short, rough and smooth, self and parti-coloured. Not a few singularly pretty and ornamental, but beyond that we fear not otherwise useful. Of course the Vegetable Marrow was well represented, but that is about the only kind that ranks as an useful edible variety.

Of the numerous bundles of Celery shown the best was of market-garden culture and setting up. Our private gardeners would do well, in exhibiting this vegetable, to take a note out of the market people's book, for they tie their sticks together with willows and flatwise, so that the whole of the Celery is seen at a glance. Other good kinds, though not grown so well as they might have been, were Leicester Red, and Dwarf White Incomparable, the only white kind staged.

Salsify and Scorzonera are long tapering roots that rank half as salads, half as vegetables, and are not in popular use. These rather form, as also did the one lot of huge blanched Cardoons shown, vegetable curiosities than common garden products. Our more modern methods of cookery, allied to the wide introduction of newer and better vegetables, have served to put many an old-fashioned and once popular vegetable out of joint. Parsnips were exceptionally good and clean, and showed the presence of fine moist soils in some gardens. Mr. Haycock had the best, superb samples of Hollow Crown, and others stood in well with the Student.

It is noticeable that in an open class for Carrots, James's Scarlet Intermediate always takes the highest place, so that unless there are prizes specially offered for the Long Surrey or Altrincham kinds, these are seldom shown. In this case, of some fifteen lots of Carrots all were Intermediate; the prettiest lots, however, were stale, and had done hard duty at previous shows; whilst one other lot had been rather hard sliced to remove excresences. Still the samples were excellent throughout.

Onions always make a popular class, and in this case were represented in collections as well as in single dishes. With the latter, Rousham Park Hero, a very fine handsome white Spanish selection, was well first, and the flatter and much browner Pinesfield was second, whilst curiously enough, having regard to the time of the year, the judges put a dish of the Giant Rocca third, although it is usually held that any good sample of winter Onion is superior to large Italians that will readily start growing. In the collections, Rousham Park, Walker's Exhibition, Sutton's Improved Reading, White Spanish, and some others, bore a singularly suspicious resemblance to each other, and we think a fine stock of any one would give all these. The old and now little grown Blood Red, Deptford, James's Keeping, and some others were shown well, though not large bulbs, but these will keep much the longer than will the large ones, and are in the long run the more useful.

The White Stone or as some call it Globe was the best Turnip, and very good were the samples. Brussels Sprouts, shown in plants of fours, were not a success, and we have seen plenty of better ones. To show a good strain no doubt plants tell the tale most readily, but as Brussels Sprouts are not sold or eaten in plant form, we do not see why the usual rule of showing best heads or selections should be departed from. Certainly there was nothing shown at all approaching an ideal Brussels plant.

Beet was abundant, though not as a rule clean and good. Probably the dry season has had much to do with that, but we have seen plenty of prettier cleaner roots. The old popular form, Dell's Crimson, shown under various names, seemed to be the most in favour. Endive was served up by one or two exhibitors in capital form, clean and finely blanched. The best sorts were Broad-leaved Batavian, Pipeus White, Green, and Digswell Prize, curled. A set of dense plants of the Stagshorn Endive, full of matter, were only wanting good blanching, but it is a dense capital kind.

Cauliflowers, it need hardly be said, this season were gigantic. Some of those shown were literally as big as a bushel baskets, though it was gratifying to note that the judges gave the preference at first to heads very solid and white and of medium size. Still most of the heads shown, if big, were wonderfully good. It is very probable that in competition for single dishes we see more roughness than in collections of vegetables, as in these latter the best men only compete. It is when such growers as Miles, Haines, Ward, Gilbert and others compete there comest he tug of war.

AUTUMNAL TINTS.

Not only is the lovely weather we are getting doing all that can be desired in ripening up the wood and developing the buds of fruit-trees, but it is colouring the leaves of most arboreal subjects in such a way as to make the face of the country really beautiful, for look where one will the varied tints meet the eye and seem to force themselves on our notice. I could not fail to-day to feel this in coming up the Orwell, as the wooded banks were all aglow under the sun, and the contrast most charming, especially on the south side of the river, as there the red of the foliage of the wild Cherries, the yellow of the Elms and Horse Chestnuts, and the warm brown of the Beech, contrasted with the still deep green of the Oak and sombre hue of some Firs, made a picture which no artist could paint.

It is sad, however, to reflect that this scene of loveliness may soon be marred, and that frost, cold and cruel, has the power to spoil all in a night, as, after its icy hand is laid on, the face of nature is changed, as if by magic, and leaves come tumbling down, strewing the earth and rendering the trees bare. All we can hope for is that the pitiless monster may lag on his way, or be confined to the Arctic regions for some time longer, and that when he does come he will do his work slowly, or the shock will be great.—*J. Sheppard, Woolverstone Park, Ipswich, October 24th.*

AZOLLA CAROLINIANA.

In an interesting article by "Luke Ellis" on "The Amateurs' Garden," p. 104, Azolla pinnata, a Cape aquatic, is mentioned as spreading rapidly and crowding out the common duck-weed. The plant until quite recently was cultivated under this name, but it is A. caroliniana, a native of the Southern United States of North America, and occurring at least as far south as Peru. A. pinnata is probably not in cultivation, and is confined to the Old World, occurring in India, China, Japan, Tropical Africa, Madagascar, Australia, and New Caledonia. I have not, however, seen a specimen from the Cape. A. caroliniana appears to be spreading in this country, as it is naturalized at Pinner and also near Gainsborough. If it is able to survive severe frost, which indeed seems probable, there seems nothing to prevent it overrunning the country as Elodea canadensis has done. It is a charming little plant for a small aquarium.—*X.*

DEEP DIGGING AND TRENCHING IN KITCHEN GARDENS.

I HAVE frequently noticed that amateur gardeners leave portions of ground that have produced crops the previous summer untouched during the winter, and they dig them up only when required for sowing or planting spring crops. This is a great mistake. Ridging up the surface of every unoccupied spot in a kitchen-garden is one of the things most of all insisted upon. Experience has demonstrated, hundreds of times, that it mellows the soil, destroys the eggs of insects, and drives out any acids or other matters that exist in old soils to the detriment of the succession of annual crops. Indeed, many old gardens that are quite unproductive if left alone in this particular, are kept in capital condition by constantly attending to it.

The ridges should be thrown up a foot and a half high, in the direction of the slope of the ground, so that the water will run off, and not stand in the trenches. They may be as close together as they can be made, bearing in mind to keep the tops of the ridges 18 ins. high. It is a decided advantage to turn up a little of the subsoil, say to the depth of a few inches each season at the time of ridging. This brings a little fresh soil to the surface; and after being acted upon by the atmosphere, it mixes very kindly with the top-soil, and helps much to keep up the fertility of the garden.—*E. W.*

Letters to the Editor.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

I AM very sorry to find that there is a prospect of the amount it is considered necessary should be raised before the pensions can be increased, not being forthcoming. May I therefore suggest that at the forthcoming Chrysanthemum Exhibitions throughout the United Kingdom, also at the opening meetings of the various Botanical and Horticultural Mutual Improvement Societies, and at other gatherings of a social character where gardeners most do congregate, the President, or Secretary, or some one else who may be appointed for the purpose, should take upon themselves the duty of bringing the claims of the Institution under the notice of the members, and not to rest satisfied until each one has contributed something, however small in amount, to help in raising the sum required, £420; so that the promised £500 may be secured, and the augmented pensions commence with the next election in January. May I also appeal to those who may be anxious to contribute, not to wait until they are called upon, but to send what they can spare, be it large or small in amount, with the addition, if possible, of a neighbouring gardener's mite, to the office of THE GARDENING WORLD, or to the Secretary of the Institution, Mr. E. R. Cutler, 14, Tavistock Row, W.C. Do let us, as gardeners, see if we cannot raise the amount before the beginning of December.—*W. Swan, Oakley, Fallowfield, October 25th.*

[A most excellent suggestion, which we hope will be adopted. There ought to be no difficulty in raising the amount required, if only some one at each show and meeting will take the initiative, and do their best.—*Ed.*]

EARTH CLOSETS.

WE have here some Earth Closets worked on a plan which I think far preferable to that mentioned in your last issue. Ours have a door opening at one end of the seat outside the closet, through which is passed a galvanized iron skip holding from one to two bushels. This being placed under the seat receives all the excreta, and each closet is supplied with a supply of dry soil or ashes, which should be scattered in the skip every time the closet is used. They are emptied out weekly, and if ordinary care is exercised, very little of the unpleasant odour will be noticed. The materials collected may be put in a heap and allowed to accumulate till wanted to dress the ground. This description of closet is far more wholesome than the great majority of water-closets attached to cottages in towns, or in fact many to be found in suburban villa residences, which, from defective ventilation and insufficient flushing, are often the source of outbreaks of diphtheria and enteric fever, which need never be feared from a properly managed earth-closet. The simpler these are in their construction the better they are. Attention is everything.—*W. B. G., The Gardens, Shirley Park, Croydon.*

AMERICAN APPLES.

ENORMOUS importations of American Apples are beginning to pour in. At present they are chiefly Baldwins, the beautiful Newtown Pippins have not yet put in an appearance. A friend in the "tinned fruit" line tells me that a large parcel of English tinned Apples were offered in Mincing Lane last autumn. Owing, however, to some defect either in the operation of tinning or the tins themselves, the fruit scarcely paid the incidental expenses. It is much to be regretted that something like two millions sterling will be spent in American Apples this year. But it must not be forgotten that the freight, and at least two profits, will be netted by English dealers. Besides the employment afforded to many hundreds of fruit-stall keepers must be taken into account. Half a loaf is better than no bread.—*J. Jones.*

STREET STALLS.

THE Pompon Dahlia is quite a favourite for the poor man's bouquet. I noticed a grand display of these formidable posies in Hampstead Road on Saturday last. They were made up in round bunches, and dotted over with three or four small trusses of Scarlet Pelargoniums. The addition of a few sprays of some small-leaved evergreen, Box, Euonymus, or Privet, would have improved the make-up considerably. The Potatos, Celery, Onions, and Turnips exhibited on these stalls was remarkable for fine quality, and some of the arrangements were in capital taste. Tomatos—Spanish, I suppose—were plentiful at 4*d.* per lb. With the exception of Dahlias, Chrysanthemums were the most plentiful flowers.—*L. E.*

ANSWERS TO CORRESPONDENTS.

ROSA DEVONIENSIS.—*G. W.*—It was Dr. Foster who raised it under the circumstances related at p. 124.

CABMEN'S SHELTER.—*T. O.*—The photograph was taken by "The West End School of Photography," 16, Edgware Road.

LADY DOWNE'S GRAPE SHRIVELLING.—*B. C. E.*—An experienced and very successful grower of this late Grape, who had the misfortune to have his crop spoiled last year much in the same way, attributed it to having pinched back the shoots too much and crippled the root action at the time it was most wanted. This year he has given the shoots more freedom, and the Grapes are all right. It is possible you may have unwittingly done the same.

BULBS, &c.—*Novice.*—It would hardly do alone, but mixed with loam, would make a good potting compost for bulbs. The wood ashes we should not care to use with the sphagnum, little lumps of charcoal is the best for that. The Pyrethrum is perfectly hardy and may be left in the ground without protection. Ixias can be grown very well in the open-air if you have a light, warm, and well-drained soil. The bulbs must be planted about 4 ins. deep, and from 3 ins. to 4 ins. apart. If very severe frost sets in the beds should be covered with a little fern or cocoa-nut fibre refuse.

NAMES OF PLANTS.—*R. Stevens.*—Impatiens Roylei. Native of Temperate Western Himalaya, India.

COMMUNICATIONS RECEIVED.—C. T.—R. P. G.—W. S.—R. D.—C. H.—H. W. W.—W. C.—W. T. B.—D. Cameron.—G. P.—W. P. R.

NOTICES TO CORRESPONDENTS.

THE EDITOR *begs to inform his readers that special attention will be paid in the columns of* THE GARDENING WORLD, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "THE EDITOR."

Trade Catalogues Received.

B. S. WILLIAMS, Upper Holloway, N.—Special offer to the trade of novelties in Flower and Vegetable Seeds.

ALEXANDER E. CAMPBELL, Cove Gardens, Gourock, N.B.—Descriptive Catalogue of Choice Hybrid Gladioli.

JAMES COCKER & SONS, Sunny Park, Aberdeen.—Descriptive list of select Roses.

WM. CUTBUSH & SON, Highgate, N.—Stove and Greenhouse Plants, Hardy Shrubs, Roses, &c.

LONDON SEED TRADE.

October 29th.

MESSRS. HURST & SON, of 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report little business doing at to-day's market. All varieties of Clover Seed are neglected, but the recent export orders for White Clover, coupled with a small continental demand, has caused this seed to advance in value, and as stocks are low, the price may not recede until colder weather enables larger supplies to be marketed. Rye-grasses are firm, although buyers decline to operate. Bird Seeds and Blue Peas are selling slowly at rates current last week.

COVENT GARDEN MARKET.

October 29th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Melons, each	3 0- 4 0
Figs, per dozen	0 6- 0 9	Pine-apples. Eng., lb.	4 0- 5 0
Grapes, per lb.	1 0- 4 0	,, St. Michael's ea.	3 0- 6 0
Kent Filberts and Cobbs, per 100 lb.	60 0-62 6	Peaches, per dozen	6 0- 8 0
		Pears, French, p. doz.	1 6- 3 6

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Lettuces, Cabbage, per dozen	1 6- ...
Beans, French, lb.	0 4- ...	— Cos, each	0 2- ...
Beet, per dozen	2 0- 3 0	Marrows, each	0 3- ...
Cabbages, per dozen	1 6- 2 0	Mint, green, bunch	0 4- ...
Carrots, per bunch	0 8- ...	Mushrooms, p. basket	1 0- 2 0
Cauliflowers, English, dozen	3 0- 4 0	Onions, per bunch	0 6- ...
Celery, per bundle	1 6- 2 6	Parsley, per bunch	0 6- ...
Cucumbers, each	0 6- 0 8	Radishes, per dozen	1 6- ...
Endive, French, per dozen	2 6- 3 6	Small salading, per punnet	0 4- ...
Garlic, per lb.	0 6- ...	Spinach, per strike	2 0- ...
Herbs, per bunch	0 2- 0 4	Tomatos, per lb.	0 9- ...
Horse Radish, bundle	3 0- 4 0	Turnips, bunch	0 6- ...

POTATOES.—Kent Regents, 80*s.* to 100*s.* per ton; Kent kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lapageria, white, 12 blooms	2 0- 3 0
Azalea, 12 sprays	1 6- 2 0	Marguerites, 12 bun.	4 0- 9 0
Bouvardias, per bun.	0 9- 1 0	Pelargoniums, per 12 sprays	1 0- 1 6
Camellias, 12 blooms	3 0- 6 0	—scarlet, per 12 sprays	0 4- 0 9
Carnations, 12 blooms	1 0- 2 0	Pinks, various, 12 bunches	...- ...
Chrysanthemums, 12 bunches	2 0- 6 0	Primula, double bun.	1 0- 1 6
— large, 12 blooms	1 0- 3 0	Pyrethrum, 12 bun.	-
Cornflower, 12 bun.	2 0- 4 0	Roses, out-door, 12 bunches	9 0-12 0
Dahlias, 12 bunches	3 0- 6 0	Roses, indoors, p. doz.	2 0- 6 0
Eucharis, per dozen	4 0- 6 0	Stephanotis, 12 spr.	6 0- 9 0
Gardenias, 12 blms.	3 0- 6 0	Tuberoses, per dozen	1 0- 1 6
Gladiolus, various, 12 spikes	1 0- 3 0	White Jasmine, bun.	0 6- 1 0
Heliotropes, 12 sp.	0 6- 1 0		
Lapageria, red, 12 blms.	1 0- 2 0		

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Fuschias, per dozen	3 0- 6 0
Chrysanth., dozen	4 0- 6 0	Heliotrope, dozen	3 0- 6 0
Cockscombs, dozen	-	Lilium, various, p. doz.	-
Cyperus, per dozen	3 0- 9 0	Marguerites, per doz.	-
Dracæna term. doz.	30 0-60 0	Palms in variety, each	2 6-21 0
— viridis, per dozen	12 0-24 0	Pelargoniums, scarlet per dozen	2 0- 6 0
Evergreens, in var., per dozen	6 0-24 0	Petunias, per dozen	-
Ferns, in var., dozen	4 0-18 0	Solanums, dozen	9 0-15 0

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"Haud desinam donec perfecero."

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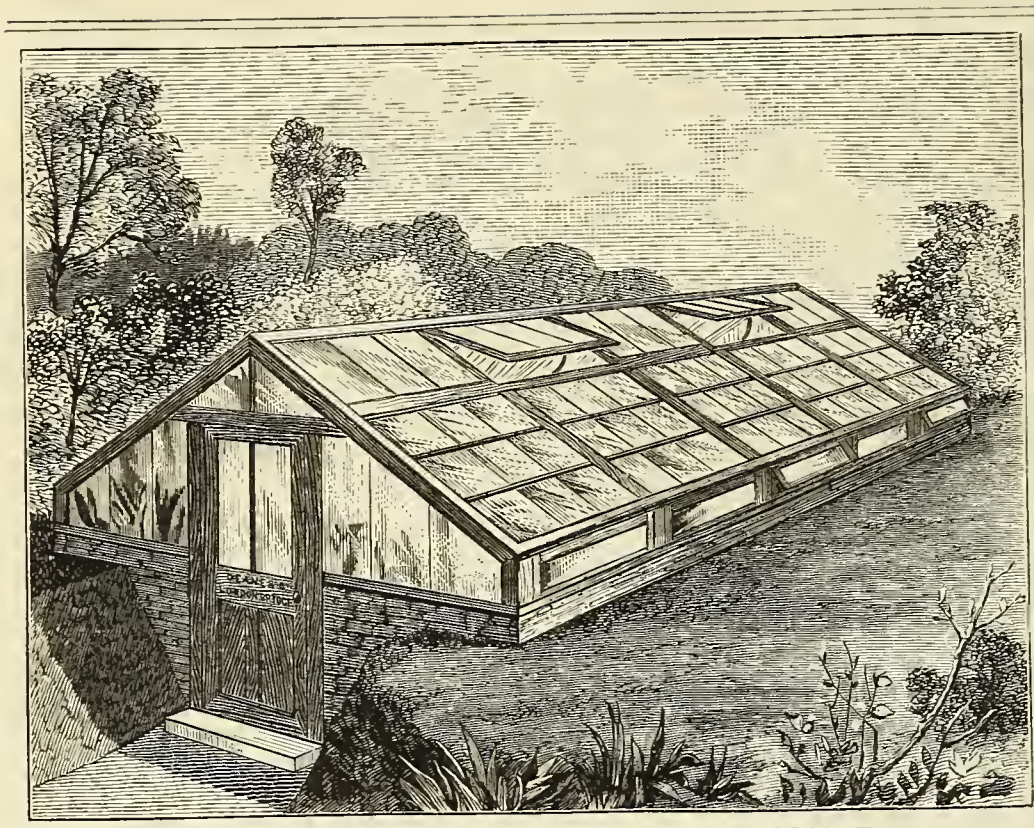

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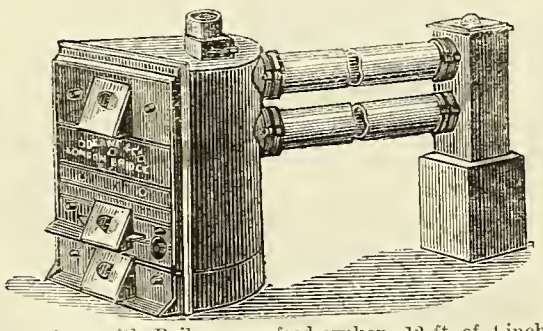

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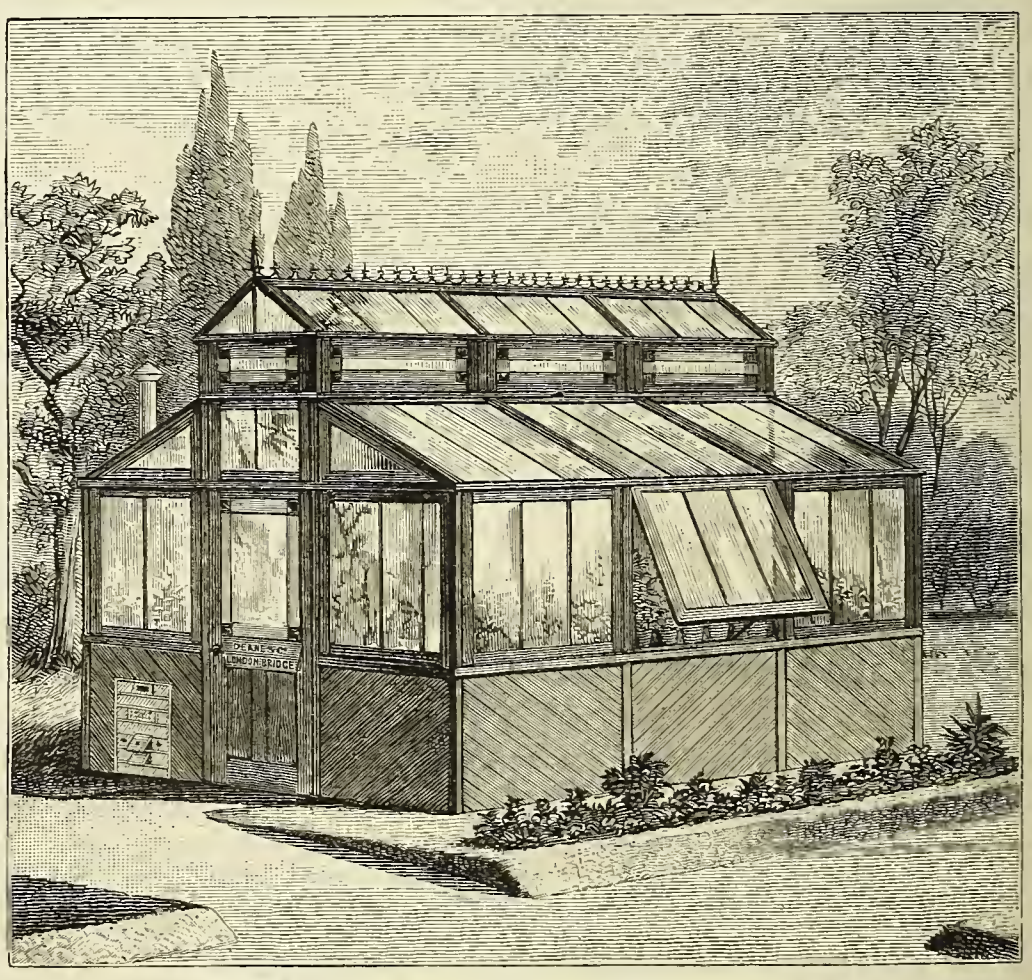

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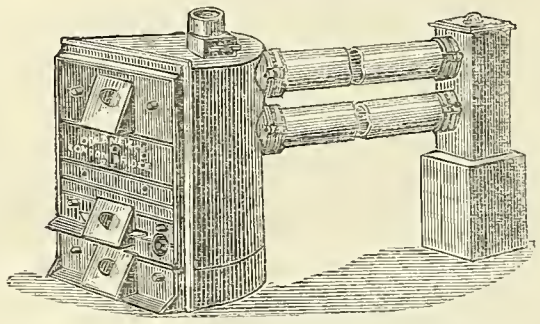

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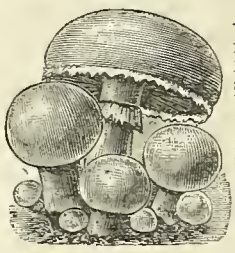

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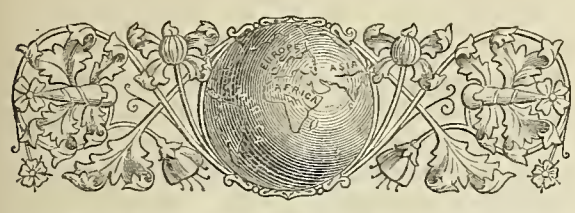


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, NOVEMBER 8th, 1884.

APPLE SHOWS.—The recent remarkable display of Apples seen at South Kensington had the merit of being a capital one for the season, but the demerit of beyond that teaching us nothing. This remark applies specially to the collections of not more than one hundred kinds sent by nurserymen, most of whom will doubtless agree with us, and will admit that, beyond showing that so many kinds had fruited, these collections showed little else that was instructive. Yet we may add, too, that whilst many kinds were of such indifferent quality, many others were so good that they at least taught something—they taught us what to avoid, if nothing else. Collections of one hundred kinds of Potatos are sometimes seen, but they always contain a lot of useless sorts. The same may be said of collections of one hundred kinds of Apples; though of both Potatos and Apples it is true that there was a time when the inferior kinds of to-day were of the best then. Thus we see many sorts trading upon almost posthumous fame. Growers keep many old kinds in their lists either because they think they may be asked for some day, or else from egotism, being unwilling to show a published list of sorts less in number than some other trader has. The most esteemed trade grower is he who has the courage to lop off yearly all useless or obsolete sorts, thinning out his list as remorselessly as he would his trees, and thus leaving for the selection of his customers only the best and most reliable kinds. We make no scruple in averring that in fifty kinds of Apples we may find all that really merit cultivation, simply because if some once-famous sort is cut out, it is only because a newer variety has displaced it more advantageously. If we could look forward to a series of shows at South Kensington similar to those held during the past season, we should like to advise that not only nurserymen but private growers be offered the opportunity to compete in classes for the most prolific and regularly-bearing kinds, both in kitchen and dessert forms. The best selection of, say, twelve kinds for market work, both early and later season; the best six or twelve kinds for highest flavour, apart from beauty; the best sorts for cordon or dwarf bush culture; and, not least, the best kinds for free orchard culture. There are methods that will readily occur to some of our leading fruit growers, by which the results we desire to see should be obtained. Anything at least is better than the encouragement of the exhibition of collections of a miscellaneous character which teach nothing, if they show us, as they undoubtedly do, that certain growers can make up so many kinds. We are sure that readers interested in Apple culture, and especially our trade readers, will freely admit that if exhibitions of Apples can be made more subservient to the education of the people in pomological knowledge they should be so. The recent attempt to obtain representative collections of Apples from the northern counties and Scotland practically failed though the intention was excellent. The failure may have arisen from the lack of Apples to show from those districts, for the two collections sent were hardly worthy of consideration. At the Apple Congress last year the northern districts were fairly well represented, but then last year was a good one for Apples, and no doubt the north was specially favoured. We thought we had a bad Apple season in the south, yet we were greeted last week with one of the finest displays of Apples seen at South Kensington at any time. The obvious inference is, that a poor crop in the south means after all a considerable one, and a poor crop in the north means none at all. It is thus seen that whilst Apple culture is in the south comparatively easy, in the north it is difficult, and the conditions of culture are most adverse. Perhaps another year classes for six and twelve kinds of Apples grown north of Midland counties, and the same for Scotland, might bring representative collections of the best sorts; but it seems useless to ask for large collections if they are not to be found. Very much may yet be done in Great Britain and Ireland to popularize Apple culture.

CHRYSANTHEMUMS AND THE ELECTRIC LIGHT.—Messrs. William Cutbush & Son have been indulging their neighbours and friends at Highgate during the past week with a nightly display of Chrysanthemums, illuminated by the electric light. So far as we know this is the first time that the aid of the electric light has been requisitioned for such a purpose by a trading firm, and we are pleased to learn that the novelty answered its purpose, the said neighbours and friends having visited the exhibition in considerable numbers, and expressed their admiration of the beautiful display of flowers they were enabled to enjoy under such novel conditions. The lighting of the show-house and a temporary canvas structure was entrusted to Mr. F. C. Phillips, electrical engineer, who did his work well, the lights working steadily and showing off the gay flowers to the greatest advantage. The plant-houses on the well-known hill side were also illuminated with large Chinese lanterns, as well as some parts of the nursery grounds, and though the nights were cool, not to say cold, a constant stream of visitors passed through the nursery while open. The Messrs. Cutbush grow about one hundred and eighty selected varieties of Chrysanthemums, many of which were in full bloom during the week, and of excellent quality, though not specially cultivated with a view to an exhibition of this character. Such fine white varieties as Elaine stood out prominently beyond all others, and as a general rule the highly-coloured Japanese, and the reflexed section of the show varieties, were more telling under the electric light than the incurved sorts.

SOME OLD-TIME VEGETABLES.—Looking over the vegetables at the recent South Kensington display of these garden products, a visitor exclaimed when the Cardoons were seen, "what splendid Celery." Such is fame for the poor old Cardoon! That Mr. Osman should have laboured so to grow and blanch these huge sticks some 3 ft. 6 ins. long, and of proportionate dimensions, to required whiteness, only to find them mistaken for Celery was a great come down. Still, it is possible that those who had set about eating the well-blanched Cardoons as Celery, would have met with some disappointment. It is very evident that the Cardoon, whatever its ancient fame, has little now in the estimation of modern gardeners, whether as a salad or for flavouring purposes. Good Celery has knocked it out of time, and if samples are not presently preserved in the Natural History Museum, future generations of gardeners will know it not. Salsify and Scorzonera, rank also amongst almost obsolete garden vegetables. They take us back to those days of elementary gardening, when Dandelion roots were esteemed a delicacy, and Nettle-tops a luxury. Probably the universal introduction of the Potato into our common life-food, has done more than anything else to drive out of ordinary cultivation such comparatively useless roots as these, whilst as winter roots of this particular kind, both are inferior to good Parsnips, which may be so easily produced. Skirret, another old world root, partakes of the character of the two former ones, and honoured by gardeners fifty years ago, is now to the present generation almost unknown. An old writer on Salsify states, that when the flesh of the roots is boiled, mashed and fried in cakes, the flavour is that of oyster patties. We may aver that such a statement requires with it a very large grain of salt. Perhaps, in old days, oyster patties were made of Salsify, hence the similarity in flavour. It is very evident that in relation to garden vegetables, the theory of evolution has been at work, and indifferent ones have had to give place to others of far superior merit.

THE TREE ONION.—Beyond and exceedingly distinctive from all ordinary Onions, and by these of course we mean only such as are raised from seed and grown under ordinary conditions of culture, there are Onion plants so-called, and in town districts very much better known by that designation than by the rightful one of Ornithogalum longebracteatum because the large bulbs are so Onion like. This is an excellent town plant, and in some of our town shows has been presented in a way that would surprise rural gardeners, to many of whom this Onion plant is unfamiliar. Then we have the curious and interesting Tree Onion, a plant that many regard as fabulous until they see it. Certainly it is as odd to some to whom this Tree Onion is strange, to see real Onion bulbs produced at the extremity of tall shoots as it would be to see clusters of Potatos produced on the tops of Potato haulm. We find from constant inquiry that this Tree Onion is sought for amongst cottagers, and especially by town dwellers, who, unable to produce ordinary Onions under ordinary conditions, think, and doubtless rightly, that this Tree Onion would produce them edible bulbs in any case. The little clustered bulbs are about the size of those ordinarily used for pickling, and perhaps might be for that purpose available. Whether they are as wholesome for common use as ordinary Onions are we cannot say. Certainly they have excellent flavour. Another interesting Onion is the Potato or underground variety. This is a perennial form, as it is increased by the self-dividing roots or bulbs which do not seed. Half a century ago this Potato Onion was largely used in gardens, but now is seldom met with. It may well rank with the Tree Onion as vegetable curiosities. It was to be regretted that in some recent collections of Onions these old and once familiar kinds were not represented.

CHRYSANTHEMUMS FOR CUTTING.—In private gardens any and all kinds of blossoms, no matter what colour, seem equally favoured as cut flowers. In such case there are no trade or public prejudices to study, and all is fish that comes to the net. But in towns flowers have one great necessity, they must look well by artificial light, and for that reason market growers of Chrysanthemums most largely favour pure white kinds and those rich chestnuts or crimsons which will light up and look gay and resplendent under those conditions. Pinks, bronzes — the two prevailing tints in Chrysanthemums—and buffs, come out bad or ineffectually, but yellows, especially if clear and bright, do remarkably well, though under some

conditions apt to lose some of the glow of colour seen in the daylight. Of whites, Mrs. G. Rundle was once greatly favoured, but the irrepressible white Elaine beat that almost out of the market, although this latter finds early in the season a formidable rival in the dwarf Madame Desgrange. But Fair Maid of Guernsey, Ethel, and other whites are more or less favoured as they are found free or enduring; indeed, the two latter kinds may under careful culture be often found in luxuriant bloom in the month of January, and that is a great merit. Mdle. Marthe, Marabout, Virginale, and others of lesser size are all free and most estimable, and seem likely to hold a place in popular esteem for a long time. Amongst the dark sorts the old and for mere exhibition purposes almost despised Julia Lagravere ranks amongst the best, though that sort must find a stout rival in the Japanese Tokio, the blooms of which, when only very moderately disbudded, are of good size, very elegant, and of a rich bronzy-red or crimson colour that glows richly in gas-light. It is also very free. But so many of our beautiful Japanese kinds are grown to produce show flowers only, that we hardly know until tested for the purpose which may or may not be suitable for the production of market flowers.

Orchards, Market Gardens, and Nurseries.—We learn from the recently published Agricultural Returns for Great Britain for 1884, that Orchards "again show an enlarged area, covering 194,648 acres as compared with 190,710 acres in the previous year. In the county of Somerset, and in one or two others in less degree, the apparent increased acreage is partly attributable to more complete returns. The acreage under Market Gardens shows a decrease in the total of 94 acres; but this is due chiefly to the fact that upon inquiry it was found that a large quantity of land in Essex, which was occupied last year by Peas and Potatos, and which in any following years might be under Wheat or other crops, was erroneously returned in 1883 as Market Gardens, instead of being enumerated under the proper classifications in the returns. The collectors report, indeed, generally in reference to both Orchards and Market Gardens a considerable extension, and that in some localities every available plot of land is being devoted to the purpose, in order to meet the continued demand for fruit and fresh vegetables for large towns. Were it not for the apparent diminution here alluded to, the returns would have shown an increase in the area under Market Gardens of 3,500 acres. Occasionally, indeed, portions of land appear to have been subdivided specially for these purposes." The acreage of land used by nurserymen for growing trees, shrubs, &c., is returned as 12,502 acres in Great Britain, 3 acres in the Isle of Man, 43 acres in Jersey, and 24 acres in Guernsey. In Great Britain, Surrey makes the largest return, 1,380 acres; and Selkirk the smallest, 1 acre.

The late Mr. Bentham and his Legacies.—In the *Revue Horticole* for October 16th (p. 460) we notice the statement that the late Mr. Bentham has bequeathed a sum of 25,000 francs to the Royal Horticultural Society, "25,000 fr. a la Societe royale d'horticulture." We fear this news is too good to be true, and that our contemporary has made a mistake. We believe that amongst other legacies Mr. Bentham bequeathed £1,000 to the Scientific Relief Fund of the Royal Society, and it is evidently to this that our contemporary refers.

Many of our readers will regret to hear that on account of failing health, Mr. John Cox has left Redleaf, Penshurst, for the Isle of Wight.

Gardening Miscellany.

The monthly meetings of the Fruit and Floral Committees will be held on Tuesday next at South Kensington.

The meeting of the Committee of the National Carnation and Picotee Society, fixed for Tuesday next, has been postponed until December 9th.

The Chrysanthemum shows to be held next week are, Stoke Newington on Monday and Tuesday; Putney on Tuesday; Kingston-on-Thames, Croydon, Brighton, and Lambeth on Tuesday and Wednesday; The National, at the Westminster Aquarium on Wednesday; Bath and Colchester on Wednesday and Thursday; Walton-on-Thames on Thursday; Richmond, Brixton Hill, Tunbridge Wells, and Teddington on Thursday and Friday; Reading on Friday; and Crystal Palace, Canterbury, and Huddersfield on Friday and Saturday.

Mr. Barron's Report on the Apple Congress held at Chiswick last year is now ready, and may be obtained from Mr. J. Douglas Dick, at the offices of the Royal Horticultural Society, South Kensington.

The dates selected for holding the Royal Botanic Society's Shows in 1885, are as follows:—Spring Exhibitions, March 25th and April 22nd; Summer Exhibitions, May 20th and June 17th; Evening Fête, July 1st. Mr. Anthony Waterer's Special Exhibition of Rhododendrons and other American plants will be held in June.

We much regret to hear that Mr. George Prince, of Oxford, was thrown out of his trap on the evening of the 29th ult., and was so seriously injured that he remained unconscious for two days. A slight improvement in his condition was reported on Tuesday.

Messrs. Hurst & Son are publishing in a cheap form a small (16 pp. crown 8vo.) *brochure*, entitled "Mushroom Culture Simplified," by An Experienced Grower. The directions given for growing this much-prized esculent are brief, plain, and practical, and more than this need not be said to recommend it to the notice of amateur gardeners.

Mr. T. H. P. Dennis having retired from the firm of T. H. P. Dennis & Co., of Chelmsford, the business will in future be carried on by the other partners, Messrs. Crompton & Fawkes.

On December 6th, Mr. Hugh Ranger, will read a paper on the Cultivation of the Cyclamen, at a meeting of the Liverpool Horticultural Association. At the January meeting, Mr. Robert Cubbon and Mr. Mease will read papers.

Mr. Challis, of Wilton Place, Salisbury, states that Mr. Henry Bennett's new H. P. Rose, The Earl of Pembroke, has proved, for late autumn-flowering, much superior to most of the hybrid perpetuals he has seen.

We hear that Dr. Veitch, brother of the late Mr. James Veitch, of Chelsea, is dangerously ill, and that grave doubts are entertained of his recovery.

Messrs. John Weeks & Co., have been awarded a Gold Medal at the Health Exhibition, for their upright Tubular Boiler, Incomparable Fire-Grate Domestic Boiler, and Hydro-caloric Coil which warms and ventilates at one operation.

Arrangements are being made for holding a large Horticultural Exhibition in Berlin in September next.

Mr. John Kennard, Swan Place, Old Kent Road, whose peat and other garden sundries have for many years been held in high repute, has lately added a department for plain and ornamental pottery to his business.

The annual exhibition of the North of Scotland Root, Vegetable, and Fruit Association, was held on Saturday last at Inverurie. The exhibition, as regards extent and quality, was considered one of the best ever held in the North. The total number of entries, exclusive of exhibition collections, was 1,045, or about 300 more than last year. There were samples sent from as far off as Ross-shire, several from Morayshire, and a considerable number from Banffshire, but the great majority of the exhibits were grown in the county of Aberdeen.

MALVA ALCEA.

Amongst the hardy perennial Mallows there are a few good plants which are worthy of more attention at the hands of amateurs and gardeners than they seem to get at present, and the subject of our illustration, Malva alcea, is one of them. During the past autumn we noted its good qualities at Chiswick, in the Chelsea Botanic Garden, and other places, and now recommend its more extensive cultivation in herbaceous borders, on the margins of shrubbery borders, &c., where in ordinarily good garden soil it grows from 2 ft. to 3 ft. high, with a fine free-branching habit, and in August and September produces a fine crop of pale rosy-pink blossoms, which are valuable for cutting to fill vases and other fancy receptacles for flowers employed in room decoration. The flowers, it is true, do not last long in water, but if cut when quite fresh they last long enough for all ordinary purposes, and there is no gainsaying their exquisite grace and beauty.

The white variety of the Musk Mallow, Malva moschata alba, is also a thoroughly good plant to grow for cutting from, its pure satiny-white and fragrant blossoms being always pleasing and acceptable for vase decoration, &c. Some years ago this plant was more common in many gardens than the indigenous Malva moschata itself; then it became scarce, the bedding-out mania probably doing for this as it did for many other good things, relegating them to the limbo of obscurity. Mr. Cannell, ever on the look-out for good things, old or new, re-introduced it to public notice in 1881, when it soon became popular again. It is a very free-growing and free-blooming plant in the borders, and Mr. Roberts proved it at Gunnersbury to be an excellent plant for pot culture, its free-branching habit lending itself readily to the formation of compact bushy specimens. Seeds sown in March in a cold frame will make flowering plants the same year; and the plants in the borders can easily be increased by dividing them either now or in the spring.

HOME MANURES FOR THE GARDEN.

(*Continued from p.* 135.)

Effect of Manuring with Ashes, Lime, Gypsum, Soot, &c.—Heavy clay soils are very difficult of cultivation, and without radical amendment, are unprofitable for gardening, especially in cool wet districts, because of the excess of water which they hold in suspension. Ashes and cinders, chalk, marl, burnt clay and lime will be found to assist in the physical improvement of these heavy stiff soils, because such materials impart an open and freeness of texture which allows a proper circulation of air, and we know that where there is air, there the living rootlets of plants will penetrate.

Ashes, mixed with pig or cow-dung, takes away the compact soapy character of these manures, and prevents their imparting that sticky consistence to soils which they are otherwise apt to do. At the same time it must be remembered that ashes, lime and chalk must be used with moderation or the gardener will soon find that they take away the fertility of a soil rather than increase it.

Ashes of Wood, Weeds, and Vegetable Refuse supplying, as they do, potash, lime, silica, and phosphoric acid, all of which ingredients are extremely helpful in building up the cellular fabric of young plants, will be found of great service for sowing with small seeds, more particularly those belonging to the Cruciferous family—Turnips, Cabbages, Cauliflowers, Garden Stocks, &c.—all of which are extremely liable to be attacked by the "fly"; any manure therefore that gives the newly germinated plants a good start is of great assistance. Among the artificial manures which may be used for this purpose, we may mention superphosphate of lime and ground rape cake.

Coal Ashes may be dug in with rich animal manures, and should be well incorporated with the soil, but they are of less value to the gardener than ashes obtained from vegetable matter exclusively, owing to the excessive quantity of sulphuric acid which they contain, and which is said to act as a corrosive on the rootlets of plants. The ashes from

burnt clay besides supplying available potash will be found an excellent material for improving the mechanical condition of wet unworkable soils, which is often of more consequence to the productiveness of a garden than the direct action of plant-food.

Soot consists principally of fine particles of carbon or charcoal. It contains besides other substances, from 2 to 4 per cent. of sulphate of ammonia, to which its fertilizing properties are chiefly due, and being a decomposed manure, it acts like guano, only more weakly. It is more suitable for heavy than for light sandy soils. We have seen it applied with good effect at the rate of about forty bushels per acre upon Onions, Turnips, Spinach, Asters, &c., and as a dressing for impoverished lawns. It also acts as a check to the ravages of insects. It is better applied in small quantities at a time, and just before or immediately succeeding rain.

Chalk is a form of carbonate of lime that occurs very abundantly in many counties of England, and which from its soft earthy nature has been extensively applied to land since the days of Pliny. The quantity laid on varies with the quality of the soil, and of the chalk itself, and with the more or less perfect crumbling it undergoes during the season of winter, and with the purpose it is intended to serve. It gives tenacity and closeness to gravelly soils, opens and imparts freeness to stiff clays, and adds firmness to such as are of a sandy nature. Its effects are precisely such as usually follow the application of marl, and, like marl, the repetition of chalk exhausts the soil, if manure be not afterwards added to it in sufficient quantity.

Marl may be said to be a "lime-mud" deposited in low situations in the last over-flowings which have taken place on the surface of the earth. The kinds richest in lime are called "chalk-marl"; those composed of clay and lime, "clay-marl"; those consisting of loam and lime, "loam-marl"; and those of sand and lime, "sandy-marl."

Clayey and stoney marls are well suited to light sandy soils, which they improve and render more solid. On the contrary, sandy marl is good for stiff soils, causing them to be pliable and easy to work.

Some rich marls consist in part or in whole of broken and comminuted shells; these are highly fertilizing upon soils of every description. Marls operate in the soil in a similar manner to lime, but while their effects are not so quick as those of lime, they are more lasting, and are acknowledged as capital promoters of vegetable growth, especially of Roses and fruit-trees of all descriptions.

MALVA ALCEA: FLOWERS PALE ROSY-PINK.

Gypsum is a well-known white powdery substance, found abundantly in large deposits in numerous parts of the globe. It is present in many soils, particularly in those of a peaty nature. The gypsum of commerce consists of—

Water	21 per cent.
Lime	33 ,,
Sulphuric acid	46 ,,
	100

But when calcined it consists of $41\frac{1}{2}$ per cent. of lime and $58\frac{1}{2}$ per cent. of sulphuric acid. Deprived of its water at a low red heat, it forms the well-known "Plaster of Paris," which, when made into a thin paste with water, chemically unites with it, and forms in a few minutes a hard substance, as in plaster casts, cornices in rooms, &c. Its action as a manure is two-fold: in the first place, it serves directly for the food of several cultivated plants, especially those belonging to the Leguminous family—Beans and Peas, for instance; and, secondly, it fixes and retains certain soluble substances in the soil, which are necessary for the growth and nutrition of plants. To the same property is to be ascribed its action of "fixing ammonia," when scattered over the floors of stables, cattle-sheds, dung-heaps, manure-tanks, &c., by absorbing the ammoniacal gases, and preventing their escape into the air.

The sulphuric acid contained in gypsum acts beneficially in decomposing and bringing into activity the humus and insoluble matters accumulated in leafy-moulds, loam, or peaty soils. Unless, however, the gardener has to deal with a soil which has been under rich cultivation for a number of years, it will not be advisable for him to employ much gypsum, or coal ashes, for Professor Jamieson, in some experiments instituted for the Sussex Association for the Improvement of Agriculture, finds that those manures, which contain quantities of sulphuric acid, favour and encourage the disease known as "club-foot," a disease that affects and often almost ruins Turnip and Swede crops, also Cabbages, Cauliflowers, Rape, and other members of the Cruciferæ family, unless there is plenty of decaying vegetable matter in the soil to counteract the evil.

Gypsum will act beneficially only in wet, warm seasons, as in this case the water will not only convey it to the plants, but the heat will assist the assimilation of the sulphuric acid contained in it. It operates best in soils that are light, dry, and sandy, as they soonest admit the falling rain, which dissolves and conveys the manures to the roots of the plants, whereas clayey soils, which are stiff and impervious to the rains, retain the gypsum for a greater length of time. On land which has been exhausted by cropping, and which contains not much vegetable matter, it will prove of little or no avail, but it will do good after an application of farmyard dung, or after digging in a quantity of green-vegetable refuse.

(*To be continued.*)

HERBACEOUS BORDERS.

There is no season of the year more suitable for the overhauling and arranging of these than the present, as now that the plants have completed their growth and are at rest, they may with safety be dug up if necessary and divided. This lifting gives a fair chance for trenching the border, which should be taken advantage of, as it is impossible to grow perennials well unless they can send their roots far down where they can find food and moisture and be independent of weather. Herbaceous plants are mostly gross feeders and are greatly benefited by manure, especially when it is placed low in the earth, which may be done while deep digging or trenching is going on, as then it may be burned at the bottom, where the rootlets will find it when most needed to support and nourish the flowers.

To arrange a border properly, it is necessary to know the plants well, that the strongest growers and tallest may be placed at the back, and sufficient space left for Dahlias, Gladiolus, or summer occupants of the garden of those and kindred subjects to be planted between This will give the permanent things more room and admit of great variety, so that something or other will be always coming in bloom. As soon as the arrangements are complete and all the plants in, it will be found a good plan to give the border a top-dressing to

act as a mulching to keep out the frost, and give the plants a fair chance to get quick hold of the ground. Any plants of doubtful hardiness should be protected by having a covering of cocoa-nut fibre, half-decomposed leaves, ashes, or sawdust, the leaves being the best, as they are light and are good for the plants.—*Alpha.*

FORCING FRENCH BEANS.

Our first batch of French Beans are now setting freely, and the plants are 2 ft. high from the pots and in every respect satisfactory. To obtain a crop at this time we usually sow in the first week in September in 8-in. pots, which are placed in the open-air, in a sunny position, where they remain as long as the weather is deemed favourable. When it is desirable to get them under cover, they are moved into a pit or to the early vinery, which by that time has become destitute of leaves. If a sufficient number is sown, a portion if desirable may be introduced into heat in advance of the others, and a score of good pots will yield a quantity of Beans at the present time, so that two-thirds should be left for the successional ones. Later in the season the proportion must be still greater to keep up the same supply. We have accommodation for two hundred pots, one-half of which may be said to be in various stages of fruiting; but this only gives a meagre supply during the worst part of the year as compared with the couple of dozen from which we shall soon commence to pick. We might indeed be doing so now had not our sowing been unavoidably deferred to the end of the second week in September; and I consider one day's delay at that period counts for two now, unless the plants are unduly hastened. This is a point that should not be overlooked if the Beans are specially required at a certain date.

In most establishments there is a much greater demand for these during October than in the months when they were plentiful, and to meet it we have sown in frames and in a portion of a heated pit in August, the heat being turned on and off by a valve as desired, and the lights put on or taken off according to the weather. In the north French Beans are not very plentiful out-of-doors after the middle of October even if not visited by a frost, and we never rely on them after the end of September.

The arrangements and movements of the family at times call for an unusual supply for two or three weeks in succession, followed by a cessation of the demand for as long, if not for a longer period, owing to their absence, and when that is known to the gardener it is possible for him to double the supply of this vegetable at any time by sowing a sufficient number of pots at one time to occupy all the available space allotted to these plants, and which hitherto may have been shared by plants in two or three stages.

The successional sowings may be made in 4-in. pots, which can be placed in half-a-dozen positions that would not admit the usual Bean pots. As soon as the pots are full of roots the plants must be transferred into their fruiting pots with as little root disturbance as possible, and the soil to pot them in should be warmed before it is used. In the middle of winter from three to five weeks are gained by this little expedient, and its importance cannot be overrated in establishments where the *chef* is prohibited from using tinned vegetables, and the gardener has no fund at his disposal from which to pay for what he receives from the greengrocer. By proceeding in the usual way of sowing in 7-in. or 8-in. pots, it is obvious that the same space is occupied by the batch not yet through the soil and that from which fruit is being picked. It also involves the necessity for as many more large pots, providing space could be found for them when filled. We have often availed ourselves of the small pots when unable to find a sufficient number of large ones, so as to maintain an uninterrupted supply.

Soil for French Beans.—For mid-winter sowings I am an advocate for the use of fresh turfy loam that has been laid in a heap for at least six months, enriched and lightened with horse-droppings. This compost will give the best return at all times, but a fair amount of success may be attained with early and late sowings, with soil that has been used for Melons, Cucumbers, and Mushrooms. Permission to cut a few turves is grudgingly granted in many establishments, and the loam heap has to be cautiously dealt with, so that its use is prohibitory excepting for a few subjects, and the gardener has to resort to inferior soil for French Beans and other things.

When compelled to use this kind of soil, we have, when laying it aside, exposed as much of its surface to the elements as possible by spreading it out, and each time a portion has been required only a few inches of the top has been moved, and the surface of that left forked up two or three inches for further exposure. Soil of this description contains many worms and other pests, but I find that the former move from the forked portion and penetrate lower down. Another method of dealing with this second-hand soil is to move the surface frequently in frosty weather and store it apart from the rest. This may appear frivolous to those who have a free run at the park or meadow, but those who have only a limited supply, or who have to pay 12*s.* or 15*s.* per load for turfy loam, can well comprehend our anxiety to make the best of our soil, and I would advise all to adopt the above plan, instead of cutting into the heap perpendicularly, as is usually practised.

If to this soil one-eighth of partly fermented horse-droppings is added, as already remarked, Beans will do well during that part of the season when they are favoured by more light and sun, as well as larger pots, which contain more soil, even if the quality is not so good. Given a good soil and a position near the glass, and forcing Beans becomes a very simple problem.

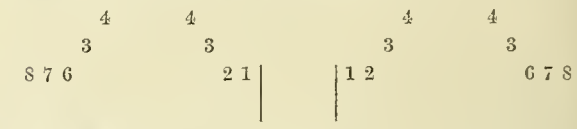
The best Sorts to Sow.—I have grown more of Negro than any other, but I made a comparative trial one year by sowing a dozen pots in January of about six sorts, which included the Negro, and Osborn's, Sion House, Sir J. Paxton, and Canadian Wonder, and, I think, Newington Wonder was the other. Canadian Wonder produced the finest Beans, but I failed from that trial to select one that was preferable to another, and so I keep to the Negro. The pots were placed on a bed of ashes and sand mixed, and they all grew from 2 ft. to 3 ft. high. I never saw such vigorous plants in pots before nor since. The house they were grown in was not at liberty in November; if it had been it is possible there might have been greater difference between them. The number of plants that each pot should contain varies in our present batch from four to eight, and as they have all been stopped the four seem almost sufficient. Our usual practice is to sow seven at this time of the year in 8-in. pots, and the same in winter in 7-in. pots, and 9 in the 8-in. size.—*North.*

CLIMBERS.

Little trouble is taken as a rule by amateurs in the choice of plants for covering walls—not a tithe as much, for instance, as is exercised in the choice and arrangement of pictures for indoor walls, and yet the connoisseur in art who can afford to indulge in the luxury of high-class pictures, cannot, at a hundred times the price, produce a finer display of form and colour than an amateur with a few yards of wall-space at disposal. The latter's pictures are none the less beautiful because they are real, and possess not only elegance of form and colour, but also fragrance. Nor should they be less regarded from the circumstance that the floral pictures can be produced at a hundredth part of the cost of the so-called works of art. Be it remembered, moreover, that the enjoyment of the outdoor pictures cannot be monopolized entirely by the owner and his friends; they are so to speak public property, their beauties of form and colour, and sometimes delicious fragrance, can be enjoyed by the passer-by. Now it occurs to us that the man who makes the house in which he lives—perhaps in some smoky town, less hideous by a clothing of even Ivy or Virginian Creeper, is in a small way a benefactor to his kind; for even a bit of greenery is refreshing to the eye of the jaded citizen.

The author of that pleasant and thoughtful book, *The Recreations of a Country Parson*, tells how, when living during his youth with an uncle in London, he would walk miles up the New North Road to see a few trees and little plots of grass. But with pure air and light how much may be done not only to make a home and its surroundings attractive, but to set an example of industry and good taste to his neighbours. Any respectable nurseryman will advise the tyro what best to use; there are an *embarrass de richesse* at his disposal, and something suitable for every aspect. With a view, however, to elicit the opinions of some of your correspondents who are thoroughly well qualified to give advice, I submit a few remarks on the choice and disposal of suitable plants for the front of a house facing west. Most of them are already planted in the positions they are to occupy on what one might call "a Wall Garden."

The house in question has a frontage of 35 ft., stands 20 ft. back from the road, and has a bay-window on each side of the door. It is built of red brick, and the top of each bay is flat and guarded by a parapet wall 18 ins. high. This gives opportunity for plants in pots to be trained round the bed-room windows. Perhaps the arrangement of pots will be understood by the following figures:—



The object was to produce in as short time as possible an effective display of flowers and handsome foliage. The colours are chosen with especial regard to the colour of the bricks, for this reason no red or crimson Roses have been employed. If the reader will trace a pencil line immediately under the figures it will give him an outline of the ground plan of the house-front. On each side of the door are strong plants of Gloire d'Dijon Rose; 2-2, are Clematis Jackmanni. The Japanese Golden Honeysuckle might have been used in place of the Rose, as it forms a charming combination of colours with the deep purple of the Clematis. 3-3, 3-3, are purple Passion-flowers. 4-4, 4-4, the space at disposal here is only 9 ins. wide, and it is allotted to the graceful Clematis montana, bearing snow-white, star-shaped flowers and elegant foliage. Beneath the centre of the bays at 5-5 is the Tea-Rose Homère. 6-6 is Gloire d'Dijon again; 7-7 are Wistaria, and 8-8 planted, with a view to soften the angles, is the noble-leaved Aristolochia Sipho. Ampelopsis Veitchii, about which your correspondent "C. H." is so enthusiastic, is some years in making a good start, and I therefore cannot wait. Its relative, the common Virginian Creeper, is too coarse and rampant in growth and the charming reds and crimsons in its autumn tints too fleeting. In the two outside spaces the yellow and white Banksian Roses might serve the purpose if glossy, dark-green foliage is a desideratum. Had the walls been of white brick instead of deep red, high-coloured Roses would have been chosen, such as Glory of Waltham and Chestnut Hybrid, in place of Gloire d'Dijon, and Pyrus Japonica or Cotoneaster and Pyracantha substituted for Clematis montana.—*Luke Ellis.*

KITCHEN GARDEN WORK.

Where not already done, no time should be lost in cutting down the Asparagus stems and removing them, together with any weeds which may have sprung up among them, to the rubbish-heap. This done, the loose surface soil should be raked off the beds into the alleys, and in its stead 2 ins. or 3 ins. thick of good rotten dung should be laid on, thus making the Asparagus roots and "crowns" underneath secure from the effects of frost. Remove dead leaves from Seakale and Rhubarb plants, and then cover the crowns with a little wood or coal ashes and long dung or litter, to prevent the crowns from being injured by frost. Where no better accommodation is provided for the forcing of these much-esteemed vegetables, cover a few dozen crowns of each—more or less according to circumstances—with suitable pots or boxes, and the latter with a good thickness of leaves with sufficient long dung on the top to prevent them from being blown about the garden by the wind.

Take up a sufficient number of roots of Asparagus to fill an ordinary three-light Cucumber frame. But, before taking up the roots, the old bed on which the frame rests, should be freshened up a little by adding thereto 8 ins. or 9 ins. thick of slightly fermenting manure and leaves, and a couple of inches thick of short dung, following this with a surfacing of garden

soil in which to pack the roots closely together, before covering them with 4 ins. or 5 ins. thick of light garden soil. Then give sufficient tepid water to settle the soil about the roots, and make up the linings around the frame up to within a few inches of the sashes, to exclude cold, and at the same time to impart a little heat to the interior of the bed and frame. The latter may be left covered up with mats and fern both day and night, until the "Grass" appears through the soil, when air, more or less in accordance with the condition of the weather and the growth of the "Grass," should be given.

AUTUMNAL CROCUSES.

The season for autumnal flowering Crocuses has again come round—notices of some of the earlier flowering species have already appeared in the pages of The Gardening World—and this reminds us that we await anxiously the appearance of Mr. George Maw's illustrated Monograph of the Genus, the coloured plates of which are understood to be in a forward state of preparation. Mr. Maw, however, has already given us a revision of the genus, as well as an outline of its geographical distribution, and a full account of the life-history of a Crocus; and these are scarcely less interesting to the horticulturist than to the botanist, in a genus where every species is ornamental, and some particularly so. In fact they are amongst the most popular of bulbous plants. The multitudinous purple, white, and striped varieties of C. vernus, and the rich golden-yellow forms of C. aureus, are known to the humblest garden, as well as to those of the greatest pretensions; while they are grown in thousands for room decoration. Several other species are frequently met with in gardens, though not in such numbers as the two preceding.

Returning now to Mr. Maw's revision we find that sixty-seven species are enumerated, twenty-four of which flower in the autumn, the remaining forty-there waiting for the more genial spring. They do wait, too, in the fullest sense of the word. A new corm, or bulb, is produced each year, and the old one dies. As the leaves mature and die away a new corm is formed, after which a period of rest ensues. This period of rest is comparatively short in some species, and the flowers appear long in advance of the leaves—the rare and beautiful C. Scharojani, which begins to flower at the end of July, for instance. The majority, however, throw up leaves and flowers together; a few of these, too, are autumn flowerers, though the bulk of them flower in the spring. In mild winters the succession is only interrupted during a few of the early weeks of the year.

Mr. Maw divides the genus into two groups; Involucrati, with a basal spathe springing from the summit of the corm; and Nudiflora, without a basal spathe. The Involucrati group contains thirty species, seventeen autumn and thirteen spring flowerers; while the Nudiflora have thirty-seven species, thirty flowering in spring and only seven in the autumn. They are still further divided by the marked differences which may be observed in the corm-tunics; but our object at the present time is to give a brief account of the autumnal-flowering species, with their habitats, rather than their botanical differences.

C. iridiflorus.—Outer perianth-segments clear, rich purple, much larger than the pale lilac inner segments; anthers orange; stigmas purple, much divided. Native of the Banat and Transylvania, flowering in September and October.

C. vallicola.—Outer perianth-segments pale cream-colour, with thread-like terminations; inner segments cream-colour, with purple veins, and orange-coloured markings in the throat; anthers pale cream-coloured; stigmas cream, subentire. Native of Trebizond and Laristan, at 6,000 ft. to 7,000 ft. elevation, flowering in August and September.

C. Scharojani.—Perianth, deep unstriped orange; anthers pale yellow; stigmas orange-scarlet, slightly fringed. Native of North-west Caucasus and mountains south of Trebizond, at 7,000 ft. elevation, flowering at the end of July and beginning of August.

C. zonatus.—Perianth-segments rosy-lilac, veined inside with clear-purple lines, and with orange throat; anthers white; stigmas yellow, shortly branched and fringed. Grows in the mountainous district of Cilicia, north of Taurus, flowering from the middle to end of September.

C. nudiflorus.—Perianth rich bluish-purple; anthers pale orange; stigmas orange, much divided. Native of South-western Europe, from sea-level up to 6,000 ft. elevation, flowering in September and October.

C. asturicus.—Perianth segments varying from purple to white, with darker markings; anthers bright yellow, occasionally brown; stigmas deep orange, much divided. Abundant in the meadows of Asturia, up to 4,000 ft. elevation, flowering in October and November.

C. serotinus.—Perianth-segments bright purple, with from three to five feathered darker purple lines; anthers yellow; stigmas dark orange, subentire. Native of the south of Spain, flowering in November.

E. Salzmanni.—Perianth-segments of varying shades of lilac and purple, suffused externally with darker feathered markings; anthers orange; stigmas orange, slightly branched. Abundant in the neighbourhood of Tangiers, and sparingly on the flanks of the Lesser Atlas Mountains, flowering in October.

C. Clusii.—Perianth-segments vinous-purple, darker towards the throat; anthers pale orange; stigmas dark orange, finely divided. Abundant at Oporto, Lisbon, and in pine forests south of the Tagus, flowering in October and November.

C. ochroleucus.—Perianth-segments creamy-white, with bright orange throat and pale yellow tube; anthers white; stigmas orange, slightly branched. Abundant on the flanks of Lebanon, in North Palestine, and borders of Syria, flowering from October to the end of December.

C. lazicus.—Perianth-segments bright orange; anthers orange; stigmas orange, subulate. A rare species, not in cultivation. It occurs at an elevation of 8,000 ft. to 8,500 ft., on the mountains above the village of Djimel in Lazistan. There seems a doubt as to the time of flowering, and it has been suspected that it is a very late vernal species, owing to its snow-capped habitat, as C. vernus flowers as late as July at great elevations. C. lazicus and C. nudiflorus are the only two species which produce under-ground stolons.

C. Cambessedesii.—Outer perianth-segments pale buff, with feathered purple markings, inner segments white to lilac; anthers yellow; stigmas orange, subentire. Native of Majorca and Minorca, flowering in October and November, and sometimes in cultivation as late as April.

C. medius.—Perianth-segments bright purple, paler towards the base, internally veined with six or seven purple lines on the lower portion of the segments; anthers pale orange; stigmas scarlet, finely divided. Occurs along the mountains of the Riviera, from Mentone to Genoa, up to 4,000 ft. elevation, flowering in October.

C. longiflorus.—Perianth lilac, the outer segments sometimes veined with purple; throat orange; anthers orange; stigmas scarlet, entire or somewhat divided. Abundant in South Italy, Malta, and neighbouring islands, flowering in October.

C. sativus.—Perianth bright lilac, purple towards the base, and suffused throughout with purple veins; anthers orange; the scarlet drooping stigmas about 2 ins. long. This is the species formerly cultivated for saffron. It is widely distributed, occurring from Italy to Kurdistan, and flowering in October and November to early December. Mr. Maw enumerates six varieties.

C. hadriaticus.—Perianth-segments pure white, with yellow or purple base; anthers bright orange; stigmas scarlet, entire. Native of Albania, Morea, and the Ionian Islands, flowering in September and October.

C. cancellatus.—Perianth-segments from white to purple, self-coloured or feathered with purple markings; anthers pale orange; stigmas orange, finely divided. This species occurs from the Ionian Islands to Syria and North Palestine, and flowers from the end of October to December.

C. caspius.—Perianth white, yellowish towards the throat, which is orange; anthers cream-coloured; stigmas yellow, entire. Occurs on the west coast of the Caspian Sea, flowering in November and December.

C. Tournefortii.—Perianth bright lilac, with purple lines near the base, or delicately feathered with purple veins; throat orange; anthers white; stigmas scarlet, finely divided. Native of the Cyclades and Morea, flowering in October and November.

C. Boryi.—Perianth-segments white, with occasionally a few purple lines near the base, throat orange; anthers white; stigmas scarlet, finely divided. Native of the Ionian Islands, Cyclades and the Morea, flowering through November and December.

C. veneris.—Perianth-segments white, or the outer segments occasionally feathered with purple lines externally; anthers white; stigmas orange, finely divided. Native of Cyprus and Crete, flowering in November.

C. lævigatus.—Perianth white to lilac, the outer segments coated with buff, and variously feathered with purple externally, or sometimes evenly suffused with rich purple; anthers white; stigmas yellow to orange, finely divided. Native of the Cyclades, and the Greek mountains, from sea level to 2,500 ft. elevation, flowering from end of October to Christmas.

C. speciosus.—Perianth bright lilac, rich purple near the base, feathered with three purple lines from base to near summit, which lines branch into a network of purple veins covering the outer surface of the exterior segments; anthers bright orange; stigmas orange, much divided. It occurs through a wide range, from Persia through the Caucasus and Crimea to Hungary and Transylvania, flowering from the latter half of September through October.

C. pulchellus.—Perianth bright bluish lilac, the outer segments with fine dark-purple branching lines inside; anthers white; stigmas orange, finely divided. Abundant in healthy thickets bordering the Bosphorus, and on the Bithynian Olympus, in Greece, to nearly 4,000 ft. elevation, flowering from the middle of September to December.

Of the twenty-four species enumerated above, twenty-two are in cultivation. One of these is a fine deep orange colour, a few others are white, or creamy-white, some of them beautifully feathered or suffused with purple, and the remainder of various shades of lilac and purple. At the proper season, we hope to give a similar account of the spring-flowering species. —*X.*

JERUSALEM ARTICHOKES.

What the writer on this subject at p. 131 can mean, when he says that "Artichoke tubers are naturally far from being nice," I do not know, for I have seen boys peel them and eat them with as much relish as an Apple, and certainly if nicely boiled and mashed up with a little butter, they are very good and palatable. [The writer in question is no longer a boy, and does not now appreciate what was passable in his youthful days.—*Ed.*] In my early days the Artichoke bed was literally a fixture in the garden, for as the roots were required, we went and dug them out wherever we saw a strong stem. They were not annually taken up and replanted, and so were poor things. I have grown them here on the same plot of land for seven years, but they are annually taken up, the ground manured, and roots replanted, often at the end of February, and by so treating them we have a splendid yield. They are planted in rows 2 ft. 6 ins. apart, and nearly as far apart in the rows.

In lifting them I follow a plan of my own which, however, does not always suit the subordinate who has to dig them out. When beginning a row, I have a good deep trench thrown out, and then as we proceed along we keep this trench open until we get to the other end. In this way we succeed in bringing out every tuber, so that none are left to come up promiscuously after the crop is planted again. By this plan also the ground gets well broken up below. In the severe drought we had during the summer months, the plants looked wretched, short in the stems and shrivelled up, but when the rains came in September they recruited at once, and grew away until they have attained their usual height. They are now in bloom, but they are not so evenly covered with flowers as they were last year, when the rainfall was double what it has been during the past summer, so that the peculiarity of flowering cannot be wholly attributed to the dry season. Another circumstance I have particularly noticed this season is the compactness of the new tubers around the old set. They are a splendid crop and come up in huge bunches, while in other years they have grown away some distance from the set, as some varieties of Potatos will do.—*T. W., North Norfolk.*

The Amateurs' Garden.

Vegetables: What to grow and how to grow them.—Among the vegetables cultivated by amateurs, Peas and Potatos take the lead, and I propose to give you my experience with them, beginning with Peas. At this time of year, which may be called "the fat catalogue season," such large numbers are temptingly dangled before the public, that it is quite impossible for the uninitated to select the varieties which are most suitable for them to grow.

Among Peas.—I look upon Laxton's William I. as the best early variety. The true variety of this Pea, grows from 4 ft. to 4 ft. 6 ins. high. It is an excellent cropper, a green marrow, and the flavour all that can be wished for in a mid-season Pea. Carter's G. F. Wilson is still to the fore, but variety being charming, I would add Sutton's No. I., and for the latest crop, there is no Pea that can compare with Laxton's "Omega." The three Peas above-named, grow from 4 ft. to 4 ft. 6 ins. high, and literally bear from top to bottom. The four varieties are ample for any amateur to grow, two being white marrows, and two green. The system of cultivation which I adopt in order to make the most of the land, is to take out trenches, manure them well, and dig up as if for Celery. Then setting the line along the middle, a shallow drill is drawn, in which I sow the Peas, about 4 ins. below the surface of the land. Where birds are troublesome, I cover the Peas up with coal ashes directly they make their appearance, and as the plants grow through the ashes, I earth them up twice, so that when finished, the land is level, and the Peas are independent of the weather. Immediately they are ready for stakes, they should be put to them, and this is most important with early Peas. The cold north-east winds are the greatest enemies Peas have.

Potatos.—Among the many varieties of Potato, and they are legion, I have only four to recommend to my amateur friends. The first early is still the Ashtop Kidney (the Wilson variety). This variety is dwarf, a marvellous cropper, and the best for use. The second, is the good old Myatt's Ashleaf, which everyone knows is still to the front, where productiveness and quality are the two main features. The third is a comparatively modern introduction, Snowdrop, but for large tubers, handsome in shape, and marvellous producers, I look upon this as the best second early in commerce; and last, but not least, the Magnum Bonum. These four are the pick of fifty varieties grown here, and I consider, for the generality of amateur growers, they are ample.

To grow Potatos well, the best land is sandy loam, that is, light and silky, and the best way of preparing it is as follows:—In the autumn it should be well-manured, dug deeply, and laid up roughly, so that the weather may act upon it. When the time comes round for planting, it ought to be as fine as a bed of coal ashes. Shallow drills should be drawn, and the tubers be planted the first week in April, at not less than 15 ins. apart in the row.

The proper preparation of the "sets" for planting, has a most important effect on the crop. For the two early varieties, we set each Potato on end, in old Orange boxes, keeping them cool, but out of the reach of frost, and when April comes round, we find the sprouts as thick as one's little finger, the tuber perfectly solid, and in the very best condition for putting into the land. They are carefully laid down in the drill, and when well up, are earthed right over head, making all secure from the frost. While the Potatos are growing, the ground about them should be frequently hoed. I must here remind the reader that the two early varieties must all be lifted and stored before July 30th, when all will be well. I may add, that we grow early Potatos largely here, and it is my practice to lift them early. They will then last well up to Christmas, when the late ones follow.—*R. Gilbert, High Park Gardens, Stamford.*

Storing Echeverias in Winter.—I have tried to store these away in sheds, by building them up against a wall opposite the light, but not with successful results. I cannot spare frames for them, but devised a plan last autumn that succeeded admirably, and which I intend to follow this season. I procured some boards about 6 ft. long and 1 ft. wide, and when the plants were taken up and removed to the potting shed, they were divested of their lower dead leaves and off-sets, and any long stem-like roots were cut off. They were sorted out into three sizes, and each kept separate. We then laid a row edgeways all around the board, making in fact a little wall in the same manner as they are bedded out. We pack them as close together as we can get them, and fill in the centre and between the roots with a little fine sifted earth. In this way several hundreds can be packed in a close compass. The boards so filled, were placed in a Peach-house for the winter months, and the convenience of having them stored in this way is great, because we can move them about easily when we are cleaning, or when they require change of position. When the bedding season comes round, the boards are carried to the flower-garden, and the plants parted and planted out. They will grow together during the five months they are on the boards, and require very little water, as damp is their great enemy.—*T. W.*

Chrysanthemums.—I was never more struck with the richness and variety of colours displayed in exhibitions of Chrysanthemums than in the present year. They are the beau ideal of an amateur's plant, easily propagated, easily grown, requiring little or no heat to grow them to perfection, and amply repaying the cultivator for the care and attention. I would advise amateurs who intend to grow more extensively next year to secure strong cuttings or plants as soon as convenient, to put single cuttings into 60-pots, and place them in a cold frame. Care should be taken to preserve the correct names. The least troublesome way of growing them is when planted out in a sheltered border, where, if the loam be good, they make more vigorous growth than in pots. Towards the end of September they can be moved into pots, and placed for a few days in the shade. A dull day should be chosen for the operation of lifting and potting. A few of the lower leaves will probably turn yellow, but these can be removed. The plants must not be allowed to suffer for want of water, and might occasionally have a dose of weak liquid manure.—*L. E.*

Rock Roses.—The Rock Rose is Cistus as well as Helianthemum, and it represents a set of very handsome flowering-shrubs of great beauty, that can be commended to the attention of amateur gardeners. The time of the year for planting has come round, and the genial rain on Sunday evening will put nurserymen and gardeners both on the alert; and any work of this kind should be done while the ground is workable and before it becomes thoroughly saturated with wet. One of the best known is the Gum cistus (C. cyprius), a free-growing shrub that produces large white flowers, with dark-purple blotches, extremely showy, but of short duration. But this is compensated for by the fact that it is a very floriferous subject. For a few years I had a plant of this growing against a west wall in a forecourt garden, and when in full bloom it was the wonder of the neighbourhood. Alas! the severe frost of 1881 killed it out-right; but then it was in a very cold and exposed position and in a stiff moist soil also, and I was very sorry to lose it. Then there is C. ladaniferous, which is very often confounded with the common gum cistus; this has large white flowers, but no purple blotches, so that it is easily recognized. C. laurifolius has white flowers also, and the red bracts of the buds are very showy, and it is altogether a very desirable plant. C. purpureus is very distinct, having fine purple flowers with dark blotches. Then there is C. formosus, bearing bright golden-yellow flowers, with a dark spot on each petal. Lastly, is one named C. Florentinus, which I am not acquainted with; but Mr. T. S. Ware describes it as a charmingly effective plant, of dwarf neat growth, and producing an abundance of pure white flowers; one of the finest of the section, quite hardy, and exceedingly free-blooming. I made a great mistake in planting my Gum cistus in wet cold soil in an exposed position. The fact is, the plants will do well in almost any soil that tolerably dry, but they do not succeed in a wet one. The drier the soil and the warmer the situation the better do they seem to do and the more fully will they bloom.—*R. D.*

Raspberry Baumforth's Seedling.—This fine new variety can be recommended with all confidence. Amateur gardeners who are contemplating making a bed of Raspberries should plant this sort. It is a very fine red-fruited variety, a very free, and one might almost say, perpetual bearer; the plant of vigorous growth, and doing well in ordinary garden soil. If the plant costs a little more money than the ordinary red Raspberry, it is yet well worth the increased outlay. We have tried it, and can with confidence recommend it to our amateur brethren.—*D.*

QUIET NOOKS AND DELLS.

At Woolton Wood, near Liverpool, the woodland part of Mr. Holbrook Gaskell's garden is rich in pretty sheltered glades, ravines, caves and dells, beautiful at all seasons, and interesting to the visitor as giving a change from the ordinary garden scenery. But the utility and comfort of such pretty fern-clad nooks is known and appreciated to its fullest extent by the members of Mr. Gaskell's family and their intimate friends only. There in that sunken rocky dell or quiet cave, still as though it were far away from the habitations of man, may be found a rest where the pleasures of a book or of silent thought may be enjoyed, without in summer feeling the oppressing effect of the heat or in winter the chill of the keen winds sweeping overhead. Far too few are such pleasant retreats in our gardens, and yet they can easily be formed, if but the mind be set to work to do it, and that too at a very moderate cost. Mr. Gaskell first got the idea by quarrying stone on his estate for the purpose of building rockeries and other uses, and afterwards planting the openings so made with Ferns, Foxgloves, Evening Primroses, &c., arranging steps and seats in the stone, and making cascades, thus forming what no doubt the ladies of the family regard in the summer as quite the most enjoyable part of the garden. Our illustration gives a view of one of the sunken glades, a glance at which will easily suggest the enjoyment to be found there.

WATER-LILIES IN WINTER.

Nymphæa cœrulea, N. Devoniensis, N. rubra, and other stove varieties have always been coveted plants among our amateur gardeners, and it is now no rare occurrence to see them well grown in gardens of very small pretensions, in some cases only a large tub being accorded to each kind, while in others, where happily a convenient tank is available, they are to be found sending up their beautiful flowers and mingling them together. All generally goes well during the growing season, but in winter (the resting season) mishaps often occur.

The losses are generally traceable to one of two causes: first, a too severe drying off; and secondly, a too low temperature. In many gardens a habit prevails of removing the plants from the water when they die down, and drying the tubers off until spring; but although this is carried out with fair success in many places, it is not to be generally recommended. A much safer plan will be found to remove the pots from the tank when the plants have thoroughly died down, and place them on or under the stage as may be most convenient, placing an earthen pan or saucer under each, and treating the plants as regards water like other pot plants, and not allowing them to become dry. If more convenient, they may remain in the tanks, the water being reduced. Cold destroys the resting tubers of the stove Water-Lilies quicker than anything else. They should, therefore, not be allowed to get below 65 degs. Fahr., but they will keep sound and good in any temperature between that and 85 degs.

Water-Lilies and all other water-plants detest new soil, and when they are potted into it (for instance

fresh cut loam) the soil ferments on being put in the water, and often kills the bulbs. It is therefore best at once to prepare the required quantity, and let it remain until wanted for the re-potting in March.

The best compost is turfy yellow loam (broken up by the hand) eight parts, cow dung one part, and sharp sand one part. A handful of sand should also be placed immediately about the tubers in the potting. —*J.*

BEETROOT.

Associated as it is during its season of growth with such hardy subjects as the Carrot and Parsnip, the comparative tenderness of the Beet is apt to be overlooked, and the occurrence of a night or two of hard frost acts adversely to the keeping qualities of the roots. Wishing to leave the roots in the ground as long as possible we have experienced one or two narrow escapes from sudden visitations of frost. The Beet crop is with us the most important in the garden, being in daily use from November till June. One year, indeed, we sent the last into the kitchen on July 11th, and had the new ones ready early in August, which I thought would give extra gratification to my employer. But things did not take that turn, as I was informed that Beet in August was too early a reminder of winter; but why August more than June or July I was at a loss to perceive. However, it was another instance of the inconsistency of human nature, and deterred me from attempting again to bridge over the short space that existed in July and August, and which I regarded as not an easy task on a cold heavy soil in the North. When lifting the crop every precaution should be taken not to injure the roots, for the fewer abrasions they have the better the colour is more likely to be. In trimming the tops some make close transverse cuts, but I prefer to make them obliquely so that the portion of top left is tapering, which gives them a neater appearance, and the process is equally expeditious. Many sheds are not suitable for storing the roots in, being either too warm, or having no facilities for excluding frost, and in such cases I should prefer to place them in a ridge outside, covered with 6 ins. or 8 ins. of soil, and in such a position that the sun will not shine on it in May and June, if it should be desirable to preserve them till that time. The ridge might have an extra covering of litter in severe weather, and the same material would serve the purpose of intercepting the sun's rays should a sunless position not be available. The varieties we grow are Dell's Crimson, the Pine Apple, and sometimes Nutting's and Cattell's Crimson, and they stand in our estimation in the order named, because they grow to the size we require them, and possess all the good qualities desirable in a Beetroot. A root that will yield slices 1½ ins. to 2 ins. in diameter is more appreciated than one of 3 ins., a size which the last-named variety frequently attain, and they are put on one side for consumption later in the season, when they do not give rise to so much complaint. When dealing with light sandy soil in a warm district, we grow more of this than any other sort, as the smaller varieties seldom produced more than an inch or two of length fit for slicing.—*North.*

A QUIET NOOK IN THE GARDENS AT WOOLTON WOOD, NEAR LIVERPOOL.

POPULAR NAMES OF PLANTS.

It is singular how many plants there are that bear the popular name of Lily. Now the term Lily is of unknown and very ancient origin, and it is used in some Oriental languages for a flower in general. It is said by some that Lily is from the Celtic *li*, white, but it is applied to flowers having colours quite in contrast with white. Thus the Blue African Lily is Agapanthus umbellatus, from the Cape of Good Hope. The Bourbon Lily is the common white L. candidum. This is a native of Syria and Asia Minor, and is the badge of the Bourbon family. The Brisbane Lily is Eurycles australasica, a stove bulb and a native of New Holland, but why it bears this common name I am unable to say. The Canadian Lily is L. canadense, it is a native of North America, and bears orange-coloured flowers. The Cuban Lily is the blue-flowered Peruvian Squill — Scilla Peruviana — a native of Spain.

The Day Lily is Hemerocallis; and H. fulva, and its varieties, is one of the best-known in our gardens. The generic name, Hemerocallis, from *hemero*, a day, and *kallos*, beauty, suggests the common name also: in beauty for a day. It is a native of the Levant. The Easter Lily is L. candidum, but why so named I am unable to learn. The Guernsey Lily is Nerine sarniensis, a native of Japan; possibly so named because this species is so largely grown in Guernsey, from whence the supply of bulbs for the London market is mainly drawn. The Jacobæa Lily is Amaryllis formosissima, but I cannot get any clue to its common name. It is a native of South America. The Lent Lily is the Daffodil, Narcissus Pseudo-Narcissus, and the common name is no doubt traceable to its early blossoming; and it is said to be of Cornish origin. The Lily of the Amazon is Eucharis amazonica, and is probably so named because being a native of New Grenada. The Lily of the Field is Sternbergia lutea, possibly alluding to its abounding in the fields of the south of Europe, and the East, of which it is a native.

The Lily of the Nile is Calla Æthiopica it is a native of the Cape of Good Hope, and has probably become naturalized on the banks of the River Nile. The Lily of the Valley is Convallaria majalis, the Lily of combes or hollows, a name passed from Cant. ii. 1, "I am the Lily of the valleys," but not the flower meant by the author, for this our English flower does not grow in Palestine. L. candidum is also known as the White Garden Lily, and the Madonna Lily, and it is easily understood why it is so termed. The Mexican Tiger Lily is Tigridia, Mexico being the original habitat of this gorgeous flower. The Orange Lily is L. aurantiacum of some; L. bulbiferum of others; while it is regarded as L. croceum by another body. It is the badge of the House of Orange. The Scarborough Lily is Vallota (amaryllis) purpurea, a native of the Cape of Good Hope; but why so named I cannot say. St. Bruno's Lily is Anthericum liliastrum, but the reason for naming it so is not clear. The Tiger Lily is Lilium tigrinum, the tiger-spotted Lily of China.

Calla Æthiopica is also known as the Trumpet Lily. The Scarlet Turkscap Lily is L. chalcedonicum, a native of the Levant, and so named because of the shape of its flower. The White Wood Lily is Trillium grandiflorum, which abounds in North America.—*E. W.*

FRUITS.

Canker on Fruit Trees.—A letter just received from a friend in the North of England says, "We have a poor crop of Apples and Pears, but the quality is good. The trees are badly cankered, but we cannot do anything with them, as we are so overdone with work." The Apple is by far the most useful of our hardy fruit-trees. It is cultivated in every garden, sometimes very successfully, but oftener the results are not such as a gardener ought to feel proud of. During the last season I would be afraid to say how many questions I have had to answer about canker in Apple-trees, and the data have seldom been sufficient to enable me to give a satisfactory answer. For instance, if the trees are old and badly cankered all over, their case is hopeless, and the only practical advice is to order their removal, and to plant young healthy ones. Even, however, if the trees are cankered, they may, in some cases, be all that there is to keep up a supply of fruit for the household, and to grub them up all at once would put a sudden stop to the supply. It is just twenty-one years ago this month since I undertook to renovate an old garden. It was of considerable size, and contained several hundreds of fruit-trees; nearly all of them were very old, most of them of large size, and suffering from many years of neglect. The Apple-trees were badly cankered, even where young trees had been planted to supply the place of old ones; they seemed to become attacked by canker in a year or two. Moreover, there were no proper walks, or any division of the garden into quarters. The first thing I did was to construct paths 5 ft. wide, and on each side of the paths borders were made 9 ft. wide. These were trenched up to the depth of 2 ft., and any trees that were in the way were grubbed out, taking care to trace the roots as far as possible, and grubbing out every one of them as we went on with the work. The ground being very poor, a layer of manure was placed in the bottom of the trench; over this was put the top spit of the next trench besides the loose earth, then another layer of manure, and another spit with the loose earth were thrown out; every trench had the bottom well forked up before the manure was thrown into it.

Planting.—About 7 ft. from the Box edging a row of fruit-trees was planted, principally Apples on the Paradise stock; but we also had Pears on the Quince, Cherries on the Mahaleb, and also some Plum-trees. A good-sized hole was taken out for each tree, and about a barrow-load of good loam was placed round the roots of each. I fancy we gave them too much manure in the trenches, as it caused them to make such vigorous growth that I thought it desirable to lift the trees the next season. This we did, and took the opportunity to trench the ground over again. The trees were carefully planted with more loam round the roots, and encouraged to form roots near the surface by mulching with decayed manure. The 7-ft. space between the path and the trees was filled with a row of Gooseberry and Currant bushes. After a while, the trees occupied the entire space. The borders received a dressing of decayed manure annually in preference to digging amongst the roots, and two or three times we were able to cover the manure with fresh soil, and by a good system of management and summer pruning the trees came into bearing at once; indeed, we had some good fruit the second year. It was predicted that we should never be able to grow trees in the garden free from canker, but we did. Three varieties of Apples only showed signs of it—viz., Ribston Pippin, Cellini, and Wellington—but as soon as they were lifted and replanted the disease was arrested, and the cankered places, after being cut out, healed over. When the young trees came into full bearing we had abundance of fruit and the old trees were taken out entirely. A few were left to experiment upon, principally for the purpose of seeing whether the canker could be arrested by root-pruning in cases where it had not gone too far. A Ribston Pippin and Sturmer Pippin on the Crab stock were both rejuvenated by being root pruned.

Root pruning.—This being the right time to do this, I will describe the *modus operandi* in as few words as possible. A tree from ten to fifteen years old should have a trench cut half round it at a distance of 5 ft. or 6 ft. from the bole. The trench must be deep enough to enable the operator to cut through all the roots; then take a fork and work well under the ball of earth, cutting off all roots that have struck deep into the ground. For the soil that has been thrown out some from another part of the garden should be substituted; the new soil will be better for the tree than the old exhausted material. In applying the new soil endeavour to get the roots nearer the surface than they were before. The object in doing half the roots only is to prevent the tree from receiving too great a shock to the system. During the following season new fibres will be formed where the roots were cut, and the other half of the tree can be done the following season. When the work is done in this way there is no danger of the tree being blown over, nor will the crop of fruit be lost the first year after the pruning.

What is canker?—Fruit-trees are subject to several different diseases, and each of them often goes by the name of canker. Practical cultivators, however, know well enough what canker is. A portion of the bark becomes diseased and dies; the dead portion falls off, leaving the wood exposed, which also decays, and when the trees are badly attacked whole branches die off. Of course, wherever there is decay insects or fungoid growths appear, and it is not unreasonable to assume that insects may be the cause of canker, which some have averred, but in reality they are only the result of the disease. At all events, it has been proved over and over again that the roots getting into bad subsoil is the cause of canker, and that lifting them up nearer to the surface and giving them suitable soil to work into will cure it, or at least arrest the decay.—*J. D. E. in The Garden.*

The Tom Putt Apple.—A correspondent of *The Gardeners' Chronicle* gives some interesting information respecting this famous West of England Apple. It appears that there are five varieties known in Somerset and Devon under the name of Tom Putt, namely, Colbrook, Old Scarlet, Spicy, White, and Green Tom Putt, of which the three first-named are the best. They are all, correctly speaking, of Devonshire origin, although Somerset is credited by some with being their native county. The Colbrook variety, which is the oldest of the group, has been grown in Devonshire for upwards of one hundred years, and was either raised by Sir Thomas Putt, of Gittisham, near Honiton, or by the Rev. Thomas Putt, rector of the same parish, and, afterwards, from 1802 to 1835, rector of Ryme Intrinsica, near Yeovil, Somerset. It is generally the latter gentleman who is credited with being the raiser, but probably Sir Thomas had also something to do with it. Tom Putt, Colbrook; Tom Putt, Old Scarlet; and Tom Putt, Spicy, are all largely grown in Devon, Dorset, and Somerset, both as Cider and as Keeping Apples.

The St. Ambrose Apricot.—Mr. Clayton, of Grimston Park, states in *The Florist and Pomologist*, that in the somewhat stiff soil resting on magnesian limestone at that place, he finds that this variety suffers less from the sudden loss of its branches than any other Apricot he grows; but it requires to be partially lifted occasionally in the autumn, to ensure the wood not being too strong, and consequently more certain to ripen, otherwise it is not such a sure cropper as the Moor Park.

The Red Nectarine Peach.—Mr. Clayton also finds this Peach, which is described by Messrs. Veitch as a new Syrian variety of great excellence, to be one of the best and surest croppers and healthiest trees in the same garden, and also a capital tree for a mid-season Peach-house. It is closely related to Bellegarde, but in Mr. Clayton's opinion distinct from that variety, the colour of the flowers being of a deeper rose tint.

The total quantity of Apples imported into this country in 1883, was 2,251,925 bushels, of the value of £553,448.

FLOWERS.

Seasonable Work in the Plant-houses.—It is now time that all hardy plants which are required for spring foreing should be potted, and as a good selection of these will add so much to the grace and beauty of the conservatory and give such useful material for cutting, we think they deserve to be very largely employed where a supply of flowers is needed, and especially where large conservatories have to be furnished and table decorations provided for. Some of the hardy plants hold a high position for this purpose, and Dielytra spectabilis, Deutzia gracilis, Lily of the Valley, and the Spiræas may be named as amongst the foremost. A long list of hardy plants that are useful for forcing might be made, but we think none of the following should be omitted:—Deutzia gracilis (in selecting these preference should be given to plants with short, well-ripened growth, rather than those that have made more vigorous shoots), Dielytra spectabilis, Spiræa japonica, Spiræa palmata (this is very pretty for pots, but will not stand so much forcing as S. japonica), Azalea amæna, Azalea mollis, Rhododendrons, the Persian Lilac, Lily of the Valley, and Acer negundo variegata, which is very pretty as a foliage plant and makes a pleasant change. After the plants are potted the pots should be covered with ashes, to protect them from frost, and all hardy plants are better kept where there is only sufficient protection to keep them from severe frosts until they are required for introducing into heat.

Chrysanthemums Out-of-Doors.—What a grand time for out-door Chrysanthemums, as, while writing (and for some weeks past), we are having glorious weather; but at this late season it can hardly be expected to last, and those who have plants of the above-named, which they cannot house, should contrive some means of protecting them, as any night now we may get a frost that will cut the flowers all off. If the plants are in pots the matter is easy enough, as they can be plunged and supported against a sunny wall, where, by the aid of a few stakes and rails, a temporary roof may be made sufficiently strong to support a mat or two, or some other covering, which can then be put on by night and removed for the day. Even where there is the convenience of glass, it is a good plan to grow a few plants against a wall, or to lift some as soon as the buds are formed and place them there for supplying late bloom.—*Alpha.*

A Good Winter-flowering Begonia.—Wherever there is much to be done in the way of furnishing in winter, few better plants can be grown than Begonia alba multiflora. The flowers closely resemble those of the old Begonia fragrans, but are smaller, the plant is a less vigorous grower, and the habit dwarfer. The leaves are of a deep green hue, and with an abundance of white flowers drooping among them, afford a pretty floral display in November and December. For the embellishment of intermediate houses at this season, or arranging in groups in the rooms with a scarlet Poinsettia in the centre, the plant is much appreciated by those who know its worth.—*Crocks.*

Gladiolus Colvilli alba.—Most people who have gardens are well acquainted with the tall Gladiolus of the Gandavensis and Brenchleyensis strains, all of which are grand for borders, but few seem to know the more useful Colvilli kinds, which are very dwarf and of great value for pots, as not only are they remarkably free-flowering, but they are very early, and bloom during May and June without any forcing. Those who would have them then should at once get corms and pot them, placing five or six in a 32-pot, which affords plenty of room, and when so grown together they make a nice show. The most suitable soil to pot in is light rich sandy loam, and the best place for the plants is a cold frame, where they should have but little water till they get well into leaf and have made plenty of roots. The varieties of Gladiolus Colvilli afford many colours and beautiful markings, but one of the most desirable

among them is The Bride, which has pure white flowers, and these work up well in bouquets. Anyone first getting the corms of G. Colvilli may consider them weak, but instead of being of the size of those of Gandavensis or Brenchleyensis, they are little, if any, larger than the bulbs of a Crocus; but though so small, they send up several spikes of beautiful blooms. —*Alpha.*

Jasminum grandiflorum in Small Pots.—Few plants are more useful for autumn decoration, or better calculated to afford genuine pleasure to plant lovers, than examples of this fine Jasmine grown in small pots. In this form they are valuable for grouping in large vases in rooms, for forming front rows in houses, or used in other combinations, their delicious fragrance being most enjoyable in the dull season, when sweet-scented flowers are none too plentiful. The double-flowered variety is equally useful, and both should be included among the best plants that can be grown for the purposes indicated.

Abutilon Thomsoni as a Pillar Plant.—The extraordinary vigour of many of the freer-growing varieties of Abutilon has only very recently been discovered by practical cultivators, who in the majority of cases relegate them to solitary confinement in 6-in. pots. It is well that such useful plants should be grown in a variety of ways, but it cannot be too widely known that the true character of many of them is only seen when they are generously cultivated—in other words, planted out in a good border. Abutilon Thomsoni will travel up a pillar for 20 ft. or more in a couple of seasons, and if loosely trained, no more striking object could be desired as a pillar plant in a greenhouse or other cool structure.—*G. H.*

Lobelia cardinalis.—When one meets with a good plant, well grown and effectively placed, it is a pleasure to sing its praises. I have grown this plant extensively, and have seen it planted in many situations, in mixed borders, among sub-tropical plants, and dwarf shrubs, and also Mr. Roberts' plants alluded to in your last by Mr. Sheppard, but I have never seen it look half so well as when planted on a rookery formed of white stones, where its dark foliage and bright crimson blossoms had a charming effect in the sunlight.—*T. Williams.*

Ismene Andreana.—This is a very beautiful Amaryllidaceous plant from Ecuador. The bulbs are globose, and about 3 ins. in diameter. The leaves are light green, linear, 12 ins. to 14 ins. long by 1 in. broad. The peduncle is shorter than the leaves, and bears a large solitary flower; the ovary is dark green, with three white lanceolate membraneous bracts at its base; the perianth tube is light green, cylindrical, and 4 ins. long; the lanceolate pure white segments are 3½ ins. long, and elegantly recurved; the corona is funnel-shaped, nearly 3 ins. wide at the mouth, and pure white with longitudinal green bands; the free parts of the filaments are sharply turned inwards, and each filament is terminated by a bright yellow anther; the style and capitate stigma are light green. There is a beautiful coloured plate in the *Revue Horticole* for October 16th, 1884.

Pentstemons.—The open character of the season in Scotland is well illustrated by a box of seedling Pentstemons received on Wednesday from Mr. Downie, of Edinburgh. The spikes are strong, and the flowers of capital shape, as well as bright in colour. Most of them are light-coloured varieties, with short tubes, flat and broad, and the throats nicely pencilled, but the finest of all is a rich crimson flower of good size and quality.

Ruellia Portellæ is a beautiful little plant, now flowering in the stove at Kew. The leaves are oblong-lanceolate, 1½ ins. to 2 ins. long, dark green, with light green mid-rib, on either side of which is a narrow white band. The flowers are disposed at the ends of the branches, and measure 1½ ins. long by nearly 1 in. broad; and the colour is very deep rose. It is a dwarf and compact little plant.

VEGETABLES.

Cauliflowers or Broccoli all the year round.—Going backwards is scarcely the order of the present day, but to enable your readers to quite understand me, I must take them back to August 25th, when the first crop of Cauliflowers should be sown. I sow mine in the open land in drills. When they get large enough to handle I prick them out in cold frames, 3 ins. apart, and here they remain all the winter. They are fully exposed in fine weather, but during heavy rains and sharp frosts the frames are closed. The varieties which I look upon as the best early Cauliflowers are Martin's President and Barr's Best of All. These two varieties gave us excellent heads, from the middle of June to the middle of August. On March 25th, or thereabouts, we sow Martin's President, Walcheren and Veitch's Autumn Giant. The Walcheren, being a bad stock, did not turn out satisfactorily; but Martin's President and Veitch's Autumn Giant both turned out well, and gave us an abundant supply, which will last until the latter end of November. On or about April 25th we sow seeds of Snow's Winter White, Veitch's Protecting and Autumn Protecting Broccoli, and the plants from this sowing keep us well supplied until the middle of February, or later. On May 7th we sow all the late varieties of Broccoli, including Barr's Mayflower, Burghley Champion, and Cattell's Eclipse, which come into use in the order named. The whole of our Broccoli crop is planted on what we call the crow-bar system, because when so planted they grow stubby and short-legged. I never heel in any Broccoli whatever, but if hard frosts occur I cover the plants right over with Bracken Fern, a plan which I have followed with great success for eighteen years.—*Richard Gilbert, High Park Gardens, Stamford.*

On Wintering Turnips.—Turnips, Carrots, and Onions are staple articles required by the cook daily, and remarks on the storing of the two latter crops often appear in the horticultural journals, but not so as regards the storing of Turnips. Your excellent correspondent "Alpha," whose contributions I always read with profit and pleasure, has a note about Turnips last week. To obtain a winter crop I have for a number of years sown in the first or second week in July, on land that some other crop has been taken off, such as Peas or Potatos, and I always sow a few rows of the Chirk Castle Black Stone variety, because I have proved its value as a very hardy and good-keeping sort. The bulbs are as black as coal outside, but the flesh is white, and the flavour good. It was sent out about thirty years ago by the late Mr. George Brown, then gardener at Chirk Castle, Denbighshire, and when I served under him as a journeyman about that time he grew it largely, and if I remember rightly brought it with him from Scotland. But I am digressing; how to store Turnips so that they may be comeatable through the winter months is the subject I started to write about. I draw ours all up, and then lay them in short rows across a piece of land, letting their tops remain on them, so that the tops of every row covers the bulbs of the preceding one; and when severe weather sets in, we cover them over thickly with litter, uncovering them again as soon as the hard weather goes. They will keep on growing—or forming—young roots around the bulb all the winter, and require once or twice to be drawn out and relaid again to check this. This little extra trouble is the means of keeping them sound and good till late in the season; and this is the best way of storing Turnips I have found.—*T. W., North Norfolk.*

Lettuces and Endives.—I notice on p. 139, under the heading of Vegetables, that a writer states that during the summer, Lettuces are abundant and good, but not so now. Surely, the writer must have made a slip of the pen, as at this moment we have them in abundance, in fact, Endives are not relished here, not even when well-blanched in the identical way the writer mentions. I am, therefore, called upon to supply Lettuces every day in the year, which I do without the slightest difficulty, and have done for many years past. Our winter crop of Lettuces is sown in the middle of July, the variety being the Black-seeded Brown Cos. At the present moment, I have a large quarter of them nearly ready for use. If sharp frosts occur, I cover the whole up, from 6 ins. to 8 ins. deep with dry Bracken, which forms an admirable protection, and also to me a cheap one. I may be told that "everybody cannot get Bracken." In that case they should apply to *Richard Gilbert, High Park Gardens, Stamford.*

Storing Carrots and Beetroot.—For the past three years we have stored these vegetable roots through the winter successfully under a north wall, packed in cocoa-nut fibre refuse. They should be stacked in layers, with a little of the fibre refuse placed between each, building it to slope from the wall when finished. Carrots keep quite good stored in this way until the young roots of the next season's crop are fit for use. Beetroot we have had in good condition months after the current year's supply has been ready.—*C. H.*

Heeling in Broccoli.—Like young Cauliflowers, Broccoli are feeling the effects of the very warm weather, and are "proud" as they are full of growth, which is against their wintering, for instead of maturing and becoming firm in leaf and stem, they remain soft and succulent, in which condition frost acts most unfavourably on them and ruptures the vessels. Broccoli, to stand severe weather, must have hard stems and not be over vigorous, and any not in accordance with these conditions should be heeled in, for though the doing of it may be the means of diminishing the size of the heads, it will render the plants tolerably safe if they are dropped in sufficiently low, and by doing it early they get fresh roothold before winter sets in. Where the rows stand wide apart from having Potatos grown between, it is a good plan to earth up, as the plants stand, in the same way as Celery.—*Alpha.*

Cauliflowers.—Young plants of these are getting what are technically termed "proud," that is to say they are growing too fast for the season, and unless checked there is danger of their getting much too forward, when they either get killed by hard weather, or turn in prematurely by forming small heads. To prevent these evils they should either be transplanted or potted, the latter mode of treatment being preferable, as when in pots they may be transferred to the open ground in the spring without feeling removal. In potting 60-sized pots are quite large enough, and instead of crocking them, they should have a pinch of half-rotten leaves or dung put in the bottom and then filled up with light soil. The way to winter Cauliflowers so treated is to plunge them in coal ashes in some pit or frame, keeping them well up to the glass that they may have plenty of light, and if they are then supplied freely with air by tilting the sashes, the plants will remain short-legged, sturdy and strong. Although tender under certain conditions, Cauliflowers are very hardy if kept moderately dry, but cold, wet, and confinement they cannot stand, as frost then lays quick hold of them and destroys them at once. If wintered outdoors, the only place they are safe is under the foot of a south wall or fence, where any standing out in seed beds or borders should be pricked out or transplanted at once, when, by-and-bye, if we get severe weather, they may be protected by having a few evergreen branches stuck up in their front. The best way of obtaining a few early Cauliflowers is to plant under handlights placed on a sunny border that has been well manured, but whether there or elsewhere the plants must have plenty of air.—*Alpha.*

The Burghley late Queen Broccoli.—Two years ago, I crossed Chou de Burghley with Cattell's Eclipse, and obtained a later and whiter variety than the latter. To prove this, the seedling, which I call the Burghley late Queen, was exhibited at the Broccoli and Cauliflower Show at South Kensington last June, where it was placed first among forty dishes. The three heads shown weighed together 15 lbs.; they were perfectly protected by their own foliage, and white as milk. I have a large breadth this season, and intend exhibiting it again at one of the meetings of the Fruit and Vegetable Committee.—*Richard Gilbert, High Park Gardens, Stamford.*

THE

Orchid Growers' Calendar.

Syringing Orchids.—Although of great service when properly used, the syringe, as we too often see it employed in Orchid-houses, is one of the most mischievous instruments imaginable, so that a word of caution about it at this season will not be out of place. Amateur Orchid-growers cannot too early appreciate the fact that delicate plants are much more susceptible to injury by carelessly applied and excessive quantities of water in autumn and winter than they are in spring and summer, although at any season it is very harmful. I have no hesitation in saying that rather than too freely or carelessly use the syringe it had better be banished from the Orchid-houses altogether; indeed those who try to limit its use to the very narrowest compass will soon find that it can almost be done without altogether, and that with advantage to the plants. Let us note a few of the

Abuses of the Syringe.

Many a time in summer have I seen a house of Orchids being syringed with the full sun on it, and with the foliage of the plants heated to a high degree by sun heat. On such occasions on remonstrating I have often been told that it was done in order to keep a moist atmosphere. If such were the case the syringing had better have been confined to the lower part of the house, beneath the staging and the stages and between the pots, and the poor plants have been spared the deluge of cold water on their heated leaves, which, so far from being benefited, rapidly became dry again, and were injured by the sudden transition from dry to wet, and from wet to dry again. Nature rarely waters her plants in such a manner, as the sun is generally obscured before rain, and even were it not so the wetting in sunshine outdoors in the open-air would not be so hurtful as under glass.

Another common abuse of the syringe, and one which gets hold of the most wary when pressed for time, is the habit of employing it as a means for watering the baskets and blocks without taking them down. Those who have the direction of affairs in the Orchid-houses cannot too firmly set their faces against such a practice, as it is alike injurious to the suspended plants and to those below them, the blocks and baskets hanging up being imperfectly treated, some of them getting too much water and others too little, while the plants beneath them are injured by drips.

Loss of young growths, flower-sheaths and centre leaves are among the most common evils which the syringe brings into the Orchid-houses, particularly in the dull season. I would, therefore, urge upon all the necessity of restricting its use in the Orchid-houses to the lowest possible limit, and to try how near to doing without it they can possibly get. It is surprising how much more the other means at command for keeping up a wholesome moist atmosphere are studied where the syringe is but little used, and how much more regular and healthy the temperature is when it is not regarded as one of the essentials.

The Best Use of the Syringe.

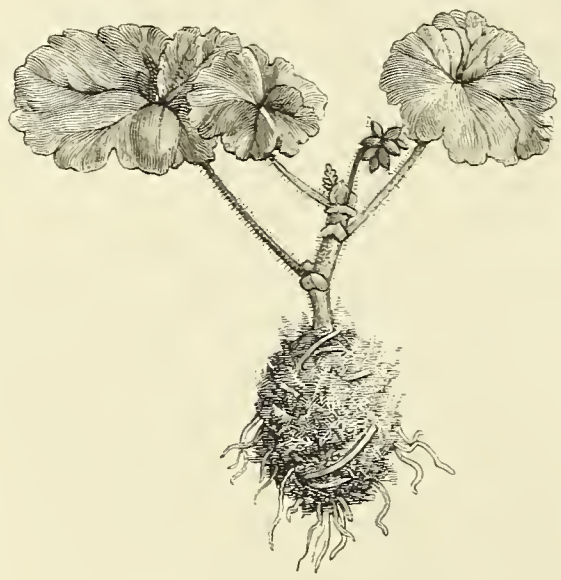
But let us not pass without hearing the other side. The syringe is very useful for keeping moist habitually dry corners and out-of-the-way parts of the brickwork under the stages, which form such good winter quarters for insects if left dry and undisturbed. It is of the greatest use in the same capacity for moistening between the pots and on the stages, and it is very serviceable for treating blocks or baskets which have been taken down and placed on the walk, and in which insects are supposed to be, as the shock of the water from the syringe often brings wood-lice and other insects out. The syringe is also useful in some cases for applying liquid insecticides, when dipping will not answer. And, above all, the syringe is most useful and in its best capacity when the periodical house-cleaning comes on, and when the youngsters may use it in an empty house to their hearts' content.—*James O'Brien.*

ORCHID NOTES.

Odontoglossum Williamsianum.—This is an evergreen species of the O. grande section, and flowers in July. At first sight it somewhat resembles O. grande, but differs considerably from that species in the shape and markings of the petals, as well as the colour and crests of the lip, which are perfectly distinct. The spike also stands up and shows itself off better than that of O. grande, and the flowers are more compactly arranged on the spike. The pseudo-bulbs are about 3 ins. high, bearing at the top a pair of leaves about 10 ins. in height. The sepals and petals are of a greenish-yellow, having a large pale-brown anteriorly-lobed blotch at the base; and the lip is pale lemon-yellow, with a few pale dull reddish-brown spots at the base. It continues in bloom for about four weeks. It is a free-growing and free-blooming plant. Mr. Williams grew it in a pot, with rough fibrous peat and good drainage, in the cool Odontoglossum-house, on a shelf near the glass, where it received plenty of light, but was quite shaded from the burning sun. The plant is beautifully illustrated in *The Orchid Album* for the present month, whence we have gleaned the above particulars.

ROOTING CUTTINGS IN MOSS.

In June last, Mr. James Lye, of Market Lavington, the well-known Fuchsia grower, wrote to *The Gardeners' Chronicle*, detailing his experience with Moss as a



A CUTTING ROOTED IN MOSS.

medium for rooting cuttings in, instead of ordinary composts. His plan was to tie a small ball of Moss at the base of each cutting and put them singly in thumb pots without any soil, to keep them in a vertical position, and no cuttings that he tried refused to root in this way. A few weeks later I tried the plan with some cuttings of choice Zonal Pelargoniums, sent me by a friend, from a distance, and send you a little sketch of one of them, made a fortnight after it was mossed. Nothing could be nicer than the way they rooted in a small closed frame, placed on the north side of a garden hedge. I put some of them singly in the small thumb pots, and others I packed at about a couple of inches apart, in shallow boxes filled with cocoa-nut fibre refuse. These if anything thrived the best. My object in sending you the sketch and this note, is to bring the plan under the notice of those amateurs living in towns who find it a difficult matter to get good fresh potting materials, but who should have no difficulty in obtaining a bit of fresh or dry moss—for either will answer the purpose. For sending a few cuttings to a friend, I have proved the plan an excellent one, so well do the rooted cuttings travel in small tin boxes.—*Z.*

It is stated that in consequence of the damage to crops caused by the depredations of small birds, the farmers in the neighbourhood of Warminster, have formed themselves into a club to promote their destruction. A considerable sum was subscribed at a meeting for the purpose.

FLORICULTURE.

Early Single Tulips.—If any amateur with a small greenhouse, is desirous of having something that will make it gay and cheerful in spring, let him try some early Single Tulips. Of them it can be said that they are eminently satisfying. They are also moderate in price, and on the whole easily grown. What is wanted, is, say, a dozen or twenty 5-inch pots; some good yellow fibry loam, leaf-soil, well-decayed manure, and silver sand. That is all, excepting the Tulips; and as to these there are several beautiful sorts, such as:—

Artus, scarlet, dwarf and showy.

Belle Alliance, brilliant scarlet; very fine.

Canary Bird, clear, rich yellow; very free and early.

Couleur Cardinal, rich shaded red or crimson; very fine.

Duchesse de Parma, orange-red, margined with yellow.

Keizerskroon crimson scarlet, edged with clear yellow; one of the very best.

White Pottebakker, pure white.

Royal Standard, white, feathered with rosy crimson.

Thomas Moore, orange; very distinct. And

Yellow Prince, bright yellow.

Three bulbs should be placed in a pot, and a pot of each of the foregoing varieties would cost but little. Anyone wishing for something better in quality and higher in price will find them in the following:—

Bride of Haarlem, white striped and feathered with crimson.

Cerise Grisdeline, purplish rose, margined with creamy white; very pretty.

Cramoise Superbe, rosy cerise; a very beautiful and distinct variety.

Joost van Vondel, rosy crimson, panelled with white.

Le Matelas, white, flushed with bright rose.

Princess Helena, pure white; very fine.

Proserpine, rich dark rose; extra fine.

Roi Pepin, pure white, flaked with crimson.

Rose Louisante, clear silken rose; very fine.

Van der Neer, purplish violet; large and very fine.

Vermillion Brilliant, true vermillion; the finest of all the red varieties. And

Wouverman, deep purplish violet.

This makes a very fine lot for pot culture, and they are equally useful for conservatory decoration, and if the grower is at all ambitious, he may be able to shine with them on the exhibition table.

Potting Tulips.—And now just a word or two about potting. Let a piece of crock be placed over the hole at the bottom of the pot, and over this half-an-inch or so of finely-broken crocks; and over this again a thin layer of cocoa-nut fibre. Then pot the bulbs, placing three bulbs in each, and leaving them with the points of the bulbs above the surface, pressing soil and Tulips firmly into the soil. Then place them in a cold frame, or under a wall out-of-doors, standing the pots on pieces of boards or slates, and covering them with three or four inches of cocoa-nut fibre—which is much more easily obtainable than anything else of a like nature—and let them remain for six weeks or so. Those who grow bulbs largely for Covent Garden and other markets, stand their pots out-of-doors and cover them with about 6 ins. of spent hops and dung mixed together, and then leave them until they begin to grow, when they are taken into a warm house, and brought on into flower.

The grower who wishes to have good Tulip blooms in early spring should be careful not to allow his plants to become drawn, but strive to keep them as sturdy and hardy as possible; therefore he must allow air to play freely upon them, except when the weather is cold and frosty, and biting winds prevail. The flower-stalks should be carefully staked, and by-and-bye, when the flowers are fully developed, if a piece of silk be tied round them they will last for some time longer.

When the plants have done blooming, there is no reason why the bulbs should be wasted. When the flowers have faded they should be planted out in the mixed or shrubbery border, placing some soil about

them from the potting bench, and then they will flourish for years to come. Some persons are apt to neglect their bulbs as soon as they have done growing; they are allowed to want for water, to become perfectly dry, and roasted by the sun. It is, therefore, not to be wondered at that when, at the end of the summer, they are planted out in the open ground, failures ensue.

The first selection of early single Tulips is one well adapted for bedding purposes. Tulips make charming beds in early spring, but in all cases they should be carpeted with some plant to succeed them, and give a succession of bloom. Here are a few plants that can be used for carpeting beds of Tulips:—Aubrietias, Violas, Double Daisies, and especially the variegated leaved variety, Aucubæfolia; the compact Silene pendula, Myosotis dissitiflora, Limnanthes Douglassi, Arabis albida, and some others. The Tulips should be planted at a depth of from 5 ins. to 6 ins., and this leaves plenty of space above to cover the beds with plants.

I have dealt entirely with single Tulips. Some persons like the double ones. The best are Gloria Solis, Imperator Rubrorum, La Candeur, Rex Rubrorum, Tournesol, and Yellow Tournesol.—*Quo.*

Mr. N. Davis's Chrysanthemum Show in the Lilford Road, Coldharbour Lane, Camberwell, is just now one of the sights of the town "on the Surrey side," and well deserves a visit on the part of those who derive pleasure from a flower show of any sort, if only flowers be plentiful enough, and those also who duly appreciate the "points" of a flower as developed by good cultivation, and which your earnest florist generally sums up in the one word—quality. Mr. Davis is one of the most enterprizing growers of "mums" in the Metropolis at the present time, and he does grow his plants and finish his flowers, as well as show them, with a skill that does him infinite credit. The show-house at Lilford Road is a span-roofed structure, 65 ft. long, 30 ft. wide, and 14 ft. 6 ins. high in the centre. The centre bed, 20 ft. wide, is filled with the plants, and so arranged that every flower does its duty, and such flowers! The incurved section is strongly represented, and grand blooms may be seen of such well-tried sorts as Queen of England, blush; Empress of India, white; Alfred Salter, pink; Golden Empress of India, pale yellow; Barbara, amber-yellow; Princess of Teck, faintly tinted white; Prince Alfred, carmine; Mr. Brunlees, Indian red, tipped with gold, &c. The Japanese varieties, as usual, give the needful amount of bright colour and variety of outline. Amongst these the irrepressible Elaine stands out pre-eminent amongst the whites, while among the finest coloured flowers we noted Père Delaux, very deep crimson; Madame C. Audiguier, mauve-pink; Madame de Sevin, rosy-purple; Garnet, bright crimson; Angélé, rosy-wine colour; and Comte de Germiny, nankeen yellow.

HORTICULTURAL SOCIETIES.

The Scottish Horticultural Association.—A meeting of this Association was held on Tuesday last, November 4th, Mr. Hugh Fraser in the chair. Mr. M. Chapman, Easter Duddingston Lodge, read a paper on "Herbaceous Plants and Borders." In the beginning of the present century, he said, herbaceous plants were very popular. Amongst these might be numbered hundreds of the most beautiful, chaste, and interesting of garden plants, which supplied them with a succession of cut flowers, elegant alike in form and colour, from the dawn of the year to its close. The wonder was how plants of such sterling merit should have ever been allowed to lapse into a state of neglect. Being of a hardy, enduring character, easily cultivated, and also possessing an educational value to the inquiring mind, they afforded a pleasing and instructive study not to be found in the modern system of bedding. In selecting from over 600 species of hardy plants, which might be estimated as about the number now in cultivation, a very fine collection could easily be got up. In naming a few of the leading plants that flowered through the course of the season, before the year was at its close, they had the Hellebores blooming profusely all spring, Hepaticas, Orobus vernus, Primulas (many varieties), and many other favourite spring-flowering plants. In the summer months they had the Columbines, Pyrethrums, Irises, Pæonies, Spiræas, and Campanulas or Blue Bells. In the autumn months came the Delphiniums, Potentillas, Phloxes, and early flowering Chrysanthemums, while the Michaelmas Daisies made a fine display in October if the weather was moderate.

In the course of a discussion which followed, it was pointed out by Mr. Mackenzie that while in his opinion the "ribbon border" had served its day, the herbaceous border became at times rather shabby looking. He accordingly advocated an admixture of bedding-out and herbaceous plants. Mr. Robertson Munro spoke of the excellent effects which might be secured by the admixture of herbaceous plants with clumps of dwarf shrubs. The general opinion of the speakers seemed to be that the natural rather than what might be termed the artificial style of gardening, with its blaze of colour, was to be preferred.

Mr. Chapman exhibited over twenty varieties of herbaceous plants growing at present in the open-air. Dr. Paterson, Bridge of Allan, sent for exhibition two fruited spikes of Tritomia Uvaria—the Spire Lilly, over 6 ft. in height. Mr. Hugh Frazer exhibited a curious protuberance, which he had found growing from the roots of a Taxodium distichum in the grounds of Mr. Raphael, Castle Hill, Staines, Surrey. He was aware, he said, from books, that in their native swamps of Florida such protuberances sent up from the roots of this tree were common. In size they were 1 ft. to 1 ft. 6 ins. above ground, and occasionally 2 ft. in breadth. When full-sized they were hollow, and were made into bee-hives by the negroes and planters. He had never, however, seen such protuberances on any Taxodium in this country until he met with them at Staines. [They are plentiful at Syon House, and other places.—*Ed.*] The tree in question, which grew on the margin of a lake, was 65 ft. in height, and girthed 9 ft. 6 ins. at 4 ft. up. The protuberances extended outwards from 30 ft. to 45 ft. from the trunk of the tree.

The Chairman, before closing the meeting, alluded in suitable terms to the death of an old and valued horticulturist, Mr. A. Shearer, who had been for about thirty-eight years gardener to the Marquis of Tweeddale at Yester. It was agreed that a suitable minute should be drawn up, and a copy sent to Mr. Shearer's representatives.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

We have much pleasure in publishing the following list of subscriptions, which have been collected in two days, without a single refusal, by Mr. Coleman, Eastnor Castle, Ledbury. If other gardeners will show as much interest in the Pension Augmentation Fund, during the next week or two, as Mr. Coleman has done, the amount required will be easily raised.

	£	s.	d.
W. Coleman, Eastnor...	1	1	0
T. Anderson, Esq., London	2	2	0
Dr. Henry, Haffield, Ledbury	2	0	0
Mrs. Ricardo, Bromsberrow Place	1	0	0
The Rev. R. P. Hill, Bromsberrow Rectory	0	10	6
Mr. McRobie, Bromsberrow Place	0	10	0
Mr. Henderson, Gardener, Haffield, Ledbury	0	10	0
G. Piper, Esq., Ledbury	0	10	6
E. Webb, Esq., Ledbury	0	10	6
James Dawes, Gardener, The Priory, Reigate	0	10	6
Mr. Fisher, Gardener, Flixton Hall, Bungay	0	5	0
Mr. Parr, Ledbury	0	5	0
W. A. H. Martin, Esq., Upper Hall ...	2	0	0
Mr. Fraser, Gardener, Upper Hall, Ledbury	0	10	6
John Hopton, Esq., Canon Frome	2	0	0
Capt. Archdale, Underdown, Ledbury ...	1	0	0
H. Bailie, Esq., Eastnor	0	10	0
C. Radcliffe Cooke, Esq.	0	10	0
Mr. Chas. Stephens, Ledbury	0	5	0
J. E. Wheatley, Esq., West Bank	0	10	0
	£17	0	6

The secretary of the Board of Inland Revenue, has lately decided that it is quite legal to place two halfpenny stamps on a receipt instead of the usual penny stamp.

THE APPLE FAIR AT EXETER.

The first exhibition of this kind held in Exeter, was opened at noon on October 30th, in the Lower Market, Fore Street, by the Mayor, Mr. Alderman Wilkinson, who, in opening the proceedings, remarked that at the first blush some doubt was thrown upon the desirability of having an Apple Show in Exeter, but when visitors had inspected the Exhibition he thought that any question of that kind would have disappeared, and they would see in this Exhibition the commencement of a movement that would be of value, not only to the city and county, but to an even wider district The central position of Exeter, the fact that she was the capital of a county in delightful climate, and famous for its orchards and their fertility, made the city a most suitable place for an Apple Fair. Some thought that the Show might injure the old Horticultural Society, but he believed the present Exhibition would give an impetus to that Association rather than be an obstacle to its progress. He felt that in Exeter they were under an obligation to that Society, and on the part of those who were acting with him there was no other desire than to see the Horticultural Association successful. He wished every prosperity to the flower show to be held in November, and he hoped that the additional interest excited in the growth of fruit by this Exhibition would really be a source of strength to the old Association. He sincerely hoped that the Apple Fair would be a permanent institution, because he believed that it might be made the means of much good to the county. Before concluding, he desired to thank the judges for the readiness with which they had come forward and had aided the Committee with their experience and judgment. He also, on behalf of the city, thanked the Committee for their good work, and especially did he feel that the gratitude of all was due to Mr. Pengelly, their Hon. Secretary, who had been most untiring in his efforts, and to whom the utmost credit was due for the success of the Exhibition.

Although (says *The Western Times*) enthusiasm was hardly looked for in connection with a show of this character, yet the Committee certainly had a surprise in store for visitors, for few of those who went down to the Lower Market had any expectation of seeing such a large and pretty exhibition as they found awaiting their attention. Over 2,000 dishes, containing altogether 10,000 Apples and Pears, filled the tables and stalls in the several avenues of the market. The varieties shown may be summed up in a few words, for the Exhibition embraced specimens of all the best known sorts. In addition to the many collections for competition there were very large displays for exhibition only. Messrs. Bunyard & Co., of Maidstone, sent 100 dishes; Messrs. Lucombe Pince & Co., made a show of over a hundred varieties grown in their nurseries in the Alphington Road and Exminster, and Messrs. R. Veitch & Son exhibited 120 dishes, most of them from trees growing in the nursery in the New North Road, and also embracing the new golden coloured Sandringham. In each of these collections were found some of the largest as well as the prettiest varieties which grow, and the Committee felt much indebted to each of these growers for their assistance.

The project of the Fair was very heartily fostered by the Mayor, who throughout aided the Exhibition in every way, and the probability is that the auspicious start which has been made will do much to ensure the permanence of the Exhibition. About £35 was offered in prizes divided among thirty-eight classes, and the entries secured were not only numerous, but were from growers residing long distances from Exeter. The best collection of the entire Show suffered disqualification through an oversight of the representative of the sender. The exhibitor was Mr. J. Watkins, of Pomona Farm, near Hereford, and he had sent a sufficient number of Apples to make up the twenty-five dishes required, but his instruction to his man was that only twenty-four dishes were required, and the man took this for granted. The twenty-four dishes made a show a long way ahead of all others, but rules had to be observed, and hence the disqualification. The first prize was awarded to a Sidmouth grower, Mr. Berwick, who staged especially fine dishes of Mére de Ménage, Hollandbury, and Wellington. The twelve varieties' class was a decided triumph for Devonshire, Hereford and Kent

having to play second fiddle to Mr. Joseph Ham, of Broadclyst, whose dishes of Warner's King and Wellington were really grand. In the second collection, Mr. Watkins', included a dish of enormous specimens of the Loddington Seedling. In the class for six dishes of Culinary Sorts there was a very strong competition, Warner's King, Gravenstein, and the Fall Pippin being the most noticeable in the three winning collections. The Dessert Apples were extremely fine. The prizes for the heaviest dishes brought out some very fine fruit, but Mr. Dennis's six easily took first honours, his dish of Warner's King weighing two pounds more than the six Gloria Mundi, which were awarded the second prize. In the contest for the prizes for the best flavoured Apple, Ribston Pippins took first, Cox's Orange second, and Nonsuch third. The Mayor's prize for collections of six—half culinary, half dessert—created a good competition among Devonshire growers, the Rev. T. Yarde, of Chudleigh, leading the way. The Pears were a fair show, but the year has not been a good one for English Pears and the display could not be compared with the exhibition of Apples. The chief honours were taken by Sir T. D. Acland, Bart., several of whose dishes were really remarkable. Five Pears of the Doyenné du Comice shown by Sir Thomas weighed 5 lbs. 2 ozs., and five of the Pitmaston Duchess sent in from Killerton weighed 6 lbs. 10 ozs., the two largest turning the scale at 3 lbs. 2 ozs.; Pears of this variety have the recommendation of coming from a free-grower, and from one young tree twenty-five dozen fine fruit were gathered in one season.

For the following additional particulars we are indebted to the courtesy of a local correspondent:—Although the idea of holding an Apple Fair was only suggested by the Mayor towards the end of September, a good working committee, including nurserymen and gardeners, was formed, and with the assistance of a most energetic honorary secretary, Mr. Pengelly, the managing body got the affair into thorough working order, and conducted the Show to a most successful issue. The principal object for which the Exhibition was organized was to attract attention to the recognized best sorts of Apples and Pears, and thus conduce to an improvement in the special culture of these fruits in the county of Devon. There were thirty-eight classes, twenty-four of which were for Apples, the competition was open to English grown fruit, and exhibitors came from the Isle of Wight, Essex, Hereford, Kent, and other counties. In Class 1, for the best collection of twenty-five distinct sorts, six fruit of each, the first prize of two guineas, given by the Vegetarian Society (Manchester) was awarded to Mr. Berwick, Sidmouth, whose best sorts were Blenheim Pippin, Royal Russet, Beauty of Kent, Brabant Bellefleur, Wareham Russet, and Alexandra Russet. Mr. C. Sclater, Exeter, was second, with good dishes of Golden Noble, Scarlet Pearmain, Gravenstein, Buff Coat, Winter Warden, Cox's Orange Pippin, and King of the Pippins. Messrs. Bunyard & Co., of Maidstone, were third, with a fine collection, but not equal in size and colour to the fruit grown in Devon. By far the best collection in the Exhibition, both for size and colour, came from Mr. John Watkins, of Pomona Farm, Hereford, who exhibited in this class, but through some mistake only put up twenty-four dishes, and the collection had to be disqualified.

In Class 2 for twelve dishes of Culinary Varieties, Mr. J. Ham, Budlake Farm, Broadclyst, was first, with well-coloured samples of Hoary Morning, Tom Putt, Beauty of Wilts, Gravenstein, Dumelow's Seedling, and Warner's King. Mr. J. Watkins was second, and Messrs. Bunyard & Co. again third. With six dishes of Culinary Sorts, Mr. W. Blackmore was first, Mr. W. J. Sweetland second, and Mr. A. Truman third. In the class for twelve Dessert Sorts, Mr. C. Sclater was first, with handsome dishes of Winter Warden, Ribston Pippin, Blenheim Pippin, Ross Nonpariel, Old Nonpariel, Lord Burghley, and Adams' Pearmain. Mr. J. Watkins was second, and Mr. J. Ham third.

In Class 8, the first prize in which was two guineas given by the Mayor for the best Six Varieties, three culinary and three dessert, grown in Devon, there was a very strong competition. The Rev. T. Yarde came in first, Mr. J. Stevens second, and Captain Levett third. Among the best sorts shown were Ribston Pippin, Yorkshire Pippin, Cornish Gilliflower, Monstrous Pippin, Dumelow's Seedling, and Blenheim Pippin. The prizes for the Heaviest Dishes of Apples were won by Mr. Dennis (6 lbs. 3 ozs.), Mrs. C. Smith (4 lbs. 8 ozs.), and Mr. Eveleigh (4 lbs. 7 ozs.), in the order named. In the classes for Single Dishes all the samples shown were remarkably fine.

Special prizes were offered by Mr. Harry Hems for the best Dish grown by Labourers and Artisans in Devon, and some fine samples were shown in this class. The first prize went to Mr. Eveleigh, the second to Mr. E. Dipstale, and the third to Mr. R. Dennis.

In Classes 25 to 38 for Pears, some very fine dishes were shown, although these fruits are comparatively scarce this year. In the class for Six Dishes, five fruits of each, the Right Hon. Sir T. D. Acland, Bart., was first. The sorts exhibited from Killerton were Glou Morceau, Easter Beurré, Winter Nelis, Josephine des Malines, Doyenne du Comice (5 lbs. 2 ozs.), Pitmaston Duchess (6 lbs. 10 ozs.), two of them weighing 1 lb. 9 ozs. each, and both sorts grown on pyramid trees. One of the samples of Winter Nelis weighed 10 ozs., an unusual weight for this delicious little Pear. Mr. Berwick was second with fine dishes of Marie Louise, Beurré Diel, Beurré Clairgeau, Catillac, and Uvedale's St. Germain; Mr. Searle, who came in third, had Beurré Diel, Beurré de Capiaumont, Easter Beurré, Bergamot d'Esperen, and Nouveau Poiteau.

In Class 26 for Three Sorts, Sir T. D. Acland was again first, Mr. G. Shell second, and Mr. G. B. Carlile third. For three dishes of Culinary Varieties, Sir B. Samuelson was first, Mr. Searle second, and Lord Poltimore third. In the Classes for Single Dishes, good specimens were shown, the most remarkable being grand specimens of Catillac from Sir B. Samuelson's garden and Uvedale's St. Germain, shown by Mr. Blythe. In addition to the competitive exhibits, large collections were shown by trade growers. Messrs. Lucombe, Pince & Co. had one hundred named sorts. Messrs. R. Veitch & Son showed one hundred and twenty dishes, and Messrs. Bunyard & Co., of Maidstone, one hundred dishes. There were two thousand dishes staged, and for all round quality would be unsurpassed. The Apple Fair was well attended by the public, and kept open until 9 p.m. on Friday. The judges were—Messrs. G. Baker (Membland Hall, Plympton), J. C. Clarke (Taunton), Ireland (late of Sidbury Manor), G. Medland (Exeter), and W. Roberts (Crewkerne).—*G.*

GUMMING ROSES FOR EXHIBITION.

At our last show a case of gumming Roses was discovered, and after the exhibitor had prevaricated and then confessed, he was unanimously disqualified. Afterwards, at his earnest solicitation, it was resolved to obtain an opinion from the National Rose Society, and to reconsider the resolution of disqualification if necessary. In order that this position shall appear quite clear, the concluding paragraph of the case sent by us is given:—"The committee of the National Rose Society are therefore asked their opinion upon the practice of gumming, and to give it their official approval or condemnation." To our utter astonishment, after waiting some months, we received from the hon. secretary a "decision" that the exhibitor was not disqualified and that the medals had been sent to him. To this treatment the committee decidedly object, and have protested their discontent. Until this time we had thought the National Society represented the English Rosarians, but this extraordinary action led us to doubt whether it was really a representative body. We, therefore, addressed a letter to about thirty of the leading Rose growers in England, and are not a little pleased to find that they strongly condemn the practice and award disqualification as the punishment, exactly as we did and exactly as the National Rose Society didn't. As this is by no means an unimportant question, perhaps you will find room for a few of the opinions we have received.

Messrs. Cranston & Co., Hereford—"Gumming Roses for exhibition is decidedly illegal, and would not be tolerated by our National Rose Society. Any person found guilty of such a dishonourable practice should be excluded from exhibiting at any future shows."

Mr. Bruce Findlay, Royal Botanic Gardens, Manchester—"I have to say that I consider such a proceeding altogether unsound, and if we found out any person guilty of such a practice, he would not be allowed to exhibit again at our exhibitions, and I should be inclined to label him a trickster."

Mr. George Baker, Holmfels—"I most unhesitatingly say that in my judgment the application of gum to the centre of Roses intended to be staged for exhibition, is neither legitimate nor fair to other exhibitors."

Mr. Joseph Hinton, Warminster—"I believe it to be illegitimate, dishonourable, and unfair to other exhibitors; nay, I go further, I consider it obtaining, or striving to obtain, money under false pretences. It is absolutely indefensible, and should receive well-deserved punishment."

Mr. T. B. Hall, Wirral Rose Society—"In my opinion any case of gumming the centre of a Rose should certainly disqualify any exhibitor, and I hope the National Rose Society will pass a resolution to this effect."

Mr. Benjamin R. Cant, Colchester—"If I were a judge and discovered that any Rose-blooms exhibited were gummed, I should most certainly disqualify the stand, and I expressed that view at a meeting of the National Rose Society held recently in London."

Mr. William Barron, Derby and Nottingham—"Any attempt to deceive judges by doctoring flowers for exhibition ought at once to disqualify any such exhibitor. 'Honesty is the best policy.'"

Messrs. Richard Smith & Co., Worcester—"The practice referred to is a most reprehensible one, and is regarded by all the leading societies as sufficient to disqualify the offender from ever exhibiting again at any future shows."

Mr. E. R. Whitwell, Barton Hall, near Darlington—"I have no hesitation in saying that I consider such a practice neither honourable nor fair to other exhibitors, and I think it should disqualify a stand."

Mr. R. H. Vertegans, Birmingham—"It is a most reprehensible practice, and should be discountenanced by all committees of such exhibitions. Of course it would disqualify an exhibitor from exhibiting at any of our great Rose shows; therefore your Committee would be perfectly justified in disqualifying any exhibitor who carries on such a practice."

Mr. Julius Sladden, Badsey, Evesham—"I consider the practice of gumming the centres of Roses anything but legitimate, and a box containing any flowers so treated should in my opinion be disqualified. Competitors are too often prone to forget that prizes obtained by questionable means confer no real credit upon the recipient, while the practice of such methods proves that the love of a prize, however gained, is more to some people than personal honour."

Mr. G. W. Piper, Uckfield, Sussex—"I should disqualify without the least hesitation. It is a most unfair practice to the honest exhibitors, and I do hope the offender will be brought to book."

Messrs. J. Jefferies & Sons, Cirencester—"Gumming Roses for competitions is decidedly unfair. Judges detecting this should have disqualified them."

Mr. C. W. Lyon, Rocester—"The objections to this practice of gumming the centres of Roses for exhibition are so obvious that it is absurd to suppose that an exhibitor would be guilty of such a practice except for the purpose of gaining an unfair advantage over his competitors."

Messrs. F. & A. Dickson & Sons, Chester—"We consider gumming or dressing of any kind quite illegitimate and unfair in competitive classes."

Messrs. James Dickson & Sons, Chester—"We consider the practice of gumming the centre of Rose blooms that are intended for exhibition *neither* legitimate, honourable *nor* fair to other exhibitors."

Messrs. Perkins & Sons, Coventry—"It is neither fair nor honourable, and they ought to be disqualified."

Messrs. Pope & Sons, Birmingham—"In our opinion in any and every such case they should be disqualified."

Mr. James Brown, Reigate—"I consider it unfair and dishonourable, and certainly should not be permitted by any society."

Mr. J. Ridout, Reigate—"I should most decidedly consider it anything but legitimate, honourable or fair to other exhibitors, and any one guilty of such a thing should be disqualified."

Mr. Henry Frettingham, Beeston, near Nottingham—"I should certainly not allow any gumming in the Rose, and would disqualify the man who did it. These

things want putting down, and I for one would lift up my hand against all such practices."

Mr. S. P. Budd, Bath—"I consider the practice most dishonourable, and not at all legitimate, and if acting as judge at any Rose show should disqualify any box in which I detected the gumming of the centre of a single bloom."

Mr. Frank Cant, Colchester—"I should strongly condemn any such practice, and should most certainly disqualify any exhibitor."

Mr. Charles Turner, Slough—"I never before heard of gumming Rose petals. It is neither legitimate, honourable, nor fair. The Roses so used should disqualify any stand."

Messrs. Wm. Paul & Son, Waltham Cross, Herts—"The gumming of the centres of Roses exhibited for competition should disqualify the exhibit."

Mr. E. Walker, Secretary of the Leek Floral and Horticultural Society—"I am directed by the committee to inform you that they have no hesitation whatever in stigmatizing the practice of gumming Roses as highly dishonourable, illegitimate and distinctly unfair. If such a case of tampering with flowers had occurred at their show, instant disqualification would have resulted."

This chorus of approval of what we have done, by gentlemen of "light and leading" in the Rose world, reads queerly enough by the side of the uncalled for "decision" given by the National Rose Society. However, if our action and the opinions we have elicited result in producing a healthier understanding upon the subject, our labour will not have been in vain. Pending other proceedings, the holder of the medals is welcome to any "honour" or gratification to which their temporary possession may entitle him. For ourselves we have to say that we have disqualified him for ever, and have severed our connection with the Society which sustains him in his highly questionable claim and sanctions his more than questionable conduct.—*A. Johnson, Hon. Sec., Leek Rose Society, October 28th*, 1884.

ANSWERS TO CORRESPONDENTS.

Orchids.—*Jane M.*—Orchids are epiphytal or terrestrial tropical plants, corresponding in their characteristics of floral arrangement with our British Orchis, which may easily be procured and studied. We know of no cheap work dealing with the subject as put by our correspondent.

Begonias.—*J. C.*—We are glad to hear of your success in striking tuberous-rooted Begonias, as directed in a recent issue of The Gardening World. With respect to the other matter we will notice it fully shortly.

Names of Plants.—*J. M. P.*—1. Cotoneaster frigida; 2. Chamæcyparis sphæroidea; 3. Juniperus chinensis.—*W. Wilson.*—The common spindle-tree, Euonymus europæus.

Fruits.—*J. J.*—The Apple is Dumelow's Seedling, or as it is sometimes called, The Wellington, and the best of all that we know for making sauce, the flesh being so white, and of such a tender texture. The Pear is the Old Autumn Bergamot.

Broad-leaved Saxifrages.—*A. B. H.*—They should be taken up carefully before the leaves are damaged by bad weather, and be potted in good sandy loam with a third portion of leaf-soil, and then be plunged in ashes in a cold frame, to protect them from the weather. If the compost is fairly moist no water will be required for a week or two, and through the winter they will only want sufficient to keep the leaves from flagging and the crowns plump. So treated they will flower finely in a cold greenhouse in early spring.

Books.—*W. Smith.*—Mr. D. Hall, Shifnall, Salop, publishes a small sixpenny book, that gives, in a few words, the sort of compost required by most of the best-known stove and greenhouse plants, Ferns, Orchids, &c. Perhaps this would suit you.—*T. S. Blenkinson.*—Mrs. Loudon's *Amateur Gardeners' Calendar*, published by F. Warne & Co., is a much more useful book than the one you name, and does not cost any more.

Communications received.—W. C.—J. D.—C. & S.—J. C.—G. J.—T. W.—J. C. M.—J. W.—H. A. C.—J. B.—T. Brown—S. T.

LONDON SEED TRADE.

November 5th.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report to-day's market inactive. A few buyers are found for the Finest English Red Clover, and shipping orders for White Clover still arrive. Prices are firm, and there is no change in the values of Alsike or Trefoil. Winter Tares and Rye firm, as buyers are still found for these articles. Canary firm, Hemp cheaper. Blue Peas are unchanged.

COVENT GARDEN MARKET.

November 6th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6– 4 0	Kent Filberts and Cobbs, per 100 lb.	67 6– ...
— Nova Scotian, per barrel	12 0–18 0	Melons, each	3 0– 4 0
— Extra samples	20 0–24 0	Pine-apples, Eng., lb.	3 0– 4 0
Figs, per dozen	0 6– 0 9	,, St. Michael's ea.	3 0–10 0
Grapes, per lb.	0 9– 4 0	Peaches, per dozen	6 0– 8 0
		Pears, French, p. doz.	1 6– 3 6

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0– 4 0	Lettuces, Cabbage, per dozen	1 6– ...
Beans, French, lb.	0 4– ...	— Cos, each	0 2– ...
Beet, per dozen	2 0– 3 0	Marrows, each	0 3– ...
Cabbages, per dozen	1 6– 2 0	Mint, green, bunch	0 4– ...
Carrots, per bunch	0 6– ...	Mushrooms, p. basket	1 0– 2 0
Cauliflowers, English, dozen	3 0– 4 0	Onions, per bushl.	2 6– 3 6
Celery, per bundle	1 6– 2 6	Parsley, per bunch	0 6– ...
Cucumbers, each	0 6– 0 8	Radishes, per dozen	1 6– ...
Endive, French, per dozen	2 6– 3 6	Small salading, per punnet	0 4– ...
Garlic, per lb.	0 6– ...	Spinach, per strike	2 0– ...
Herbs, per bunch	0 2– 0 4	Tomatos, per lb.	0 6– 0 8
Horse Radish, bundle	3 0– 4 0	Turnips, bunch	0 6– ...

Potatoes.—Kent Regents, 80*s.* to 100*s.* per ton; Kent kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0– 4 0	Lapageria, white, 12 blooms	2 0– 3 0
Azalea, 12 sprays	1 6– 2 0	Marguerites, 12 bun.	4 0– 9 0
Bouvardias, per bun.	0 9– 1 0	Pelargoniums, per 12 sprays	1 0– 1 6
Camellias, 12 blooms	2 0– 6 0	—scarlet, per 12 sprays	0 4– 0 9
Carnations, 12 blooms	1 0– 2 0	Pinks, various, 12 bunches	...– ...
Chrysanthemums, 12 bunches	2 0– 6 0	Primula, double bun.	1 0– 1 6
— large, 12 blooms	0 6– 2 0	Pyrethrum, 12 bun.	–
Cornflower, 12 bun.	2 0– 4 0	Roses, out-door, 12 bunches	9 0–12 0
Dahlias, 12 bunches	2 0– 4 0	Roses, indoors, p. doz.	2 0– 6 0
Eucharis, per dozen	4 0– 6 0	Stephanotis, 12 spr.	6 0– 9 0
Gardenias, 12 blms.	3 0– 6 0	Tuberoses, per dozen	1 0– 1 6
Gladiolus, various, 12 spikes	1 0– 3 0	White Jasmine, bun.	0 6– 1 0
Heliotropes, 12 sp.	0 6– 1 0		
Lapageria, red, 12 blms.	1 0– 2 0		

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0–24 0	Ficus elastica, each	1 6– 7 0
Begonias, per dozen	4 0–12 0	Foliage Plants, various, each	2 0–10 0
Bouvardias, dozen	9 0–18 0	Fuschias, per dozen	3 0– 6 0
Chrysanth., dozen	4 0– 6 0	Heliotrope, dozen	3 0– 6 0
Cockscombs, dozen	–	Lilium, various, p. doz.	–
Cyperus, per dozen	3 0– 9 0	Marguerites, per doz.	–
Dracæna term. doz.	30 0–60 0	Palms in variety, each	2 6–21 0
— viridis, per dozen	12 0–24 0	Pelargoniums, scarlet per dozen	2 0– 6 0
Evergreens, in var., per dozen	6 0–24 0	Petunias, per dozen	–
Ferns, in var., dozen	4 0–18 0	Solanums, dozen	9 0–15 0

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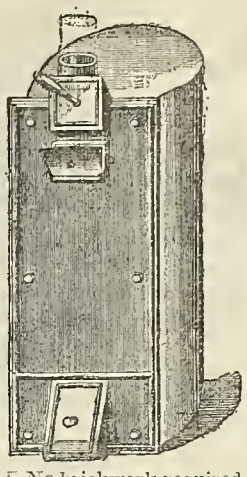

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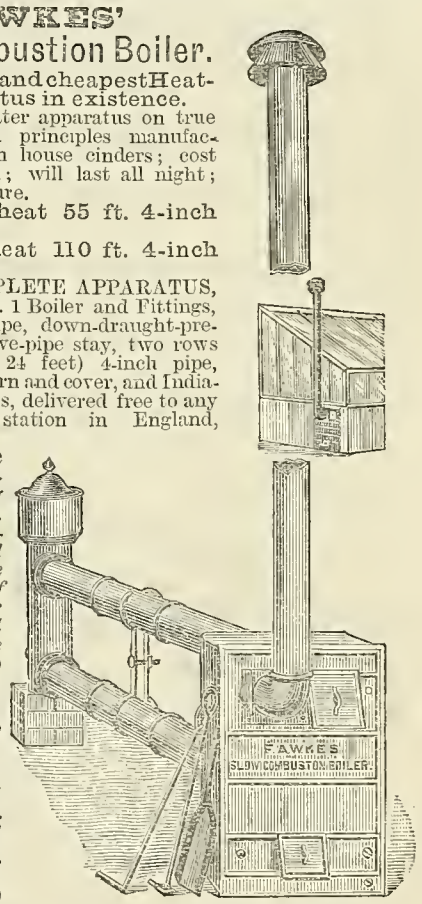

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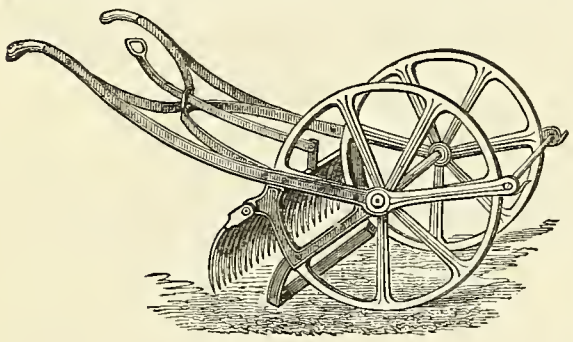

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BULBS Lovely Flowers in Winter and Spring for a trifle. Ready in Autumn.

ROSES (20 acres) Bushes, 8s. per doz., 60s. per 100; Standards, 15s. per doz., 105s. per 100. Packing and Carriage free for Cash with Order.

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VINES THOUSANDS OF GRAND CANES, 3s. 6d. to 10s. 6d. each.

CLEMATIS, White to Dark Purple, Single and Double, 12s. to 24s. per dozen.

THREE ACRES OF GLASS FOR STOVE AND GREENHOUSE PLANTS.

FAMOUS PLANTING AND FORCING ASPARAGUS AND SEAKALE.

VEGETABLE, FLOWER, AND FARM SEEDS.

DESCRIPTIVE LISTS, containing an immense amount of useful information, free on application.

G. NORMAN & SON (Hart Street, Covent Garden) desire to inform Secretaries of Horticultural Societies, Seed Merchants, Nurserymen, Implement Makers, Horticultural Builders, and others that

GEORGE NORMAN & SON,

PRINTERS OF "THE GARDENING WORLD."

they possess special facilities for producing Catalogues, Price Lists, Periodicals, and every other description of Printing, with punctuality, speed, and economy.

TO ADVERTISERS IN "THE GARDENING WORLD."

ADVERTISEMENTS for the current week's issue must reach the Office not later than the first post on Thursday morning. "Stop" orders cannot be received after the same post.

Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex. Saturday, November 8th, 1884.

THE GARDENING ILLUSTRATED WORLD

No. 11.—1884. SATURDAY, NOVEMBER 15TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

TO ADVERTISERS.

ADVERTISERS are requested in order to save time, to address all Letters relating to Advertisements to THE PUBLISHER; and Advertisements for the current week's issue must reach the Office not latter than the first post on Thursday Morning. "Stop" Orders cannot be received after the same hour.

15, CATHERINE STREET, STRAND, W.C.

COMTE BRAZZAS' NEW DOUBLE WHITE VIOLET, White Neapolitan, very large, pure white, sweetly-scented flowers. Without question the finest Violet in cultivation. For full description see new Catalogue of Roses, Trees, Shrubs, and Florists' Flowers, free on application to THOMAS S. WARE, Hale Farm Nursery, Tottenham, London.

Lilium auratum.

HOME-GROWN BULBS, as exhibited by us at the Royal Horticultural Society's Show, South Kensington, October 14th, 15th, and 16th, when we were awarded a Cultural Commendation for them, the bulbs being acknowledged "splendid." See all Gardening Papers in October for comments. Mr. W. PATERSON, *Head Gardener* to H.M. the Queen, says:—"A splendid sample." Home-Grown, 1*s.* 6*d.*, 2*s.*, 2*s.* 6*d.*, and 3*s.* 6*d.* each; imported, 9*d.*, 1*s.*, 1*s.* 6*d.*, and 2*s.* each, and from 6*s.* per dozen. For a fine collection of LILIES and other BULBS see CATALOGUE, free on application.—COLLINS BROS., & GABRIEL, Bulb Growers and Importers, 39, Waterloo Road, London, S.E.

MR. H. BOOTHBY, Louth, Lincolnshire, offers Best-named GOOSEBERRIES, BLACK, RED, and WHITE CURRANTS, fruit bearing, all at 12*s.* 6*d.* per 100. Carter's Prolific RASPBERRY CANES, 4*s.* 6*d.* per 100, £2 per 1000. STRAWBERRIES:—Salvidge's Magnum Bonum, 5*s.* 6*d.*; Forman's Excelsior, 3*s.* 6*d.*, remarkably fine; all older varieties, 2*s.* 6*d.* per 100. Beautiful AURICULAS and Double Pink HEPATICAS, 2*s.* 6*d.* doz. Fine Muffled PRIMROSES, 2*s.* 6*d.*, and Rex Theodore Double POLYANTHUS, 6*s.* doz.; Ordinary but good POLYANTHUS, 1*s.* 6*d.* doz.

NEW YELLOW CARNATION.—"Pride of Penshurst." A marvellously free-bloomer and vigorous grower; perfectly hardy, forces well. Plants ready about October, price 5*s.* a pair. Cash with order. Trade price on application.—F. BRIDGER, Penshurst Place, Penshurst.

THE BURGHLEY PRESIDENT STRAWBERRY is the largest and one of the earliest and best flavoured in commerce; also Selected Stock of Sir Charles Napier, fine strong runners, 3*s.* 6*d.* per 100.—R. GILBERT, High Park Gardens, Stamford.

PRIZE GOOSEBERRIES, the Largest Collection in the World, 4*s.*, 6*s.*, and 12*s.* per dozen. Catalogues on application.—CHARLES LEICESTER & SONS, Nurserymen, Macclesfield, Cheshire.

ONE SHILLING DOZEN.—Our choice hardy Flowering Plants including the splendid Violas and Pansies, as the land is sold to the L. and N. W. Railway Co. Catalogue free.—JOHN PIRIE & CO., "Vulcan," Hospital Street, Birmingham.

GARDEN FRAMES AND LIGHTS, from 20*s.* GREENHOUSES, 10 ft. by 5 ft., from £6. FRAMES OR LIGHTS TO ORDER, any size or shape.—ALBERT HARRIS, Wavendon, Woburn, Beds.

ROSES.—ROSES.—ROSES.—Forty choice Perpetuals sent on receipt of remittance for 21*s.*; purchaser's selection from 300 best varieties. List of names on application. Twenty choice Standards, or Half-standards, 21*s.* JAS. WALTERS, Mount Radford Nursery, Exeter, Devon.

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GOLD MEDAL STRAIN from our Prize Plants. New crop now harvested. Sealed packets.
CHOICE MIXED, from single varieties, 1/- and 2/6 per packet; 5/- extra large packets; double varieties, 2/6 and 5/- per packet.
COLLECTIONS, 12 named varieties, separate, 7/6
" 6 named varieties, separate, 4/-
Begonia Growers, Forest Hill, E.C.

Scotch Florists' Flowers.

R. B. LAIRD & SONS (Successors to Downie & Laird) are now sending out strong plants from their unrivalled collection of PANSIES, VIOLAS, PENTSTEMONS, PHLOXES, CARNATIONS, DELPHINUMS, &c., &c. Descriptive Priced Catalogue may be had free on application.

Seeds saved with great care of all the choicest kinds.—See Seed Catalogue.

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"Mary Morris" Border Carnation.

TWO FIRST-CLASS CERTIFICATES.—3*s.* a pair; 15*s.* a dozen. Cash with Order. Direct from the raiser, H. G. SMYTH, 21, Goldsmith Street, Drury Lane.

Choice Vegetable and Melon Seeds.

R. GILBERT'S PRODUCTIONS are all stamped with the Hall-mark of Superiority, commonly called

FIRST-CLASS CERTIFICATES.

Chou de Burghley, 1*s.* 6*d.* per packet; Universal Savoy, 2*s.* 6*d.* per packet; Gilbert's Burghley Pet Melon, which does not canker, 3-year old seeds, 2*s.* 6*d.* per packet.—Trade supplied on liberal terms. Apply to R. GILBERT, High Park Gardens, Stamford. Stamps with order. Post free.

ORCHIDS, Special Offer of.
DUTCH BULBS, Cheap Offer of.
LILIES, RARE AND CHEAP.
WILD GARDEN, Cheap Plants.
AURATUM. First Arrival of this fine Lily, Splendid Bulbs, 6*d.*, 9*d.*, 1*s.*, 1*s.* 6*d.* each.
TRADE OFFER, Special Terms.
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ANTIMONIAL RED RUBBER GARDEN HOSE, Last four times as long as ordinary white vulcanized hose, stands severe Government tests, thus proving superiority of quality; lighter in weight, greater in strength, and cheaper in the long run than any other hose for garden use. A correspondent writes:—"I have had a length of your Red Rubber Hose in use nine years, and it is now as good as ever." Beware of counterfeit red hose, and order direct. Samples and priced catalogue of hose, garden engines, and fittings free.
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J. V. REES (late Robert Parker) has the finest Collection of above in the country, and can supply Hardy Herbaceous and Alpine Plants, in 100 showy varieties, from 50*s.* New CATALOGUE now ready.
Exotic Nursery, Tooting, Surrey, S.W.

Dutch Bulbs.

SPECIAL OFFER at Clearing Prices.—500 Mixed CROCUSES, 6*s.*; Sample 100, 1*s.* 4*d.* 200 Mixed TULIPS, 10*s.*; Sample 50, 3*s.* 100 Mixed HYACINTHS, 15*s.*; Sample 50, 8*s.* Best named Hyacinths, 3*s.*, 4*s.*, and 5*s.* per doz. Special collection of 150 Bulbs, enough for any Garden, 6*s.* free.—The PLANT and BULB CO., 19, Birley Street, Wandsworth, S.W.

The Best Hardy Plant Nursery.

PAUL & SON, THE OLD NURSERIES, CHESHUNT.

ROSES, in all ways:
FRUIT-TREES for Orchards and Garden Walls;
GOOSEBERRIES, CURRANTS and STRAWBERRIES;
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PLEASE SEND PARTICULARS of any large or small Greenhouse for which Hot-water Apparatus is required. Ask for cash estimate, and save 15 to 20 per cent.—J. JONES & SONS, 42, Farringdon Street, London, E.C., late of 6, Bankside, S.E.

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Directions for Setting, with Prospectus, any size, to heat from 40 to 2,000 ft. of 4-in. Pipe.

SWEET-SCENTED PLANTS.—Six of the most delicious of all flowers for perfume are Stephanotis floribunda (fine variety), 1*s.* 6*d.* each; Gardenia florida, 1*s.* 6*d.*; Gardenia citriodora, 2*s.* 6*d.*; Pancratium fragrans, 2*s.* 6*d.*; P. speciosum, 2*s.* 6*d.*; Jasminum Maid of Orleans, 1*s.* The six fine strong plants for flower this winter for 10*s.* Packages gratis and Ferns extra to pay carriage.—JOHN H. LEY, Woodside Green, South Norwood, S.E.

6 MOST ELEGANT PALMS for 6*s.*—Three pairs of Cocos Weddelliana, Areca lutescens, Cocos plumosa; pretty plants in small pots; hamper gratis.—JOHN H. LEY, Woodside Green, S.E.

12 DRACÆNAS, 4-in. pots, 12*s.*—All finest and distinct sorts, just showing colour; in 5-in. pots, 1½ ft. to 2 ft. high, 21*s.* dozen. Packages gratis for cash with order.—J. H. LEY, Woodside Green, S.E.

12 HALF-HARDY FERNS, 6*s.* — Strong plants from cold pit of the new Lastrea aristata variegata, Cyrtomium lucidum, Tree Ferns, crested Scolopendriums, and a great variety of others; all distinct. Box gratis for cash and one Fern gratis.—JOHN H. LEY, Woodside Green, S.E.

6 DAVALLIAS, 5*s.*—Hare's-foot, Squirrel's-foot, D. Tyermanni, D. tenuifolia, D. immersa, D. Novæ-Zelandiæ. Box gratis, or by post for 6*d.* extra.—J H. LEY, Woodside Green, S.E.

12 CROTONS, highly coloured, 12*s.*—Fine plants in 4-in. pots of the best sorts in cultivation; all distinct (any sort not required excluded). Double size, very handsome plants in 5-in. and 6-in. pots, for 21*s.* Packages gratis.—JOHN H. LEY, Woodside Green, S.E.

GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 oz. to the gallon of soft water, 4 to 16 oz. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots Dry and Soft on wet ground. Boxes—6*d.* and 1*s.*, from the trade. Wholesale from PRICE'S PATENT CANDLE CO. (Limited), LONDON.

Laing's Rose Trees.

JOHN LAING & Co.

Roses for Removal in November.

	Per doz.
Standards, choicest and best sorts ...	18*s.* and 21*s.*
Half-Standards " " " ...	15*s.* " 18*s.*
Dwarfs " " " ...	9*s.* " 12*s.*

Our selection of above Perpetuals.
Vigorous growth, well-rooted, unequalled quality.
Rose Growers, Forest Hill, S.E.

SALES BY AUCTION.

Bulbs.—Mondays, Wednesdays, and Saturdays.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, regularly three times a week, as above, large consignments of first-class Dutch flower roots lotted to suit both large and small buyers.

The Sales commence at half-past Twelve, finishing generally about Five o'clock.

On view mornings of Sale and Catalogues had.

Dutch Bulbs.

Great UNRESERVED SALES every MONDAY, WEDNESDAY and SATURDAY.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C. (next door but one to Bennett's Clock), every MONDAY, THURSDAY, and SATURDAY, at half-past 11 o'clock precisely each day, extensive consignments of the best named HYACINTHS, TULIPS, CROCUS, NARCISSUS, SNOWDROPS, and other ROOTS from Holland, in lots to suit the Trade and Private Buyers.

On view mornings of Sale. Catalogues of the Auctioneers, 67 and 68, Cheapside, E.C.

TUESDAY NEXT.

The Fallowfield Collection of Orchids.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, November 18th, at half-past twelve o'clock precisely, a very valuable lot of ESTABLISHED ORCHIDS, comprising many large specimen and rare Orchids, among others:—

Cypripedium vexillarium
,, Swanianum
,, Chantini (in flower)
,, albo marginatum
,, caudatum roseum
Vanda cristata
,, suavis Veitchii
,, insignis (Ainsworth's variety)
,, Lowi
Cœlogyne cristata (Chatsworth variety)
Aërides Larpentæ
Aërides suavissimum flavidum (Pince's original plant)
,, odoratum purpurascens
Cattleya labiata Pescatorei
,, Skinneri alba
Dentrobium Ainsworthi
,, Wardianum (old variety)
,, Schröderi
,, crassinode album
Saccolabium retusum
Odontoglossum Edwardi
,, mulus
,, aspersum

And many grand specimens of CATTLEYAS, &c.

On view morning of Sale, and Catalogues had.

Ashford, Kent.

CLEARANCE SALE of Remarkably well-grown NURSERY STOCK, the Land being required by the Burial Board.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. T. Bunyard to SELL by AUCTION, on the Premises, The Barnfield Nursery, Ashford, Kent, on TUESDAY, November 18th, at 11 o'clock precisely, in consequence of the large number of lots, the whole of the beautifully-grown NURSERY STOCK, comprising about 20,000 ORNAMENTAL and FOREST TREES, including 10,000 Chestnuts, 5,000 Ash, 5,000 Larch, Conifers, and Evergreens in great variety, suitable for immediate effective planting, Standard and Pyramid FRUIT TREES, 2,000 Standard and Dwarf ROSES, and other Stock.

May now be viewed. Catalogues may be had of Mr. T. BUNYARD, Nurseryman, Ashford, or of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Sutton, Surrey.

WEDNESDAY and THURSDAY NEXT, instead of Tuesday and Wednesday, as previously advertised.

TWO DAYS' SALE of remarkably well-grown NURSERY STOCK.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. H. Potter to SELL by AUCTION, on the Premises, The Mid-Surrey Nurseries, Bunhill Street, Sutton, Surrey, close to the Sutton and Carshalton Railway Stations, on WEDNESDAY and THURSDAY next, November 19th and 20th, at 12 o'clock precisely each day, a large quantity of remarkably well-grown NURSERY STOCK, in capital condition for removal, comprising very fine specimen Coniferæ and Evergreen Shrubs, 60 grand specimen Wellingtonia gigantea, 1,000 Cupressus, 2 ft. to 4 ft., 2,000 Laurels of sorts, 2 ft. to 4 ft., 2,000 oval-leaved Privet, 2 ft. to 3 ft., 2,000 Standard, Half-Standard and Dwarf Roses, of the choicest sorts, variegated Hollies, Ornamental Trees, Standard and other FRUIT TREES, IVIES in Pots, a variety of GREENHOUSE PLANTS, CAMELLIAS, AZALEAS, FERNS, PALMS, Window PLANTS, &c.

Now on View. Catalogues had at the Nursery as above, at the Seed Shop adjoining Sutton Station, and of the Auctioneers 67 and 68, Cheapside, London, E.C.

Ascot.—Important Sale.

TO THE TRADE AND OTHER LARGE BUYERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. J. Standish & Co. to SELL by AUCTION, on the Premises, the Royal Nurseries, Ascot, on WEDNESDAY and THURSDAY, November 26th and 27th, at 12 o'clock precisely each day, several acres of remarkably well-grown NURSERY STOCK, including 40,000 Pinus Austriaca and 30,000 P. laricio, two years transplanted and seedlings; 1,500 seedlings, 2 ft. to 4 ft.; 6,000 Spruce, 1 ft. to 4 ft.; 15,000 Seedling Scotch Fir; 12,000 ditto, 2 ft. to 5 ft.; 3,500 Weymouth Pines; 6,000 Ornamental Trees, 6 ft. to 9 ft.; 3,000 Green Hollies, 2 ft.; 15,000 common Laurels, 1 ft. to 3 ft.; 6,500 Laurus caucassicum, 1 ft. to 3 ft.; 2,000 Retinospora; 1,000 named Rhododendrons, budded; 500 Border Shrubs; 650 Cupressus Lawsoniana alba and compacta, 1½ ft. to 2½ ft.; Retinospora plumosa alba; 3,000 Conifers of sorts, 2 ft. to 7 ft.; 1,000 Standard, Pyramid, and Trained Fruit Trees; 1,000 Standard, Half-Standard, and Dwarf Roses, and a quantity of GREENHOUSE PLANTS in variety.

May now be viewed. Catalogues may be had on the Premises, and of the Auctioneers and Estate Agents, 67 and 68, Cheapside, London, E.C.

Thursday next.

10,000 LILIUM AURATUM.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY next, November 20th, at half-past 12 o'clock precisely, 10,000 splendid bulbs of LILIUM AURATUM, just received from Japan in unusually fine condition.

On view morning of sale, and Catalogues had.

Friday next.

VERY VALUABLE IMPORTATIONS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. F. Sander to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY next, November 21st, at half-past 12 o'clock precisely, a grand importation of a splendid new Dendrobium, many plants of Oncidium papilis majus in unusually fine masses, a grand lot of Cattleyas, two fine Oncidiums from Peru, and the superb new Oncidium loxense, some Barkeria Barkeriola, a pretty new Orchid, Cypripeduim Lindleyanum, Aërides Sanderiana true, Oncidium macranthum, O. Edwardi, O. Marshallianum, Angræcums, Dendrobes, &c., the whole in fine health.

On view morning of sale. Catalogues had of the Auctioneers, 67 and 68, Cheapside, E.C.

FERNS A SPECIALITY.

Now Ready. **SPECIAL OFFER, No. 41,** of Choice, Rare, and Beautiful

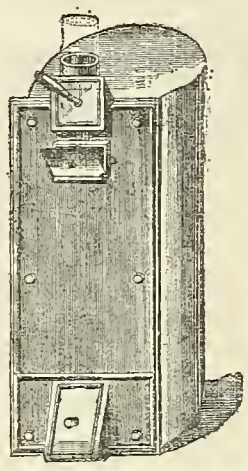
FERNS AND SELAGINELLAS,

Carriage Paid, embracing many of the most lovely and desirable in Cultivation.—ABRIDGED CATALOGUE of over 1000 Species and Varieties free on application.—**LARGE CATALOGUE (Price 1s.),** containing 75 Illustrations of Ferns and Selaginellas, valuable "Hints on Fern Culture," and other useful and interesting information.

W. & J. BIRKENHEAD,
FERN NURSERY, SALE, MANCHESTER.

SILVER MEDAL

HORSE-SHOE BOILER.



THIS BOILER, which gained the Silver Medal (First Prize) in Class 1, at the Royal Horticultural Society's Show at South Kensington last year, has been further perfected by the addition of *two patented improvements*, the first being a combination of a tilting bottom grate and a hot blast into furnace, the second an automatic valve *acting under any conditions*, by means of which the boiler *regulates its own combustion*, equally avoiding a needless consumption of fuel or the slightest risk of the fire going out.

As now constructed, this boiler will challenge the world on each of the three essentials of a good boiler, viz., simplicity of construction and action, economy in consumption of fuel, and maintenance of an equal temperature in the pipes through a long period without attention.

No brickwork required; builds into the end of a greenhouse; front only outside.

PRICES { No. 1, £2 15 0 / No. 2, £4 5 0 / No. 3, £5 17 6 } Delivered free in Glasgow, Edinburgh, Dublin, or Belfast, or any station in England or Wales.

New Illustrated Catalogue, containing guide to amateurs in the heating of greenhouses, and explanation of the principles and construction of the hot-water apparatus, post free.

CHAS. P. KINNELL & CO.,
Iron Founders, Engineers, & Contractors,
31, BANKSIDE, SOUTHWARK, LONDON, S.E.

GARDEN REQUISITES.

TWO PRIZE MEDALS.

Quality, THE BEST in the Market.

(ALL SACKS INCLUDED.)

PEAT, best brown fibrous, 4s. 6d. per sack; 5 sacks for 20s.
PEAT, best black fibrous, 3s. 6d. ,, 5 sacks for 15s.
PEAT, extra selected Orchid, 5s. ,,
LOAM, best yellow fibrous .. .. } 1s. per bushel (sacks included).
PREPARED COMPOST, best .. }
LEAF-MOULD, best only .. .. }
PEAT-MOULD, ditto ... ... }
SILVER SAND (coarse) 1/3 per bushel, 12/- half ton, 22/- ton.
RAFFIA FIBRE, best only... ... 8d. per lb.
TOBACCO CLOTH, finest imported 8d. per lb., 28 lbs. 18s.
TOBACCO PAPER, ditto (Spécialité) 8d. per lb., 28 lbs. 18s.
MUSHROOM SPAWN (finest Milltrack), 5s. per bushel.
SPHAGNUM MOSS, all selected, 2s. per bushel, 6s. per sack.
COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1s. each; 10 sacks, 9s.; 15 sacks, 13s.; 20 sacks, 17s.; 30 sacks, 25s.; 40 sacks, 30s. Truck-load, loose, free on rail, 30s. Limited quantities of G special quality, granulated, in sacks only, 2s. each.

TERMS, STRICTLY CASH WITH ORDER.

CHUBB, ROUND & CO.,
West Ferry Road, Millwall, London, E.

NEW HARDY SWEET SCENTED WHITE PASSION FLOWER,

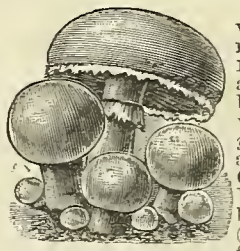
"CONSTANCE ELIOTT."

1st Class Certificate, R.H.S., 1884.

LUCOMBE, PINCE & Co., The Exeter Nursery, Exeter, will be prepared to send out this novelty in the Spring of 1885. They have purchased the whole stock from the raisers, Messrs. FULLER & SON, of Newton Abbott.

Price 5s. each.
A few extra-sized Plants, 10s. 6d. each.
Terms to the Trade on Application.

CUTBUSH'S MILLTRACK MUSHROOM SPAWN.



IF ONCE USED no other will be willingly taken. Testimonials of high merit received every day.—"THE GARDENS, SANDRINGHAM.—I have tried all other Mushroom Spawn advertised, but none to be compared with yours, which I have used for the last *twenty years* without once failing a quick and good crop.—CHAS. PENNY, Gardener to H.R.H. The Prince of Wales."—Price Six Shillings per bushel, One Shilling extra per bushel (for packing), One Shilling per Cake free by Parcels Post.

HIGHGATE NURSERIES, LONDON, N.

SMYTH'S GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE.

4d. per bushel; 100 for 25s.; truck (loose, about 2 tons), 40s.; 4-bushel bags, 4d. each.
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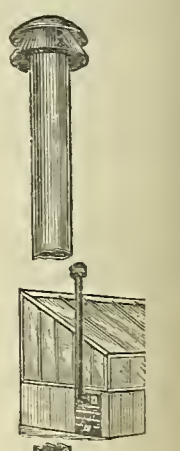

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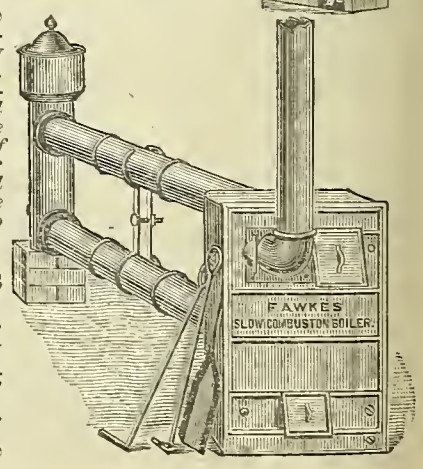

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, NOVEMBER 15th, 1884.

Dishonest Exhibitors.—A sort of raid is just now being made against dishonest exhibiting, and of this raid we do not complain, because everything that is of a dishonest nature merits hearty disapproval. But those who live in glass houses should not throw stones, and those who have not been very successful exhibitors should be cautious how they fling mud at those of their fellows who are. It is very easy to make these general assertions but none dare publicly to individualize them. For that reason it is best to be careful, and if tangible proof is withheld the less said the better. In all such charges as are now being made against members of a profession the result follows, though such result is not intended, that all the profession alike suffer, the body is injured as well as the members.

Thus we find strong language and expressions are being used with respect to a case of proved gumming of Rose-petals. It does not seem clear that such act of gumming in any way improved the flowers unless foreign petals were added, but that is not suggested, and the operator doubtless innocently thought that in thus securing greater permanence for his flowers he was but doing an act not more heinous than is seen in flower dressing preparatory to exhibiting for prizes. It is not our place to defend or extenuate this act, still less to heartily condemn without the motive was made more apparent than it now is, but, whether worthy of the chorus of condemnation created or not, at least it is certain that in making so much of this act very grave reflection has been cast upon the whole of the Rose-growing community.

We should say that had the query been addressed to the score or more of rosarians whose opinions on the matter have been invited, "Did the exhibitor in gumming the petals of his flowers thereby add to the beauty or merit of his blooms in any way?"—the general response would have been certainly not. But we are free to admit, that the exhibitor of anything who buys or borrows from some other grower or gardener exhibits that may help him to win prizes, if in doing so he contravenes any published regulation that exhibitors must have grown their produce, falls into a very different category.

It is very well known that some exhibitors of Potatos used to oil or otherwise anoint their tubers for the purpose of making them look fresh and glossy on the show-table. It was an act that always defeated its object, because the exhibits always looked worse rather than better. Still, though no actual act of dishonesty was apparent, what was done was objectionable and was soon put down. This gumming seems to be a similar offence, but with both these offences, if they are such, should go the dressing of flowers, but to that course we are sure myriads of Chrysanthemum exhibitors will not agree. These examples after all show how very difficult it is to draw any satisfactory line. Indeed, there is the case of wiring single Dahlia blooms for exhibition, a common practice now, and not infrequently leading to the giving of the prizes to the most able artist in wiring, and yet this practice is not thought to be dishonest.

Still we may well ask, as the object of both wiring and dressing is to give some sort of meretricious aid to show flowers, how far or in what respect are these acts less objectionable than gumming Rose blooms? There is danger that the apparent, and, perhaps, actual peccadilloes of some exhibitors, and especially those who show fruit, are being largely exaggerated. Hearsay evidence must always be regarded with suspicion, because it may after all be but prompted by jealousy or some other motive. The old Scriptural maxim, empowering him who is without sin to cast the first stone, is one well worthy of study ere any of us rush headlong into print to fall foul of a practice which intrinsically may be ever so wrong, but as to the connection of which with individuals it may be impossible to prove.

There is danger that from discussions of this sort the public may come to the conclusion that gardeners generally, and specially those who exhibit at shows, are a very immoral set of persons. That would be a gross error. If there is any dirty linen to wash let it be done privately, and if now and then some positive case of dishonesty on the part of an exhibitor is found, the committees of the societies affected are the proper parties to deal with such offences, and they should deal with them sharply. One or two examples would have a salutary effect, but strong charges made broadcast is folly, and can only result in grave harm to a vocation which, if not more moral, is certainly not less so, than any other vocation in the kingdom.

An Apple Fair.—A valued contributor writes: It was with feelings of disappointment I read the report of the Exeter Apple Show, which misnamed Apple Fair, led to the conclusion that something great and novel was being referred to. Perhaps that designation Fair is not more inexact than is the term Congress as applied to collections of Apples; therefore, although both may be misleading, yet we cannot quarrel with one alone. But the term Fair is so far suggestive of something which may be created, that we would submit the desirability of establishing somewhere in the Metropolis next autumn a genuine Apple Fair, or if there be plenty of other hardy fruits, such as Pears, Nuts, &c., the subjects of the Fair might be increased, thus giving variety and creating interest.

Of course a fair is something more than a show; but it may be a show all the same. A fair should be a real place for sale and barter, and in this case the products on sale may well be good and plentiful, if the season, as there is good reason to hope it may be, is favourable. In all our Apple or really hardy fruit shows, we see stereotyped collections made up almost always of stereotyped kinds. Many, in fact almost all the exhibits are of high-class quality and of great beauty, but they prove very tantalizing to the general public who, as at the recent Health Exhibition, flock in thousands to see the exhibits, and yet cannot purchase what is set before them. Now, if a *bonâ fide* fair in association with a competitive exhibition of hardy fruits was held, we should see in operation the double inducement of prizes and chances of making profitable sales, and these should prove strong inducements to growers of all kinds to exhibit.

Very specially one of the weak points of our fruit shows is found in the general absence of market growers and their exhibits, but in a fair if prizes were offered for the best bushel, half-bushel, and peck of Apples or Pears grown specially for market sale in market orchards, a capital competition might result, especially if the exhibitors should have the privilege of disposing of their fruit to the highest bidder. The petty half-dozen of fruits or platefuls should not enter into such a competition as this; indeed, in all cases, no single exhibit should be less than a peck or 14 lbs. of fruit.

Nurserymen especially might hail with satisfaction such a show or fair as is thus suggested, because they could not only exhibit samples of their fruits, but also could trade in trees and very widely advertise their wares. Private gardeners who may not sell, could equally well compete in special classes, but it should be understood that the fair was established to promote barter as well as competition.

The late Mr. A. Shearer.—We heard with sorrow, as we were going to press last week, of the death of a warm-hearted friend in the person of Mr. Alexander Shearer, late gardener at Yester, East Lothian. Mr. Shearer had, we understand, not felt so robust as usual, for some months past, and succumbed to an attack of paralysis on October 31st, at Dollar, after only a few days' serious illness. Mr. Shearer's name was associated with Yester and its gardens for nearly forty years, and on leaving there consequent on considerable reductions on the estate a few years ago, he started in business as a Landscape Gardener, and met with much encouragement and success. It is, however, from his long connection with Yester, and the many valuable improvements carried out by him, both in the gardens and on the estate, that he was best known among gardeners and agriculturists; and numerous records of these operations appeared in the horticultural and agricultural journals during the period they were being carried out with remarkable skill and efficiency by Mr. Shearer, under the wise and liberal direction of the eighth Marquis of Tweedale, Mr. Shearer, who was a straightforward man, and much above the average of his class in general intelligence and force of character, had reached the good age of sixty-eight, and leaves a widow and married daughter, besides a large number of warm friends to mourn his departure.

Wedding Flowers.—An event which is enough to make the hair on the heads of all bouquetists to stand on end has happened. A wedding has taken place in polite society at which flowers were entirely absent. If the fashion should grow up of having flowerless weddings, the custom would soon extend to other of our domestic events, then to table, home, and church decorations, till finally our whole domestic lives outside of our gardens would be depressed and saddened by the absence of flowers. Such a deprival of floral beauty would be at once a social and a business calamity, and would be productive of little less than ruin to many of those florists whose vocation it now is to supply what is sometimes thought to be a necessity, but which the ever-changing tastes of fashion may at any moment show us to have been but an unstable luxury.

At a time when trade is dull and singular languor overspreads our business life, it cannot be with other than anxious thoughts that growers of flowers for sale must contemplate the existing financial crisis, and yet we are not in the midst of a crisis either, because there is plenty of money in the land and the rich are still rich if the poor remain poor. But when trade generally is dull some form of trade is sure to suffer earliest, and that trade would inevitably be one that catered for luxurious habits, rather than for the necessaries of life. Naturally florists consider the strength of their trade to lie in the grip which it has on our social life, for a love for flowers exists in all stages of society. Without doubt that taste is a strong one and not easy to change. For the sake

not only of our loved vocation of horticulture, but also for the sake of humanity, we trust that the taste for flowers may grow and strengthen rather than be decreased.

But we are terribly the slaves of fashion, and were it decreed in the Court, which seems to rule our fashionable life, that flowers were to be tabood, the love and the taste would soon find the decrees of fashion to be the most powerful. What if it became popular to have weddings, without bouquets, or flowers of any sort; how soon would not flowers disappear from funerals also? Then, too, also from button-holes, and finally from all else. The condition of an absolutely flowerless life seems too awful to contemplate, for that iron rule of fashion might even spread into our gardens, indeed if no cut flowers were wanted, we might become careless as to their culture at all.

Readers perhaps will smile as they read this sort of Jeremiad, yet we think if presently they further read in the papers that weddings without flowers are now common or fashionable, they may admit that the custom may grow to be a veritable ogre eating up the trade and livelihood of thousands. Just at the present time when Chrysanthemums are so abundant, and are grown for sale as cut flowers in such vast quantities, we see very forcibly illustrated the extent and capacity of the flower-producing business. Perhaps much of the elasticity of that trade is found in the readiness of growers to seize upon and produce in quantity any new and striking flower. It would not do to trust too much to the assumption that the love for flowers is enduring, but much may be done to make it so by leading rather than following public taste.

Small Ferns for Fancy Pots.—We have on one or two occasions alluded to these as being very popular for general decoration, yet it may surprise some of our readers to learn to what extent the trade in these little Ferns has developed. As an example, we may mention the fact that Mr. H. B. May, of Edmonton (who is perhaps, one of the largest growers of Ferns for this particular purpose), supplied Messrs. Wills & Seger with upwards of 15,000 during the months of August, September, and October. Although this is the largest number supplied to one firm by Mr. May, yet it by no means represents the number sent out of his nursery during that period. Besides, the fancy pots made of the ordinary pot-clay, several firms have their own special designs in Doulton and other ware for this purpose, and remarkably pretty they are.

Luculia gratissima.—A fine specimen of this lovely Rubiaceous plant is now flowering in the greenhouse at Kew, and in a few days will be at its best. It is evidently quite at home, as it grows vigorously, and produces its panicles of delicate pink flowers in abundance. It is very impatient of root restriction, and the secret of growing it well is to plant it out in a border of light rich loam, for it requires really very little heat, a fact which might be suspected from its growing in Nepal, which is one of the more temperate parts of India. Flowering as it does in the dull season it is especially valuable, and this fact, together with the delicious fragrance of its flowers, renders it a most desirable plant for cultivation.

Blue Roses.—A writer in the *Journal des Roses* gives the following directions for producing Blue Roses:—Get some fuchsine (an aniline dye) and dissolve it in distilled water, so as to get a strong solution; then dissolve a pint of Potash in twenty-five centilitres of distilled water. Steep a white or pale Rose in the potash solution, next in pure water, and finally soak it in the fuchsine. In this way a fine blue tint will be produced.

Gardening Miscellany.

The Chrysanthemum shows to be held next week are as follows:—On Tuesday, Manchester, Oxford, Yeovil, Hanley and Devizes. On Tuesday and Wednesday, Plymouth, Winchester, Woodford, and Lincoln. On Wednesday, Wimbledon. On Wednesday and Thursday, Birmingham and Northampton. On Thursday, Dublin, Aylesbury and Taunton. On Thursday and Friday, Hull; and on Saturday, Loughborough.

Mr. George Goldsmith, who has very successfully managed the gardens at Hollanden, Tonbridge, during the last fifteen years, is leaving there at the end of this year, owing to the estate changing hands.

Mr. E. W. Serpell, Plymouth; Mr. F. J. Cheesman, Mr. Herbert Letts, Mr. G. S. Watts, Mr. C. H. N. Lavendar, Mr. S. K. Page, Mr. J. B. Thomas and Mr. Taylor, were on Tuesday elected Fellows of the Royal Horticultural Society.

The choice collection of Orchids belonging to W. Leach, Esq., Oakley, Fallowfield, Manchester, will be sold by Messrs. Protheroe & Morris on Tuesday next.

Messrs. Allum & Harden, florists, of Gunuersbury Lane, Acton, had a plant of Ponisettia pulcherrima major, in Covent Garden Market, on Thursday morning, with nine good heads of crimson bracts, on a plant grown from a cutting, and having only one stem above the soil.

It is stated on the authority of a Colonial paper that Mr. H. O. Forbes, F.R.G.S., is organizing a scientific expedition with the view of exploring the botany and zoology of the Mount Owen Stanley Mountains, the great central range of the eastern peninsula of New Guinea. Mr. Forbes has been allowed £400 by the British Association and £250 by the Royal Geographical Society towards the expense of the expedition.

At the meeting of the Manchester Horticultural Improvement Society, to be held on Thursday evening next, Mr. Abraham Stansfield will give some practical hints on planting.

The expenses in connection with the last National Dahlia Show, held at the Crystal Palace, are stated to have amounted to £128 11*s.* 6*d.* (of which sum £111 were awarded in prizes), and the receipts to £120. The deficit has been proportionately deducted from the sums paid to those prizetakers who won £5 and upwards.

The Rev. Canon Hale's popular *Book about Roses*, has recently appeared in an eighth edition and smaller form than the previous editions.

The first meeting of the Royal Botanic Society since the recess was held on Saturday last, in the Gardens, Regent's Park, Lord Aveland, Vice-President, in the chair. A long list of donations of plants and seeds from various parts of the world was read as received since the last meeting. It included a collection of Acacias from Australasia, and a very extensive collection of ornamental Gourds, many of very quaint form and colouring, from the garden of Mrs. Montefiore at Crawley. The Secretary reported that the Society's collection of Chrysanthemums were just at their prime; it contained over one hundred and fifty varieties of this fashionable though ancient flower, which, according to historians, was cultivated by the Chinese 3,600 years ago.

We note the death last week of Mr. Octavius Blewitt, who for forty-six years was the honoured secretary of the Royal Literary Fund. Mr. Blewitt's name will probably be unknown to gardeners, though for many years he was the editor of the news columns of *The Gardeners' Chronicle and Agricultural Gazette.* In the days when penny papers were not so plentiful as they are now, the weekly summary of news contributed by Mr. Blewitt was highly prized by gardeners, for it was well done, and many regretted its disappearance when "The Chronicle" parted company from "The Gazette" in 1874.

The Baroness Dowager de Rothschild, who has just taken up her residence at Cannes, has had removed to her villa from the Gulf of Juan an Araucaria, which has not its equal in the country. It weighs twenty-eight tons, and was drawn on a dray to the town by thirty-two horses.

PLANTING TREES.

This is the time of year to plant all deciduous trees, and providing it be done not later than this month, Evergreens move as well during the month of November as at any season of the year. Amateur gardeners should leave this work to a jobbing gardener, but they should superintend it, to see that it is done in a proper manner. They should do more—it is of great importance to go to a nursery and select their own plants, and, if they can, see them lifted, taking care that their plants, whether fruit-trees or shrubs, are well furnished with fibry roots. This is a matter of the first importance. A tree should be provided with a sufficiency of small, fibrous roots, for it is rom the spongioles at the extremities of these roots that the plant derives its support.

Anyone acquainted with trees and shrubs knows that they vary in the form of their roots, from the dense mass of tangled fibres close to the crown which makes the Rhododendron so safe to transplant, to the long, coarse, thick tap-root, which renders transplantation a dangerous process with some trees, unless removed young. But then tap-roots emit from various parts tufts of fibres, and it is on these being uninjured and in sufficient quantity that the success of the planting will depend. If, then, it should be found necessary to prune the roots previous to planting, the knife should be applied to the big, coarse taps, but not to the fine, hair-like rootlets, all of which should be carefully preserved, for they are the main feeders of the plant.

We have seen trees planted in a way that fills a careful gardener with indignation. A hole is dug, much too small, the roots put iuto it in a kind of haphazard fashion, and who can wonder that the trees fails to thrive. The hole should be dug rather larger than that required to take the roots when carefully spread out; and in planting, care should be exercised that the fibrous roots are not cramped or tangled in a mass, but spread out carefully, so that they may occupy nearly the same position as they did before the plant was taken up. Sometimes plants are purchased in pots, and if they have been established in such for a time, the roots will, in many cases, be found coiled up into a dense mass. If this be so, they must, before planting, be patiently unravelled, and the crocks placed at the bottom of the pot for drainage taken from among them. Iu doing this, care must be taken not to injure the extremities of the rootlets, which should be placed as deftly as possible in the hole, and spread out in such positious as that, when they grow, they shall not resume the twisted form.

One reliable authority states, with much fitness—"Beware of planting too deep. The tree should not be fixed in the ground lower than will bring the soil, when the hole is filled, an inch or two above the collar of the tree. The collar is the spot where the ascending axis (the stem) meets the descending axis (the roots). Thousands of young trees perish annually from being planted too deep. In situations exposed to violent winds it may be allowable to plant a little deeper; but it is only avoiding one evil by substituting another, and it would be preferable to undergo the expense and trouble of staking the young trees where it is required. When the plant is placed in the hole, and the roots well spread into their natural position, fill the hole half full with some fine soil, different if possible from that in which the hole has been dug. Then shake this soil into the interstices betweeu the roots, by gently pulling the stem up and down just euough for the purpose, and afterwards tread the soil lightly in. You may then proceed to fill up the hole, aud when done, agaiu tread the soil in pretty firmly before making the surface neat."

With some planters there is a very good practice of digging the holes which are to receive the plauts some days before the planting takes place, aud for this reason, that the interior of the holes arc exposed meauwhile to the fertiliziug influences of the atuosphere, raiu, &c.; and it need scarcely be stated that rainy, or at least damp, cloudy weather, is by far the best time for planting. Planting should not be done during sunshinc, if it can be avoided, nor in frosty or dry weather.

Lastly, if some trecs should be received from a

nursery, and it is not convenient to plant them for two or three days, they should be placed in a cool dark shed, with some damp litter and garden mats thrown over the roots. There are three things the roots need to be guarded from, viz.: frost, drought, and light. If the fine spongioles become withered, the roots of the plants are much longer in taking hold of the soil. This is a precaution much more necessary in spring than in autumn, and for the reason that a time of drought may follow in the spring, and the imperfectly rooted trees will be certain to suffer, unless special precautions be taken in order to assist the trees as much as possible.

SPICER'S LADY'S SLIPPER.

Few plants give a more pointed example of the mutual interests existing between cultivator and importer than Cypripedium Spicerianum. Up to the day when Mr. F. Sander, of St. Albans, offered his importation at Stevens's Rooms the price of the few plants in commerce was put at from twenty to one hundred guineas each, and so lovely is it when in flower that no buyer was ever known to regret the price paid. Hence, when Mr. Sander sold his plants, it needed no flourish of trumpets to call together buyers to the extent of some £1,500, many a longing amateur being satisfied with the object of his desire at a moderate cost.

Every season seems to confirm the plant in public esteem, and each year proof is given that there is also variety in it besides that sold by Mr. Sander, as, for instance, "Magnificum," which is a massive form with dark crimson band and flush up the back of its snow-white dorsal sepal. Twin-flowered forms now appear, and observation seems to prove that the plants bearing them are as constant as C. barbatum biflorum. Our illustration gives a representation of the finest twin-flowered variety of the Magnificum strain we have seen. The plant, which lately bore three pairs of flowers, is in the possession of E. H. Adcock, Esq., West View Bank, Mount Adon Park, Lordship Lane, S.E., and it has before proved itself to be a twin-flowered variety.

CYPRIPEDIUM SPICERIANUM MAGNIFICUM: TWIN-FLOWERED VARIETY.

Cypripedium Spicerianum should be grown in a moist, shady corner of the intermediate house, or a like situation in the warm house will suit it very well, as it does not object to heat if but the atmosphere be good. It is best repotted soon after the flowers fade, the materials used being half turfy, yellow loam, without much earth in it; quarter fibry peat, and a quarter living sphagnum moss; although, for the matter of that, it will thrive in a healthy house in almost any material.

VIOLAS FOR SPRING BEDDING.

No group of plants can in any way vie with Violas for producing a bright pleasing effect in either large or small gardens during the spring months; they are, in a word, the best among the many spring-bedding plants of to-day, and indispensable in all spring-bedding arrangements. Now that the list of good things among these charming plants is continually increasing, a few remarks as to the best and most useful varieties may be of service. One of the greatest errors in the use of Violas is that of planting them with the ordinary bedding plants in May and June, a practice which has brought them into disrepute. Planting at such a time, and with a possibility of a long-continued drought ensuing, simply means failure and disappointment. The best results are obtained from early autumn-planting, and the earlier the better. As soon as the beds can be cleared of their summer occupants they should have a fair dressing of well-rotted manure, and be dug deeply. Should the soil be cold, retentive, or clayey, a liberal dressing of road grit or the burnt ashes from garden refuse will greatly assist it; if, on the other hand, it is very light or stony, cow-manure well-rotted will be found to be the best; a deep and generous, though not too rich, soil suits them best, and everything being in readiness, no time should now be lost in getting them in their places, and so guarantee an early display of bloom.

Roughly speaking, Violas adapt themselves to an almost endless variety of purposes, either alone in masses, or in conjunction with such things as Daisies, Primroses, Silene pendula, Forget-me-Nots, Siberian Squills, Cheiranthus alpinus, together with Hyacinths and Tulips, and similar plants, and these judiciously arranged are capable of producing the most pleasing results, and may be safely employed if only a few yards of ground are available for the purpose; indeed, in this lies the secret; endeavour, in the first place, to become master of a few yards, and then, as opportunity offers, extend it. One of the most important points is the selection of good suitable varieties of dwarf habit, and only those which are early bloomers. These I will briefly describe.

Among White-flowered kinds are Purity, Pilrig Park, and Vestal. These are good compact growers, of dwarf habit, and producing an abundance of bloom.

Among Yellows, Queen of Spring, Yellow Dwarf, Sovereign, Yellow Beauty, and Golden Queen of Spring are the best. The two first-named kinds are grand in a mass, and are particularly noticeable for their dwarf free-flowering qualities.

Though Blues form an extensive group with endless shades, there is nothing to equal True Blue (Dean) as an early and continuous bloomer. It is in good condition when the other so-called early varieties are only expanding their flowers, and those who require a good early bloomer will find this a reliable one. Other good blue sorts are Tory, Forerunner, and Royal Blue.

In Lilac or Lavender-coloured varieties we have charming things, in Duchess of Sutherland, Princess Teck, and Elegans, in which the soft pleasing tints are productive of good effect.

The above selection is given with a view to assist any who may require really good useful kinds, and as all of these may be had at the usual prices of such things, there is no reason why inferior kinds should not give place to them. Strong well-rooted cuttings are the best, so plant without further delay, and remember that deep and firm planting is also essential.—*E. J*

THE FRUIT MANUAL.*

A Manual! Shades!! Call that a Manual!!! Who would suppose that this bulky volume of 759 pages represents the Fifth Edition of that modest little Manual that made its successful *début* twenty-four years ago. We almost think it is too big! that it contains too much!! that the worthy Doctor would have done better had he used the pruning knife a little more freely, and consigned to the oblivion they would otherwise have obtained, a great many useless varieties now so prominently introduced in this work A great Descriptive Catalogue of Fruits is one thing—a Fruit Manual is another. Notwithstanding the evident desire of the Doctor to give to the world all his manifold stores of knowledge about Fruits, there is necessarily much omitted, and it always will be so.

In the new work before us we find of Apples, 706 as against 473 in the fourth edition; and of Pears, 642 as against 581. Pine Apples, of which 25 varieties are described, are an innovation; whilst of Plums, Cherries, Figs, &c., there are not so many alterations either as to numbers or description. Currants and Filberts have been recast, and Gooseberries remain as multitudinous and confusing as ever.

The great and prominent feature of the present edition is undoubtedly the introduction of "The New Classification of Apples." This, it may be remembered, was submitted to the public a few years ago, and for which the learned doctor was awarded by his colleagues of the Royal Horticultural Society the Society's Gold Medal.

As a theoretical production involving a vast amount of most careful study, and observation of the most minute and perplexing character, this is deserving of the highest commendation.

There is a praiseworthy endeavour to establish something like order where heretofore there has been nothing but chaos, and one is almost persuaded that by careful examinations of—1. The Stamens, 2. The Tube, 3. The Carpels, 4. The Sepals—the four structural characters on which the classification is based, there

* *The Fruit Manual. Fifth Edition.* By Dr. Robt. Hogg. 171, Fleet Street.

will be no further difficulty in ascertaining the correct name of any Apple. True, the subject has to be studied, as we would the Natural system of Botany, or any other science. But this seems so exceedingly simple—at least, it is placed so clearly and simply before us, that it would seem impossible to get astray or to misunderstand the author's meaning. Diagrams there are, illustrative of all the varying forms they may assume, forming in all 192 groups or classes, with many minor divisions.

So much for this admirable theory. It is almost a pity to have to confess that it "won't wash," at least we have not been able to apply it, nay more, we have never met with anyone who could, and this not for the want of trial. The difficulty, the weakness of the system seems to be in the very fineness of the distinctions drawn.

The author himself is not by any means sure of his ground. For instance, the very varieties given, as examples in one class, examples put forward as proofs of the practicability of the system, appear as examples in other classes. The author himself should at least be able to classify his own examples. But what have we? The Gravenstein, we note, fits into five classes, thus:—

Class 53. Stamens, marginal; tube, funnel-shaped; cells, obovate-abaxile; calyx, divergent.

Class 133. Stamens, basal; tube, conical; cells, round-abaxile; calyx, divergent.

Class 189. Stamens, basal; tube, funnel-shaped; cells, elliptical-abaxile; calyx, divergent.

Class 157. Stamens, basal; tube, conical; cells, elliptical-abaxile; calyx, divergent.

Class 165. Stamens, basal; tube, funnel-shaped; cells, round-abaxile; calyx, divergent.

Our own examination of the Gravenstein, resulted in placing it in still another class.

It will thus be noted that the stamens which constitute the three primary divisions of this classification, are found in this one variety of Apple to be of two characters "marginal" and "basal," and the tube, which is of two forms only, is given as both "funnel-shaped" and "conical;" the cells "obovate," "elliptical," and "round," whilst the calyx alone is the only fixed character, always "divergent." The Gravenstein, therefore, we submit, has defied the Doctor's powers of classification, and there are many more of similar cases. The Early Julien we find in six classes, Ribston Pippin in four, Hereford Pearmain in four, Mére de Ménage in three, &c. This is elasticity of classification with a vengeance. How we ask is it possible for any one to determine or trace out the names of any fruit by a system which cannot itself be fixed even in its primary principles?

To those of the old school who remember the great services rendered to pomology by the late Robert Thompson, it seems almost unkind to carp away at the few mistakes he committed, whilst otherwise ignoring his existence. How differently it fares with "my friend Mr. Harrison Weir, the artist," who leads the author astray, nevertheless, with St. Albans Pippin Apple. There is just a shade too much of this "I scratch you, you scratch me," For example, what claim to recognition has "Penlee" Pippin got excepting that it serves to immortalize "my friend the Hon. and Rev. J. Townsend Boscawen, of Lamorran, in Cornwall, who obtained it from Mr. Tyerman, of Penlee." *Per contra*, we have Schoolmaster Apple certificated by R. H. S., and introduced by Mr. Laxton, of Bedford, which is noticed, but Mr. Laxton receives no credit, and again Warner's Seedling, certificated by R. H. S., and raised by Mr. R. Warner, is altogether omitted.

In the matter of Pears and Peaches we are prepared to give bumping measures of credit to the discriminatory powers of that accomplished man and author of some charming works, Mr. R. D. Blackmore, of Teddington, but we cannot help thinking that it is much overdone. The author seems to rely fully more on Mr. Blackmore's opinion than on his own. In so doing he is no doubt right, but where it comes in contact with the worthy Doctor's it reads somewhat absurd. The continued repetition of "Mr. R. D. Blackmore says it is worthless at Teddington;" "Mr. R. D. Blackmore finds it useless at Teddington;" "Mr. R. D. Blackmore says, It is a wretch;" and, "At Teddington Mr. Blackmore says it is poor and small," becomes exceedingly monotonous. We fancy a shorter way of paying compliments might have been devised, and this might have tended to reduce the size of this too bulky volume.

The selected Lists of Fruits are of little or no value, because of their want of selection, so to speak. Fancy a list of the best dessert and kitchen Apples numbering no less than 252! We welcome the "Fruit Manual" however, with all its faults, and they are but few, as by far the best and most valuable descriptive list of fruits in existence, and a most valuable aid to the science of pomology.

FRUIT CULTURE IN THE SOUTH.

It has often been a matter of great surprise to me that the cultivation of hardy fruits, on a large scale, has not been more generally attempted in the more favoured southern counties, aye, and the midland counties too, for that matter, where without doubt the advantages of climate and situation are as great as can be found in any of the well-known fruit-growing districts; though perhaps the soil may not be quite so suitable as it is in some of the most fruitful districts of Kent and Surrey. Much of the land, however, under fruit cultivation there, is certainly a long way from that which is considered the best for the purpose. To bear out this statement I could point to some of the most productive plantations in Kent, which have been planted within my own memory on land of poor quality, which had been under wheat cultivation for many years, but had never given satisfactory results.

Another point that has convinced me of the practicability of growing certain kinds of fruits equally well in other counties, is, that I have never yet been into a garden where good crops of Gooseberries, Currants, Raspberries, and Strawberries could not be grown with as much certainty as they can in Kent, if they receive the necessary attention. I will not go so far as to say that Apples, Pears, and Plums can be grown equally well anywhere, the peculiarities of different soils having a great influence on them, but I feel sure that if more attention were given to selecting the most suitable soil and situation for each, instead of planting indiscriminately, we should soon have healthy fruitful plantations springing up in various parts.

The aspect that is generally considered the most suitable for fruit cultivation is one that is sheltered on the north and north-east sides, with an undulating surface sloping gradually to the south or south-west. And when such a site can be obtained, with a well drained, moderately rich soil, it should always be taken advantage of. On the other hand there is an abundance of evidence to prove that many kinds of fruits will thrive equally well under far different conditions. I have in my mind's eye at present one of the most fertile valleys in Kent, with large tracts of country sloping gradually from north to south, down to the edge of the Medway that runs between them, and on both these aspects fruit-trees of all kinds are cultivated with great success. Yet the soil in which they are growing is, in many places, quite different from that which is generally thought necessary. In some places may be found the rather strong adhesive loam, which is so much sought after, while in other parts of the same plantation the soil is of a very stony nature, the subsoil throughout being of Kentish Ragstone, which makes a very effectual drainage, and which I feel sure has much to do with the health and fruitfulness of the trees.

One point that the Kentish fruit-growers are very particular about, is to have the ground thoroughly trenched before planting, for they are well aware how much it affects the health of the trees in after years. they are also no believers in the starving system, but work in large quantities of manure as the trenching goes on, taking care to keep it away from the roots of the trees at planting time. In making a plantation of large extent on a situation similar to the one described as the most desirable, I would plant the Apples on the higher ground, because they bloom much later in the season, and are therefore less liable to be injured by spring frosts than Plums and Pears, which should be planted in the most sheltered parts of the valley. Another reason for doing so is that the soil is generally heavier in the lower positions and Apples will thrive much better on the lighter soil than either Plums or Pears.

In conclusion let me state that as what I have written may be open to criticism, I have simply recorded my own impressions, which are the result of experience gained and observations made in one of the most noted districts of the fruit-growing county of Kent.—*H. Dunkin, The Gardens, Longford Castle, Salisbury.*

HOME MANURES FOR THE GARDEN.

(*Continued from p.* 149.)

Lime: its Application and Effects.—Lime is one of the most widely diffused substances in nature, existing in chalk, in all kinds of marl, marble, limestone, and organic remains. The bones of most animals are composed to a very great extent of phosphate of lime. While in the shells of beetles, crabs, snails, lobsters, oysters, &c., carbonate of lime is the prevalent compound.

Lime also forms a considerable proportion of the whole weight of the ashes when plants are burnt. According to Professor Johnson the quantity of pure lime contained in the crops produced upon one acre during a four-course farm rotation, amounts on an average to 242 lbs., which is equal to about 430 lbs. of carbonate of lime in a state of marl, shell-sand, or limestone. We need not be surprised, therefore, to find that lime supplies a kind of inorganic food which is absolutely necessary to the full growth and development of all trees, shrubs, and plants. And unless lime in some form exists in the soil plants will not flourish. Seeds sown in "lime-free" soil will germinate, and continue to thrive so long as the stored-up food contained in the seed itself lasts, but as soon as that fails, the plants of whatever description will invariably sicken and die.

The majority of fertile soils, however, generally contain lime in sufficient abundance for the requirements of most of our garden-crops, and if manuring is performed regularly and properly, there can still less be a want of a direct application of lime to the garden, since the "home manures" mentioned in our previous articles, alone convey into the soil more lime than is removed from it even in very abundant crops. Yet, notwithstanding this fact, lime in certain cases may advantageously be applied as an aid to the decomposition both of mineral and vegetable substances already existing in the soil, but in a dormant condition. Lime imparts to the soil the power of changing the nitrogen contained in decaying vegetables and animal matters into nitrates, known as the most powerful of all fertilizing agents. Lime is not a substitute or means of replacing nitrogenous manures, like dung, or decaying organic matters, which is fit for the immediate use and nourishment of plants, but can only play the part of a complementary or invigorating addition to those manures.

When lime is mixed with the soil it acts in a decomposing and dissolving manner upon roots, leaves, straw, and other parts of vegetable refuse, and also upon the organic constituents of the soil which are already partially converted into humus matter. It hastens the decomposition of those substances which are often very slow and disinclined to fermentation, especially in heavy, stiff soils not freely admitting atmospheric air, to a greater degree of activity—that is, to a more rapid conversion of those inert materials into soluble nitrogenous food which can then be readily absorbed by the roots of the growing plants, as the most important of all their diet.

We see, therefore, that lime does not work with its own material, except in very minute quantities, but at the expense of other matters—namely, at that of the soil itself, or of its imported fertility—while the direct manures act with their own power in supplying to the soil such ingredients as it may be deficient in. From this cause it is self-evident that the latter must enrich the soil to which it is applied, while lime renders it poorer.

"Much lime and no manure
Make both garden and gardener poor."

Pliny attests the use of slacked lime by the early Roman cultivators as a dressing for the soil in which fruit-trees were grown; and that caustic lime has the power of killing worms and slugs.

In the finely-divided state of quicklime or slacked

lime, or of soft and crumbly chalk, these materials will be found to combine very loose soils, and open the stiffer clays, making the latter more friable and pervious to water; while in the form of limestone-gravel or of shell-sand they may be employed either for opening clayey soil, or giving body and firmness to boggy land. The acid humic matter of peat is found to be neutralized by lime, and the nitrogen held in combination is converted into ammonia and nitric acid, which is thus made available as plant food.

Morton & Scott's *Soil of the Farm* says:—"When we add that lime improves the quality of grain, grasses, and other crops, the finer grasses on certain lands refusing to grow until the land has been limed; that it is the only known cure for 'Finger and Toe' in Turnips, that it hastens the maturity of crops, and that it destroys insects and checks the growth of moss and weeds in the soil, it will be seen how various and important is the work it performs."

Gas-Lime is the refuse lime from gas-works which has been employed to purify the gas from sulphur, which may afterwards be applied to land, similar to quicklime or gypsum.

It is not a very valuable material, and will not pay for cartage to any long distance, but it should not, however, be wasted, as it may safely be employed with good effect by the gardener under the following circumstances:—

It may be used directly upon mossy lawns, upon land which has been turned up rough for the winter; and in spring if strewn sparingly over young Turnip plants, or young plants belonging to the Cabbage tribe, it will be found to check the attack of the Turnip-fly. Slugs and wireworms will also disappear from land into which gas-lime has been dug.

Gas-lime, fresh from the works, is said to be one of the best materials to lay under the floors of buildings likely to be infested by vermin, for it not only serves to absorb and fix the fertilizing gases in such situations and afterwards will form a good manure, but, being excluded from the air, it retains its disagreeable smell for a long time, and is for this reason much disliked by vermin and rats.

(*To be continued.*)

THE CHRYSANTHEMUM.*

We are once more in the middle of the Chrysanthemum season. The exhibitions are certainly increasing in number, and stimulated by the demand for greater variety in form and colour of the flowers, new varieties of the Japanese type are being very freely produced; and while the exhibitions prosper our gardens are enriched with the new flowers brought into notice by their means. We are glad to see exhibitions flourish, they show us the high state of perfection to which the plants can be grown and the flowers developed; and the large number of growers who never think of exhibiting either their plants or flowers, but who grow them for very love of their sweetness and beauty are edified. Sweetness! someone may exclaim; they have not a pleasant perfume have they? Yes, they have! Take a bloom of the deep violet-purple Progne, it is quite violet scented, and many others have this perfume more or less; but this is a digression. It is enough to say that those who do not exhibit gladly avail themselves of exhibition days to select the flowers they think most desirable to add to their collections, and the sight of more beautiful flowers than their own is sure to stimulate them to do better in the future.

The flower is seen in its most profuse development and richest beauty in the greenhouse at home, and it is for its decorative purposes in the home garden that it is valued by the greater number of people. In the early development of the Chrysanthemum there were no lack of writers who gave their experience in a plain and practical manner, but most of their writings are out of date, and the pamphlets of Messrs. Broome and Dale, and the more complete work of Salter, though well abreast of the subject nearly twenty years ago, cannot be accepted as guides now, even if they are not out of print. The new treatise by Mr. Burbidge is therefore most opportune. It comes out at the right time, and will supply a want that was beginning to be felt. The history, classification, culture, seedling raising, exhibiting, &c., are treated in a practical manner. The author evidently believes that seed saving and seedling raising can be carried on in one and the same garden, and fancies that cottagers and artisans might take to improving the Chrysanthemum as they have done the Auricula, the Onion, and the Leek, the Gooseberry, &c. On this part of his subject the author is very poetical, but not practical. The subject of seed saving and seedling raising is now being considered by practical men, and the results of their efforts are being annually placed before us.

The history of the Chrysanthemum is very ably dealt with in the second chapter, and is both interesting and instructive to lovers of this fine autumn flower. Although many varieties were introduced previous to the time of Mr. John Salter taking up the work, it was not until the idea occurred to him to send the plants over to Algiers for the purpose of saving seeds from them that real progress was made. Mr. Salter was a florist of a pronounced type, and the result of his efforts was the great variety and fine form of the incurved varieties. He was anxious to obtain a bright crimson incurved kind, but was not entirely successful, the nearest approach to it being Crimson Velvet, which was all that was required as regards colour, but was not large enough, and a long way off Empress of India in form. It is seldom seen in cultivation now. The type of Julie Lagravère and Progne should both be improved. And the beautiful tipped variety Annee Ferriere is seldom seen now, but it ought to be the parent of quite a new strain of tipped varieties. It was too small for an exhibition variety, but would, if increased in size by seeding, be a beautiful addition to the incurved section.

The cultural remarks are very fully dealt with, and the author has, we think wisely, concentrated the matured experience of some of the best cultivators into the chapters with this heading. Young beginners, and even cultivators of long experience, would do well to study those chapters. The time and manner of taking the cuttings; the time of potting and after treatment of the plants are both carefully dealt with.

Rules for a Chrysanthemum Society and a Schedule of Prizes are also given, while the book concludes with a complete list of varieties and a calendar of monthly operations. It is a pleasure to recommend this book to all lovers of the Chrysanthemum. Exhibitors and cultivators are alike indebted to the author for the timely appearance of the work, and for the useful information so pleasantly placed before them.

* *The Chrysanthemum: its history, culture, classification and nomenclature.* By F. W. Burbidge. *The Garden* Office.

RAILWAY ALLOTMENTS.

In The Gardening World of October 25th was published a short article on Railway Allotments, with special reference to the garden plots along the embankment of the Metropolitan Extension to Harrow. Last week a daily paper announced that the Midland Railway Company had decided to offer prizes to the value of £100 per annum for the cultivation of slopes and waste pieces of ground along its lines, and we are pleased to hear of the wise liberality of the Company in question. Upon this matter we say the "more the merrier." No *employé* who has the least idea of cultivating a garden, would begrudge paying the small sum of 2*d.* a pole, the rent charged. The railways of England probably allow a cultivable margin of 2 yards in width on one side of the line, so that we have at least 14,000 acres at disposal. Probably not a tenth of this is under tillage. The growth of bush fruits, under exposed conditions, would scarcely pay, but the land can be made to carry crops of Potatos an d Greens

The chief difficulty of the men is with regard to manure, and the difficulty has largely increased of late years with the stringent regulations as to frequent and systematic cleansing of cattle trucks. Perhaps a short conversation the writer had lately with a respectable platform foreman at a country station will serve to emphasize the remark. "No allotments?" we asked. "No, sir, no; no gardens now, a few of our men have them, but they don't work 'em well. Ye see the top spits gone and the land wants a lot of manure. Then you see it's such a difficult job to get it on the ground." "Had you a garden?" "Oh, yes! a capital garden, but we'd plenty of good manure then you see. I once took out fourteen barrowsful from one truck, it was trodden quite solid, and it was a foot thick. The Company's orders were to clean out the trucks and bury the manure, to prevent the spread of the rinderpest. Well we did bury it properly, but not exactly in the way suggested, and we'd the best crops of Potatos, Peas, and Cabbages I ever saw. Next year the Company wanted the ground, and just as my Ash-top kidneys were that high, and the Cabbage a 'hearting' nicely, down came the Company and took it away to build some cottages on it."

The difficulty with respect to manure is two-fold—in being unable to purchase it at a reasonable price, and in conveying it to within convenient distance of the gardens. We venture to make a suggestion to the Directors of the Midland Railway Company; it is, that the Company should share a part of the large quantities of excellent manure accruing, both in the stables and the cattle trucks, among their tenant *employés*, and convey it by their empty return trucks as near to the gardens as possible. Such an arrangement would be a greater boon to the men than even the liberal offer of £100 in prizes. Under the varying circumstances of soil, aspect, and ease of access, the prize scheme would only be a further inducement to those who are already more favourably circumstanced, and therefore need encouragement the less.

As to the desirableness of rendering way-side stations more attractive there can be no question. Even the traveller by an express train is grateful for the flash of bright colour that momentarily greets his eye in a well-managed "Station Garden." But to the passenger who has to wait for weary hours at a country station, to sit in the dim little shanty of a waiting-room, or pace the blue-black brick platform, the sight of a few climbers and flower-beds is quite refreshing. The Midland Directors are thinking of their servants also and are seeking to afford them a means of innocent recreation. The bit of flower-garden and the encouragement proffered in the prize scheme, will no doubt have the desired effect, and there will be a pleasant rivalry between the staffs of country stations. Occasional employment of such a light and interesting description will furnish an agreeable relief from what appears to be a somewhat monotonous occupation.—*Luke Ellis.*

CUTTINGS IN MOSS.

The reference to this plan of rooting cuttings in moss is but further evidence of the old saying, that there is nothing new under the sun. The plan is an old one, and was one much employed when pots were dearer than they are now. I remember visiting the gardens at Cadland, on the Southampton Water, some eighteen years since, and seeing there thousands of Pelargonium cuttings rooted singly in moss, just as shown in your illustration at p. 156. Mr. Harnett, the then gardener there, told me that it was a plan he had practised for years, not so much to save the trouble of potting in the autumn as to enable the plants to be bedded out rapidly in the spring. Still farther, by standing these rooted cuttings closely together in shallow boxes, shaking a little fine soil about the mossed roots, and then keeping them in frames or greenhouses, a very great saving of space was effected.

At bedding-out time the work was immensely facilitated, as nought remained to do but to pull the plants from the boxes, the moss still attached, giving good balls of roots to each, and plant as fast as possible. Very large numbers of Pelargoniums were annually bedded out then at Cadland. Even farther this advantage resulted, the roots were better able to readily attach themselves to the soil than did those turned out of pots. That the act of mossing up cuttings singly in autumn presents any saving of labour I gravely doubt, indeed, were a contest to take place between potting and mossing, I think the potting would win.

But the chief advantages of the plan are to be found in the saving of cost of pots, of much labour in watering, of space in frames and greenhouses, and, not least, of labour and time in the bedding-out season. Of course, it is essential that moss shall be abundant and easily obtained, but that is not a difficulty as a rule. The fact that cuttings will root so freely in moss, shows that sand is not such an essential element to promote rooting as is usually believed.—*A Hampshire Man.*

The Amateurs' Garden.

Strawberry Growing.—It is an undisputed fact that of all the fruits we cultivate, none are relished more than the Strawberry. In the season it forms the chief dish of dessert on the table, from that of royalty to the smallest of amateur gardeners. Strawberries are alike enjoyed by the invalid and the robust and strong, and in a word may be termed "a universal fruit." To make the following hints to amateurs perfectly clear, I will divide the subject into four heads, viz.:—the preparation of the land; the preparation of the plants; the best varieties to grow; and their general cultivation. I may here state that the four most important points to be observed are (1) to dig the land deeply, (2) to manure it heavily, (3) to plant it early, and (4) to cultivate it cleanly.

Preparation of the Land.—A rich loamy soil is perhaps the best staple to work upon. Nevertheless, the writer of these "hints" has grown Strawberries with success in the strong clays of Sussex, the blow-away sands of Surrey, the rich loams of Yorkshire, and the sandy soil of the Midlands, so that no person need be afraid, let their soil be of whatever texture it may. Our Strawberry plantations succeed early Potatos. We use good farm-yard manure at about the rate of thirty tons per acre. We then dig the ground deeply, taking very small spits. After the digging is finished, we tread it firmly, giving it a rough rake over, and the work of preparation is finished.

Preparation of the Plants.—The runners we layer in small 60-sized pots, placing a flat stone on the top of the runner to keep it in position. The young plants are kept well-watered, and in three weeks they will be sufficiently rooted to be put out in their permanent places.

The Varieties to Grow.—Here I may remark that Laxton's "King of the Earlies" is, perhaps, the earliest of all, as its name implies, but it has one fault: it is this year too dear for amateurs. The four most prolific Strawberries that I have any knowledge of, and which I name in the order of their ripening, are (1) Burghley President, (2) Sir Charles Napier, (3) La Gros Sucree, and, for the latest of all, (4) Oxonian. These four varieties are ample for my Lord's garden, and so I think they should be for amateurs.

General Cultivation.—From the middle of August to September 1st is my favourite time for planting out Strawberries, and they should be planted at from 2 ft. 6 ins. to 3 ft. apart all ways. The mode of planting is as follows:—We first set out the quarter of land, and then beginning at one side, stretch the line. Taking a spade and making the holes, we then very carefully turn out the plants, and ram each plant firmly with a small rammer, the work of planting being then finished. I may here note that on plants thus planted I have counted, in the following May, three hundred and seventy blooms on a single plant, the variety being Sir Charles Napier. If size and quality are looked for in the fruit, the first year's plants are by a long way the best.

Remarks.—Between each row of Strawberries I always plant my winter Lettuce, a crop which I consider pays the cost of the manure, while doing the plants no harm whatever. In June the Lettuces come off, when we hoe the land and put on the mulching, and to make all secure they are netted immediately the fruit begins to colour. If these rules are carried out, Strawberries may be had early and late, and also in abundance.—*R. Gilbert, High Park Gardens, Stamford.*

Ampelopsis Veitchii.—Let all amateur gardeners who contemplate planting a Virginian Creeper against the walls of their dwellings, select this species in preference to the common variety. It possesses this great advantage, that the shoots, like those of the Creeping Ivies, attach themselves to the wall or fence against which it grows by means of powerful stem roots. It is much smaller in the leaf than the common Virginian Creeper, it makes a dense and rapid growth, and so covers a large space of wall. It colours as finely as the common form. A few days since I saw in the neighbourhood of Turnham Green on the gable end of a villa residence, a plant of A. Veitchii that had grown in the shape of a huge fan, the leaves at the base had dropped, but there remained a broad edging of foliage, looking like a huge ornamental border to a fan. The lowermost leaves were red and brown; the next were yellow and green; while the younger shoots were reddish-bronze. The effect was singularly picturesque and unusual, and could be seen from a long distance. Plant it in good soil, where it can root deeply and firmly establish itself, and there it will be an object of great beauty for years to come. —*Quo.*

Berberis stenophylla.—If any amateur wishes to have a pretty, bright, early-flowering wall plant, let him select this charming hybrid. It is evergreen and beautiful, it blooms profusely; the colour of the flowers is orange-yellow, and these are followed by an abundance of purple berries. It is one of those plants of which it may be said with perfect truth, that it deserves a place in every garden.—*E. W.*

On Pruning Gooseberries.—No fruit is so badly treated in the matter of pruning as the Gooseberry, it being almost the universal rule to cut back and spur all young wood, whereas the shoots ought never to be shortened back, unless fresh shoots are wanted to fill up any badly furnished parts of the tree, or take the place of old worn-out branches. In pruning Gooseberries we only thin the shoots, cutting them clean out, and those required for fruit-bearing are left their full length; never shortening back a shoot unless it be for the purpose mentioned. It is on the young wood that the best and heaviest fruits are borne; and every shoot cut back pushes out five or six the next season, which monopolize all the energies that otherwise would be concentrated towards fruit-bearing. Anyone trying this system against the other will soon be convinced of its superiority both as to quantity and quality of the fruit. A good red Gooseberry which I would recommend for growing for dessert purposes, with Wingham's Industry and Warrington, is Crown Bob, a very heavy cropper and of first-rate quality, but it is not so large as Industry, nor so strong a grower.—*R. Stevens, Paston.*

TAKING UP AND STORING ROOTS.

Although we have been enjoying almost summer weather for some long time past, we cannot expect it to last; and when the change does come it may be with great suddenness, as already we are getting far into November, a time when we generally get sharp frost, and therefore it will be well to be thinking of the roots now out, as Beet and Carrots are no longer safe in the ground, and they should therefore be got up with all speed, and stored to be drawn from for use as required.

In lifting Beet great care is required that they be not bruised or the top root broken, as when injured in either of those ways they cannot be cooked so as to maintain their nice colour, for the simple reason that they "bleed"; and not only does the loss of the juice affect them in the manner referred to, but spoils their flavour by robbing them of much saccharine matter that runs out into the water. This being so, the bulbs should be dug clean out by raising a spit of soil behind and then thrusting the spade down on the other side, when, by lowering the handle and pulling at the top of the Beet with the left hand, each one may be drawn out and laid aside till the whole are out of the ground. The next thing for the operator to do is to wring off the tops and place the roots in a barrow ready for wheeling off to a shed or cellar, in one or other of which places they should be packed out of reach of the frost. The way I have always found Beet to keep best is put into heaps or stacks with their crowns outwards, and the spaces between the roots filled with dry sand or earth, which prevents the air getting among them and causing them to shrivel, which contraction spoils them, as instead of being tender, juicy, and succulent, they are tough or hard in the fibre.

Carrots require precisely the same treatment both as to taking up and storing, and on no account should the tops be wrung or cut off close enough to injure the crown, for if they are that part is sure to rot, especially if the roots are pitted and get damp or warm, after which comes mould or fungus, and then they decay at a great rate. To prevent these evils dryness and coolness are essential, conditions that can be secured by storing in a well-ventilated shed.

Parsnips are so hardy that they take no harm in the ground, indeed, they are improved greatly by being left there, as frost sweetens them and makes them much milder in flavour. As, however, they are difficult to get up, when wanted, with the earth frozen hard, it is a good plan to dig them out and lay them thickly in rows, with their crowns just under the soil, when, should very sharp weather set in, they can easily be covered with a little litter, if any are likely to be required, while the frost lasts.

Some top and tail Turnips that are needed for winter use, but I prefer laying them in just as they are drawn out of the ground and burying the bulbs a few inches deep, leaving the tops on, as, when stored in that way, I always find the Turnips better when cooked. Topped and tailed they lose much of their juiciness and become strong, especially if kept for any time, but under the earth they remain plump and mild.

To store Onions there is no place equal to an open, airy shed, where they can be hung on nails, driven into the rafters or walls, as there the wind plays on them, dries their skins, and prevents them from rotting or growing. Before hanging or suspending them they should be bunched up into small parcels or roped, by securing the tops with matting, when, after making a loop, they may soon be slung on the nails.

Potatos should, if possible, be kept in a cellar, and not potted, as the covering of them up so close with straw and earth makes them eat strong and rank and spoils the best samples that ever were grown. The proper way is to lay the tubers on a hard, dry floor, but not over thick, and if there is danger of frost getting in they may be slightly covered with clean straw, which is also necessary, in some cases, to keep them dark and prevent greening of the skins, which exposure to light soon brings on, and unfits them for cooking. To stop sprouting, the cellar or shed the Potatos are in should be kept as cool as possible and the stock turned by the aid of a wooden shovel, which movement breaks off any shoots that are showing and retards or stops the formation of others. Samples for seed ought to be placed, in shallow boxes, and kidney kinds should only be one deep, and placed with the crown end uppermost, that the shoots may come free from obstruction.—*Alpha.*

EDWARD SANDERSON.

The annual recurrence of the Exhibition of the National—late the Borough of Hackney—Chrysanthemum Society, affords a fitting opportunity for giving a portrait of its genial and popular President, Mr. Edward Sanderson, of Harlesden Park, Willesden. He has filled this important office for nearly a quarter of a century. His tact, honest impartiality, sterling common sense, and consideration for difference of opinion, added to his high business capacity and geniality, have done much to ensure the success of the National Chrysanthemum Society, assisted by his able colleague, Mr. R. Ballantine, Vice-President, of South Hackney, and that prince of modern Secretaries, Mr. William Holmes. The *esprit de corps* which prevails among the Committee of the Society has greatly helped to secure for it full public confidence.

Of Mr. Sanderson we may state that his whole floricultural career, now extended over a period of nearly forty years, has been devoted to his first and latest love, the Chrysanthemum. He saw the formation of the Original Stoke Newington Chrysanthemum Society by Messrs. James, Holmes, and Tant, in 1846, and he tells how, having visited an exhibition at the famed Rochester Castle, when he first saw Chrysanthemums produced in exhibition form, he, in 1848, purchased at Warner's, Cornhill, his first dozen plants, when living in the Queen's Road, Dalston, then quite a rural district; grew them in pots out-of-doors, and when it was unsafe to keep them longer in the open-air, brought them within doors, and flowered them on a table in his drawing-room; and it is with glee that he recites how, in order to admit more light into the room, he ruth-

lessly broke a sunlight outside. The following year he grew his plants against the fence of the garden, and the then young aspirant for floricultural honours cut his blooms ten days before the show seeing frost imminent; he kept them during the interval in a dark cupboard, and was rewarded by taking a prize. This fired his new-born zeal to distinguish himself on the exhibition table—a zeal which age has failed to weaken, or custom satiate; for it is as inspiring now as it was when he scored his first memorable win, and it has served the worthy President in good stead, as cups and other tokens of victory, which embellish his residence, attest.

Being of active habits and good business capacity, he, as a member of the Stoke Newington Chrysanthemum Society, was elected on the Committee; subsequently became Secretary, Vice-Chairman, and Chairman of the Committee, and eventually President. In February, 1862, he was presented with a very handsome silver snuff-box (a present of such value as to be worthy of being handed down as an heir-loom) by the members of the Stoke Newington Chrysanthemum Society, for the very able manner in which he had for many years fulfilled the office of Chairman of the Society. Mr. Sanderson did not confine his exhibitions entirely to the shows of the Society with which he was more immediately connected. Years ago he was a competitor at the exhibitions of the South Essex Chrysanthemum Society, and he invariably took first prizes; but owing to the sudden collapse of the Society he did not receive a farthing of prize-money awarded to him at its last exhibition. The exhibitions of this Society were held at Stratford.

On the 21st of April, 1881, the valuable services Mr. Sanderson rendered to the Society were again acknowledged by the presentation of a very handsome illuminated missal, which, duly framed, adorns his drawing-room at Willesden. It sets forth that it was presented to Mr. E. Sanderson "by the members and friends of the Borough of Hackney Chrysanthemum and Horticultural Society as a mark of esteem and regard and in recognition of his long and valuable honorary services, he having been associated with the Chrysanthemum Society since its formation, and officiated as President for twenty years; and having also acted as President of the Horticultural Society from its commencement." This address, which is a superb work of art, is signed by fourteen of the leading members of the Society.

Looking back over the years that have intervened since he first exhibited Chrysanthemums, he remembers that he always showed Chrysanthemums at the exhibitions of his Society, and, though with varying success, he generally managed to secure a few good prizes. We have alluded to his residing at Dalston. Soon after exhibiting for the first time, he removed to Stoke Newington Green, and there bloomed his flowers in an erection with a glass roof and canvas sides. He then resided at Camden Town for a time, and while there won several silver cups. Eleven years ago he came to live at Willesden, where he cultivates his favourite flower with so much present success. It may be mentioned incidentally that Mr. Sanderson was in his day a noted racquet player; and hanging on the walls of his drawing-room is his portrait, presented to him by the Middlesex Amateur Racquet Club on November 8th, 1876.

Edward Sanderson.
President of the National Chrysanthemum Society.

At the present moment a visitor to his Willesden home is shown a moderate-sized glass-house, at the bottom of his somewhat circumscribed garden, containing some one hundred and sixty plants, mainly in 32-sized pots, comprising some forty-six leading varieties of the incurved section. He grows neither Japanese or Pompon varieties, for the simple reason that he has no room for them. Two things about these Chrysanthemums strike the visitor, one the marvellous wealth of foliage on his plants; large leaves so healthy and stout as to look like bronze, feathering the leading stem to the very soil; the other, that the plants having three and four, or more leading shoots bearing flowers of wonderful size and perfection. Through all stages these plants are his own handiwork; Mr. Sanderson is truly and essentially an amateur. He has spent almost a lifetime in studying the Chrysanthemum; and in his hands it is ductile and obedient as if it were a reasoning creature, bound to him by a bond of affection. The sum of his success is simply a series of small constant attentions, never neglected, and given at the right time. They could not be committed to paper as rules; they defy any attempt to construct a formula out of them. His cultural process is the conventional one—he obtains and strikes his cuttings in his house as soon as he can secure them after the plants have gone out of flower; in about six weeks they have rooted, they are then potted off singly into 60-sized pots, say about the middle of January; and by the middle of February they are placed in his cold frame; shifted from 60's into 32's in the middle of April; and finally shifted into their blooming pots about the 20th of June. During the summer they are stood on a border having a south-west aspect, and carefully attended to in the matter of watering and cleanliness. When the buds are forming, and up to the time that they have slightly expanded, some extra stimulus is given; after that they are watered with pure water. His compost is a rough and ready one—a top soil out of a field that has laid by and become decomposed; with a little cow-dung mixed with it.

Mr. Sanderson has never attempted to raise seedlings, and during all the years that he has grown Chrysanthemums he has never had half a perfect sport. This year there has shown itself among his flowers what he takes to be a sport from Empress of India, a very fine blush flower with what seems to be a broader and more massive petal; but which may yet prove to be not sufficiently distinct.

Those of our readers who are members of the National Chrysanthemum Society, and especially those who have seats on the Committee, will know how to appreciate their honoured President at his true worth. He has proved an excellent guide, counsellor and friend. In times of perplexity, of non-success, and difference of opinion, his counsels have also proved wise, and conciliatory; and his guidance of the Society has been that of a trusted pilot who never fears to face danger; and never despairs but that the course of the vessel will be directed into safe waters.

FRUITS.

Hardy Fruit Cultivation: Selection of Trees.—Having chosen the most favourable position, aspect, and soil for the orchard, and I would again urge the necessity of not allowing any trivial or erroneous reasons to interfere in making this selection, because if well arranged and judiciously planted, the orchard will eventually prove to be one of the most profitable investments that can be made either by the farmer, the gardener, or the cottager, and I cannot avoid remarking here, that there are also enormous tracts of uncultivated railway embankments, although the Railway Companies have recently done much towards their improvement by cheap letting to their *employés* and others, still there are thousands of waste acres, which would, from the varied nature of the soils of which they are constituted, and the particularly favourable sunny banks which they expose, be especially suitable to the growth of many kinds of fruit-trees. These slopes it may be argued, do not afford sufficient protection against robbers to admit of fruit being grown safely, but it would require on the part of the proprietors, but simple restrictive laws to make them as safe as our home orchards or allotment gardens. The greatest temptation to pilferers arises when scarcity prevails, while abundance and cheapness have an opposite tendency. I have often looked at the sunny slopes in my neighbourhood, and wondered how many tons of Strawberries they would annually produce with the most trivial preparatory outlay, or after expense in cultivation. Having selected the best site, the next most important question is *what* to plant?

THE APPLE is, perhaps, all things considered, the most profitable fruit to cultivate in this climate, simply because it is more hardy than most other kinds, and there is a large and ever increasing demand for its fruit. In 1883, in addition to the quantity grown in this country, there were 2,251,925 bushels of Apples imported, the estimated value of which was £553,448. If instead of importing this amount, the additional quantity could be home-grown, there would be a decided gain, and no doubt a much larger quantity would then be required, as they could be produced and sold at a much lower rate than imported fruit. If it be the intention to grow market fruit only, or for home use, or for either purpose, it will be found more convenient and advantageous to select a few good, free-bearing, popular varieties, that will ripen at different periods, for which there is always a fair demand, rather than choose too many sorts. The latter is an error often committed in planting new orchards, with the result, that many of them afterwards prove comparatively valueless.

It is undoubtedly true that fancies and fashions change in respect to fruit, as in other things—the variety for which there is a great demand at the present time, may scarcely be required a few years hence, still there are a few sorts which are so superior, as to hold their position against all new introductions, and these I would recommend to be planted in greater proportion, especially those which bear a local fame, as this often arises from the fact that the soil or situation is especially suited to those varieties. It is also very desirable to plant a much larger proportion of those varieties which ripen from November through the winter and spring months, rather than the earlier kinds. In the lists given, there are only such varieties mentioned as have proved free-bearing and excellent in quality.

As these remarks are intended chiefly for those readers of THE GARDENING WORLD who have hitherto scarcely attempted fruit cultivation, amongst whom, I venture to hope, the special attention of the provincial farmers will be attracted, because they not only have abundant facilities for establishing orchards which, if well-planted and cultivated, the produce would yield a handsome profit if sold in the provincial towns, even at half the prices now attained for foreign fruit. If grown in large quantities, they would realize even greater profit if disposed of in London and other large cities. As the vegetable farms around London are no longer able to supply the vast, yearly increasing demand for vegetables, at reasonable prices, it is found necessary to cultivate them largely in the distant provinces where land, labour, and other expenses, except carriage, are not nearly so heavy, and even the extra cost for carriage is far out-weighed by the other advantages. As with vegetables, so with fruit. If the proprietors of land, and more especially the farmers who occupy suitable farms for fruit-growing, instead of being satisfied to see the thousands of acres, as they now exist, of good land cumbered with wretched and comparatively worthless Cider. Apples, would turn their attention seriously to the skilful cultivation of choice fruits, they would be taking a step in the right and safe direction.

LIST OF DESSERT APPLES.

Irish Peach	Season:	August.
Devonshire Quarenden	,,	September.
Summer Golden Pippin	,,	October.
King of the Pippins	,,	November.
Cox's Orange Pippin	,,	December to February.
Braddick's Nonpariel	,,	December to April.
Claygate Pearmain	,,	December to March.
Court-Pendû Plat	,,	December to April.
Margil	,,	November to April.
Northern Spy	,,	December to May.
Adam's Pearmain	,,	February.
Sturmer Pippin	,,	February to June.

LIST OF KITCHEN APPLES.

Lord Suffield	Season:	August.
Stirling Castle	,,	September.
Beauty of Kent	,,	October.
Betty Geeson	,,	November.
Wellington	,,	December.
Blenheim Orange	,,	November to January.
Warner's King	,,	November to January.
Kentish Fillbasket	,,	November to January.
Tower of Glammis	,,	November to February.
Winter Hawthornden	,,	December.
Alfriston	,,	November to April.
Brabant Bellefleur	,,	November to April.

Scribo.

Keeping Grapes.—Up to the present time it has been a remarkably favourable season for the ripening and keeping of late Grapes, which ought now to be in good order for hanging, as, instead of being watery and immature, the sun has done much of late in finishing the berries and turning the crude juices into saccharine matter. Hamburghs, however, having such thin skins, cannot be expected to keep much longer, as, under the best of management, they rarely remain sound till Christmas, and as they perish so quickly when they do begin to go, especially if the weather sets in wet, they should be used before any others, but, so long as they are on the Vines, every effort should be made to regulate the air of the house they are in and have the atmosphere dry and buoyant, without which damp is sure to condense on the berries and cause them to rot. It is just the same with the other kinds, although, at present, they are affected in a less degree, and, therefore, gentle fires should be kept burning that the water in the pipes may be maintained just warm, but at the same time the ventilators must be slightly open that any moisture arising may be driven out, or mischief will accrue from the heat by making the internal air more stuffy and close. Where there are only a few Grapes hanging in a vinery it is much better to cut and bottle them, as they may be kept longer and in far better condition in a room, as there the changes and fluctuations of temperature are not so rapid and great as they are under a glass roof, where the sun sends the thermometer up 10 degs. or 15 degs. in a few minutes, and damp finds its way in with the air. The cooler the room is where the Grapes are kept the better, and, if any heat is applied, it should only be what is absolutely necessary to expel damp or prevent it getting in, as heat soon causes shrivelling and a gradual drying up of the berries. The bottles to put the end of the wood in should be suspended by the neck at a sharp angle to throw the bunches clear, and the water they are filled with have a few pieces of charcoal to keep it sweet and pure.—*Alpha.*

IT is the intention of the South-Eastern and the Chatham and Dover Railway Companies to withdraw their special hop tariff, and to substitute a lower scale of charges for the carriage of hops from Kent and Sussex to London. The reduction will amount to about 9*d.* per pocket.

FLOWERS.

Seasonable Work in the Plant-houses.—There is, in almost all establishments, an extra demand for cut flowers at Christmas, and it therefore requires a little forethought and management to secure a sufficient supply to meet the demand. Owing to the warm sunny weather which we have had this autumn the Chrysanthemums will be nearly over. With us such late sorts as Princess Teck and Ethel, although kept in the coldest position available, are fast coming into flower, and it is doubtful if the best flowers will keep. If we get damp, foggy weather, it will be necessary to give just sufficient fire-heat to dry the atmosphere occasionally, as the flowers go off very quickly if the damp settles on them. Primulas, both the double and single varieties, will be benefited by giving them a little liquid manure occasionally as they begin to come into flower, and the double varieties require careful watching to prevent damping. Cyclamens are also liable to damp, and should be looked through regularly, and at the same time a sprinkling of Clay's fertilizer might be applied with advantage. Christmas Roses (Helleborus niger), although they will hardly require any extra warmth to have them in flower at the proper time, yet it would be advisable to have some in pots or boxes so as to have them at hand in case of severe weather setting in. Zonal Pelargoniums, if required to flower successfully in winter, must be grown in a higher temperature than is generally given them, but it is essential that they should have plenty of air as well as heat. Azaleas, Fielder's White, or the old white variety, may be had in flower at Christmas without much forcing, especially if the plants have been forced in previous years. Richardia æthiopica is another useful plant to have in flower during the festive season, and plants that made their growth early should be selected and put into heat. They may be watered liberally with manure water.

New Sweet Peas.—Thanks to Mr. Henry Eckford and others, we have recently had presented to us some beautiful new forms of Sweet Pea. It was at first thought by some that they were not sufficiently distinct from existing varieties, but late experience proves that they are in the main real novelties, and valuable additions to our list of fragrant annual Peas. Last year Messrs. Hurst & Son, of Houndsditch, sent out a charming variety named Princess Beatrice, the colour of a rich and beautiful carmine Rose, shaded with lighter and darker tints, beautiful in every respect, and quite distinct. One of Mr. Eckford's varieties, Bronze Prince, a very fine form of the black Sweet Pea, was also distributed last year. This autumn Mr. William Bull, of King's Road, Chelsea, is sending out the following beautiful kinds also raised by Mr. Eckford, viz., Grand Blue, a splendid variety, the intense deep purplish-blue standard being in charming contrast with the pale blue centre and wings; Miss Ethel, a pretty and charming variety, has a standard of a delicate shade of pink, slightly flushed with carmine the wings delicate blush, very pretty indeed; and Queen of the Isles, very distinct and handsome, the large and stout standard being bright scarlet flushed and mottled with white, the wings flaked and margined with rosy-purple. A number of amateurs who grow Sweet Peas do not succeed nearly so well with them as they might. They sow them too thickly, and in too poor a soil. A gardener who grows Sweet Peas for cutting sows the seed in rich holding soil, and never too thickly, though quite thickly enough, the result being that the plants grow strongly and flower finely and continuously. But there are many who sow in poor ground, the result being a poor growth and poverty of bloom, and then they say that the strain is not a good one. Thick sowing means a starved growth, for there is not room for the plants to develop. If any amateur gardener will adopt the practice of sowing seeds thinly, say a foot apart, he will be astonished how freely the plants will branch, they will throw out a great number of shoots, and all will produce flowers.

And if anyone will try the experiment of sowing a few seeds in early ground in an open sunny spot in the autumn, they will, by means of a little care, be able to winter the plants successfully, and in early summer, some time before the Sweet Peas sown in spring are in flower, they will be able to cut pretty blossoms with which to decorate their homes. The moral of this article is—Grow Sweet Peas well. Give them good soil and plenty of room, and they will repay the cultivator fifty-fold.—*Quo.*

Winter Flowering Carnations.—Grateful alike to the sense of sight and smell is the rich houseful of these in full bloom at Messrs. Veitch's Royal Exotic Nursery, Chelsea, where their culture is well managed and considered so simple that it is a wonder more do not grow these useful plants. The raising of stock for next year's flowering at Chelsea begins by putting in cuttings now, and continuing until enough is struck. When rooted the plants are potted into single pots and kept in a cold house until spring, when they are potted into large 48-sized pots. As soon as the early summer sets in, they are turned into cold pits, the lights being put on at night until the hot weather comes, when they are left quite open, the plants being plunged in cocoa-fibre refuse to guard them against being injured by drought. In September they are removed to a cold airy greenhouse, where they are now, as usual at this season and all through the winter, making a fine show. The most telling varieties appear to be :—Andalusia, primrose; Pride of Penshurst, bright yellow; Bright Phœbe, scarlet; Valencia, fringed crimson; Laura, blush, fringed; Miss Jolliffe, blush; Fulgore, red; La Belle, white; Renown, slate and scarlet; Mrs. Keen, dark crimson; Iona, blush flake; Lady Macbeth, flesh; Caxton, rose; Faust, rose and purple flake; Thos. Wallis, scarlet and crimson flake; Sir Evelyn Wood, plum colour; Whipper-in, scarlet flake; Hermine, white; Le Favori, bright rose; Gloire de Nancy, white; Princess Stephanie, pure white; and Elsie, sulphur yellow.

Mr. Turner also grows a large quantity of these valuable free-flowering and sweet-smelling flowers. He, too, propagates early, and grows them in good loam, well-decayed manure, and sand. At Slough are also raised a vast number of seedlings, in which interesting work the veteran, John Ball, appears to be as successful as he has been with the Alpine Auricula. The strain is undoubtedly a fine one, and kept up to a high standard by rigorously discarding all but the finest and all but those which prove to be truly perpetual bloomers. The following varieties we noted a few days ago as being specially worthy of recommendation :—Mrs. Llewellyn, bright rose, and dwarf bushy habit; Field Marshal, deep scarlet, dwarf and free; Negro, dark maroon; Flambeau, buff ground, heavily edged with red; Juliette, deep rose; Whipper-in, a fine scarlet flake; Lord Rokeby, bright scarlet; Seraph, fine deep rose; Rufus, also scarlet, and one of the best; Mrs. Dix, buff ground, edged with scarlet, not yet sent out; Worthington Smith, scarlet; and King of the Scarlets, a flower of great substance and very pretty, and which has also not yet been put into commerce.

Phlox Drummondi.—This beautiful half-hardy annual, said originally to have come from Texas, and introduced about the year 1835, is one of the most useful bedding plants we have, being easy to raise from seed in spring, dwarf in habit of growth, and the most floriferous of all plants I know of. Continuing in flower late into the season, it is a most useful subject to cut from at this time for filling glasses and vases for the dwelling-rooms, and the flowers have the further merit of lasting a long time when cut, besides being wonderfully varied in colour. At the present time (November 10th) the beds are as gay and as brilliant as possible; we could cut a barrowful of blooms, whereas the beds of Heliotropes, Dahlias, both double and single, Ageratums, and some other things have all been cut down by frost. It is remarkable, too, what a lot of dashing about by rain Phlox Drummondi will stand, for when the wind dries up the moisture they look as bright as if they had been under cover. I have used them for several years largely for cut purposes in the autumn months, and have had them fresh and bright till nearly Christmas.—*T. W., North Norfolk.*

VEGETABLES.

Carter's Solid Ivory Celery.—This Celery, which I have this year for trial, will, I believe, turn out to be something very much wanted and worth growing, especially by amateurs and those who have not too much time to spare. It is of somewhat the same character as the new American sort "Henderson's White Plume," sent out last year. It is very dwarf, but thick and solid-looking, and the hearts coming quite white, so that very little earthing up is needed. I have not yet lifted any, as we use the Sandringham for the earliest lot, but I think from its appearance that it will be a great boon to many.—*R. Stevens, Paston.*

Jerusalem Artichokes.—There seems to be a general consensus of opinion that the Jerusalem Artichoke is an excellent and delicious vegetable, when properly cooked and accompanied by the inevitable roast mutton, at least if the quantity annually consumed, and the prices they command may be taken as sufficient evidence. Their origin, however, is by no means so clear, judging from the various accounts to be found in books. There must always be a certain amount of interest in tracing back to their wild originals our improved races of cultivated plants, and thus being able to realize the changes which have been induced by that process of selection which is so well known to the cultivator. The origin of the so-called Jerusalem Artichokes—Sunflower Artichokes they might well be called, for the plant has nothing to do with Jerusalem whatever; that term, however strange it may seem, being a corruption of the Italian *Girasole, i.e.*, a Sunflower—but whatever the name, their origin has, until quite recently, been somewhat vague. In the American *Journal of Science and Arts*, for 1877, is a paper, by Mr. J. Hammond Trumbull and Dr. Asa Gray, entitled "Notes on the History of Helianthus tuberosus"; from which we condense most of the following remarks.

The first trace of the Jerusalem Artichoke in Europe appears to be in the second part of Fabio Colonna's *Ecphrasis minus cognitarum stirpium* (cap. 6), published at Rome in 1616. It is there described as "Aster Peruanus, tuberosa radice"; otherwise "Solis, flos Farnesianus," from a plant growing in the garden of Cardinal Farnese. It was introduced to England about 1617. In that year, Mr. John Goodyer, of Maple Durham, Hampshire, "received two small roots thereof, from Mr. Franquevill of London," which were planted and enabled him, before 1621, to "store Hampshire." He wrote an account of the plant, under date of October 17th, 1621, for T. Johnson, who printed it in his edition of *Gerarde's Herbal*, 1636 (p. 753). Before this the species had been figured and described by J. Parkinson, in *Paradisus Terrestris* (London, 1629) as "Battatas de *Canada*" and in his *Theater of Plants*, 1640 (p. 1383), he has a good figure, without description, under the names "Battatas de Canada, the French Battatas, or Hierusalem Artichoke." Johnson, in *Gerarde* (p. 753, as quoted above), refers to Parkinson's description, and gives the name as "Flos Solis Pyramidalis, Jerusalem Artichoke," and remarked it "grows well and plentifully in many parts of England."

Coming now to the native country of the Artichoke, we find that Champlain (*Voyages*, ed. 1632, p. 84) when in New England in 1605-6, found that the Almouchiquois Indians, near Point Mallebarre (probably Nauset harbor) had "force des racines *qu'els cultivent*, lesquelles *ont le goût d'artichaut.*" Lescarbot (*Hist. de la Nouv. France*, 1612, p. 840) evidently alludes to these same roots when he says that in the country of the Almouchiquois (*i.e.*, New England, west and south of Maine), a certain kind of roots are grown, "*grosses comme naveaux*, très excellentes à manger, ayans *un goût retirant aux cardes*, mais plus agréable, lesquelles plantées multiplient en telle façon que c'est merveille." These he thinks must be the "Alfrodilles" described by Pliny. Sagard-Theodat (*Hist. du Canada*, 1636, p. 785), mentions the "roots that we [the French] call *Canadiennes* or *Pommes de Canada*, and that the Hurons call *brasqueinta*, which are not very common in their country. They eat them raw, as well as cooked." It is very plain that these Huron roots were Jerusalem Artichokes.

Mr. Trumbull observes, "I find no mention of the Artichoke in Virginia, or the southern colonies, before it was cultivated by Anglo-Americans. The author of *A Perfect Description of Virginia*, printed in 1649, says that the English Planters have (amongst others) 'roots of several kindes, Potatoes, Sparagus, Carrets, ... and Hartichokes.' Beverley (*Hist. of Virginia*, 1722, p. 254), mentions 'Batatas Canadensis or Jerusalem Artichoke,' as planted by some of the English, for brewing beer. Hariot (*Brief and True Report*, &c., 1585), mentions as found in Virginia '*Kaishuepenauk*, a white kind or roots about the bignes of hen egs and nere of that forme: . . . the inhabitants vsed to boile and eat many.' These may be 'Virginia Potatoes,' but their name, if Hariot recorded it correctly, means 'Sun-tubers.' The etymology is perfectly clear. It ought to belong to some species of Sun Flower, and if to any to *H. tuberosus.*"

C. Bauhin in his *Pinax* (ed. 1671, p. 276), notes that the "Helianthemum Indicum tuberosum" is called "Chrysanthemum *é Canada*, quibusdam. Canada et Artischoki sub terra, aliis Gigantea, Burgundis." He also identifies it with a plant described in his earlier *Prodromus* (p. 70), as "Chrysanthemon latifolium Brazilianum," from a dried specimen sent to him from the garden of Contarini.

Linneus, in his *Hortus Cliffortianus*, gives the native country as "Canada," but in his later *Species Plantarum* says "Habitat in Brasilia."

Alphonse De Candolle (*Geogr. Bot.*, II., p. 824), thinks the plant is not a native of Canada proper, nor yet of Brazil or Peru, but probably of Mexico or the United States, adding that Humboldt did not meet with it in any of the Spanish colonies.

Dr. Asa Gray in his *Synoptical Flora of North America* (II., p. 280, 1884) says the plant occurs in "moist alluvial ground, from Upper Canada to Saskatchewan, and south to Arkansas and middle parts of Georgia. Was cultivated by the aborigines, and the tubers developed; now widely dispersed under cultivation." Previous to this Dr. Gray had expressed the opinion that Helianthus doronicoides was the wild original of the cultivated H. tuberosus. This was in some measure due to his having received, from Dr. Short of Kentucky, some small tubers, said to be H. doronicoides; and which under cultivation produced larger tubers, similar to H. tuberosus in flavour, though much coarser. The appearance of the plant, when growing, was also almost indistinguishable. He now shows that these were really wild Artichokes, and that the true H. doronicoides is a different plant.

From the above somewhat disconnected history we may make the following inferences :—That Helianthus tuberosus, or the so-called Jerusalem Artichoke, is widely diffused in North America, from Canada to Arkansas and Georgia; truly wild in some localities, and perhaps escaped from cultivation in others. That from prehistoric times the Indian warriors have used them as an article of food, and as their rude civilization advanced have cultivated, and thus improved them; long before the pale faces disturbed their happy hunting-grounds. That some of the early European travellers found them in the Indian settlements, and brought them to Europe; whence they quickly found their way to England, in 1617; since which time they have been largely cultivated as an article of food. We also gather that the early English colonists took out with them various seeds and roots to their new home across the Atlantic, and amongst them the Jerusalem Artichoke, thus conveying it back to its native home. And we may dismiss the reputed Brazilian, Peruvian and Mexican *habitats* with the remark that even if they have ever been there they were doubtless first introduced from North America to those places.

We may well conclude with the following note from Gerarde (*Herbal*, ed. 1636, p. 754) :—"The roots are dressed divers wayes, some boile them in water, and after strew them with sacke and butter, adding a little ginger. Others bake them in pies, putting Marrow, Dates, Ginger, Raisons of the sun, Sacke, &c." Whether a subsequent remark, respecting their being better suited for the food of hogs, may be attributed to the mode of cooking, we are unable to say.—*X.*

THE

Orchid Growers' Calendar.

Orchids at Major Lendy's.—Sunbury House being within a stone's throw of Sunbury Weir, on the Thames, it is but reasonable to suppose that Orchids ought to thrive well there and a visit proves that such is the case, for considering that the collection excludes nothing that is pretty, no matter how small flowering it may be, nor any plant on account of its being considered a bad grower, the Sunbury House collection may fairly be described as being composed of some healthy specimens, many of them being unique. Every collection has its specialities, and Major Lendy's shines principally in Phalænopsis, Odontoglossums, and Cattleyas.

Of Phalænopsis there is a grand lot of healthy plants embracing all the obtainable species. At present in flower are many plants of P. amabilis, and some P. grandiflora, as well as P. violaceum, P. cornucervi, P. Lowii, P. rosea, and P. rosea leucaspis. In the same house is a fine show of Cypripedium concolor, C. niveum, C. Spicerianum, and other warm-house Orchids, and a fine pan of Anœtochilus Lowii which has borne hundreds of its small flowers on a few tall spikes.

The large Cattleya or intermediate-house is now well-known for its varied collection of sturdy Cattleyas and Lælias, and for the curious collection of Oncids, whose long flower-spikes are so effective when trained over the arches and other supports of the house as they are here, as well as for the many *curios* there to be found. The flowering end of the house has for a centre-piece a fine Vanda cœrulea with a spike of fifteen large, blue flowers—a great beauty; some smaller plants of it being around, together with well-bloomed specimens of Lælia Perrinii, Lycaste Deppei, L. aromatica, Vanda suavis, the curious Catasetum ochraceum, and some well-flowered Dendrobium formosum giganteum.

The new Odontoglossum-house is a great acquisition. It is a roomy lean-to, 20 ft. in width, built against the long span house in which the O. vexillariums, &c., are grown. The house is a light comfortable-looking one, and the plants seem quite at home in it. It contains a great quantity of Odontoglossum Alexandræ, O. Pescatorei and hybrids, of which but few are now in flower, but enough is already in bloom to make a fair display, when aided by the good examples of Oncidium varicosum, O. ornithorhynchum, O. Forbesii, Odontoglossum hebraicum, O. Uro Skinneri, O. blandum, the autumn flowering O. vexillarium, Lælia pumila, Burlingtonia decora, &c. Major Lendy is continually making improvements, and he considers the matter of perfect top and bottom ventilation in the houses to be of the first importance to the Orchids.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

Kindly insert my second list of subscribers. You will observe that I have more than doubled my first week's work. Who dare say Heaven is not ready to help gardeners, if they will only wake up and try to help themselves?

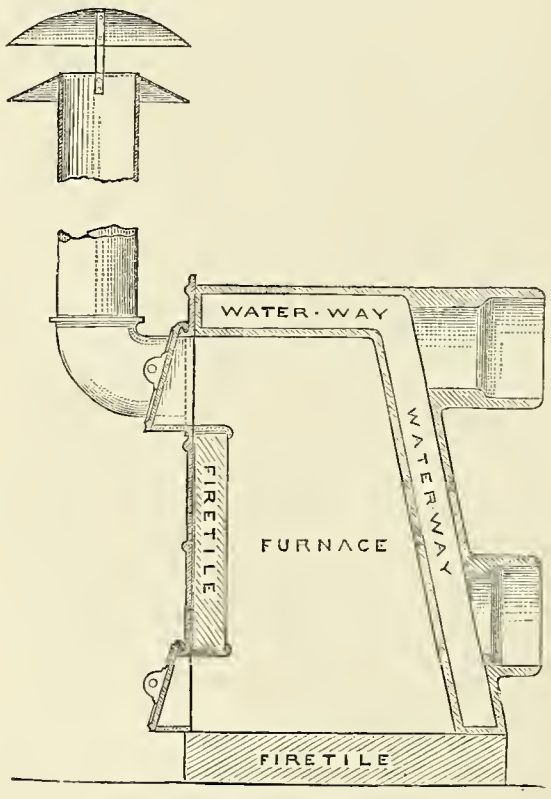
	£	s.	d.
Mr. R. Dawes, Gardener, Temple Newsam, Leeds	0	10	6
Miss Pindar, Mainstone, Ledbury	1	0	0
Mr. Bowen, Gardener, Mainstone, Ledbury	0	5	0
Rev. J. Buckle, Aspperton, Ledbury ...	0	10	0
C. Riley, Esq., Putley Court	1	0	0
C. Lea, Esq., Parkfield, Worcester (second donation to this fund)	5	0	0
J. D. Perrins, Esq., Great Malvern ...	5	0	0
Lady Elizabeth Biddulph, Ledbury ...	1	0	0
Basil Masefield, Esq., Ledbury	0	5	0
Sir Joseph Bailey, Bart., M.P.	1	1	0
A. Buck, Esq., Worcester	0	5	0
Mr. A. Ward, Gardens, Stoke Edith ...	0	10	0
C. A. Hewitt, Esq., Hopend, Ledbury ...	1	0	0
Donations on First List	17	0	6
	£34	7	0

W. Coleman, Eastnor Castle, November 12th.

[We have much pleasure in adding two guineas to Mr. Coleman's list.—*Ed.*]

FAWKES'S IMPROVED BOILER.

Mr. Fawkes, of the firm of Crompton and Fawkes (late T. H. P. Dennis & Co.) of Chelmsford, has recently introduced several improvements into hot-water boilers, which, with the aid of the annexed illustration, a section of the boiler, may be thus described:—The boiler has a flat front so that it can be easily built into a wall of a greenhouse, similar to some other boilers; in this way the feed door, door for regulating draught, and smoke flue are all outside the house, and consequently no fumes can injure the plants. The front is backed by a fire tile, by which means excessive radiation of heat into the open-air is prevented. The boiler stands on a flat fire tile, in order that the true slow combustion result may be obtained, as the air which is required to maintain combustion is only admitted in front of the fuel instead of underneath, so that complete control is maintained over the rate and manner of combustion. Not only so, but in consequence of no ash-pit being required, a boiler occupying the same space as other ordinary boilers, will of course contain a much larger furnace area and heating capacity. As will be seen, the back of the boiler is inclined, so that there is a greater tendency for the hot gases to impinge upon the



FAWKES' IMPROVED BOILER.

water-way, than if the back were parallel with the front. In addition to this, by a very slight modification of the ordinary smoke flue cap, Mr. Fawkes prevents all possibility of down draught. The boiler has also the merit of being extremely cheap.

FLORICULTURE.

Chrysanthemums at Slough.—Mr. Turner has probably never had a finer display of Chrysanthemums than this season fills three of the houses in the famous nursery. The large ridge and furrow greenhouse is filled with Japanese and large-flowered varieties, the former largely predominating, and by their strange fantastic forms and brilliant colours making a fine contrast with the more regular-shaped and less brightly tinted section. The Camellia-house contains a noble bank of flowers, sloping from back to front, and resplendent with monster blossoms of the gayest colours. The well-known Rose-house, from which so many triumphs of cultural skill have gone forth to do battle for the great florist, is this season better arranged than heretofore, the long banks of flowers on either side of the centre path having been sunk some 12 ins. or 18 ins. lower, so as to bring the blooms well under the level of the eye—a very great improvement.

Mr. Turner has a very complete collection of sorts, and grows about 1,200 plants for his annual show. White varieties, specially grown to provide cut flowers for Christmas, are also a speciality here, but if the mild weather continues, it is doubtful if they will not this season be over before they are wanted. The Slough collection this year contains many of the older sorts, which had somewhat dropped out of the lists, especially in the reflexed section, which is a move in the right direction, for there is no gainsaying the beauty of most of them, and the public taste leans towards the Japanese and reflexed flowers in preference to the incurved section.

Jean d'Arc, a new incurved flower, sent out last year, is very pretty, white with a shade of blush; Eve, also white with a golden centre, is seen in fine form; as is Bendigo, the fine pure yellow sport. George Stevens, sent out last spring, is very good, crimson-chocolate, slightly incurved in the centre, with the back of the petals yellow. The new Lord Alcester, a fine incurved primrose sport from Empress of India, also proves a sterling novelty. Crimson Velvet is an old sort, but well worth growing for its rich crimson colour. The fine bronzy-hued Lord Wolseley, a sport from Prince Alfred, claims admiration for its fine large incurved blossoms. Chevalier Domage, one of the brightest of yellows, is a fine old reflexed variety. Mount Etna is a red Pompon, or rather we should say of the lately fashionable crushed-strawberry colour, and very useful as a mid-season flowerer. Among the Anemone-flowered varieties, Fleur de Marie may be noted as the best white, and a good one to grow for late work. A very pretty flower is Ile Japonaise, a Japanese variety with pale purple-lilac blossoms, yellow in the centre. Madame Blanche Pigmy, also Japanese, is a fine white for cutting, as when it gets old it does not show its centre like Elaine.

CHRYSANTHEMUM SHOWS.

The National.—When the executive body of the late Borough of Hackney Chrysanthemum Society decided to reorganize that thriving association of Chrysanthemum lovers on the basis of a National one, and thus to considerably extend their sphere of operations, they could scarcely have anticipated that their first show at the Westminster Aquarium, under the new regulations, would have so completely, as it has done, confirmed the wisdom of the step they have taken. The re-organization of the Society has not only brought a considerable increase of subscriptions into the Society's coffers, but has also brought to the Society's Show a larger number of exhibitors, with the result that a better Show than that held on Wednesday and Thursday last has never been seen in the metropolis.

The limited space at our command precludes the possibility of our giving anything like full details of this admirable Exhibition, so that in these remarks we must confine ourselves to those features which seemed most to attract attention.

In the section devoted to Pot Plants, the highest prizes were given in a class for the best arranged group covering a space of 100 square feet, and the highest award was won by Mr. Harding, gardener to J. Starling, Esq., The Chestnuts, Gunnersbury, the Treasurer of the Society, with a very fine bank, consisting almost exclusively of Japanese varieties, good in quality generally, and well set up. Mr. Starling's gardener was very closely run for the premier position by a member of the Committee, Mr. N. Davis, Lilford Road, Coldharbour Road, Camberwell, who, as became so good a florist, showed in his group by far the larger proportion of incurved varieties, all of excellent quality and effectively grouped.

Of the trained specimens of Large-Flowered Varieties, we may safely say that in the days when Adam Forsyth used to come out so strong, better specimens and more of them were seen than were on view here, but we do not say this with a view to disparage the specimens both of large-flowered and Japanese

varieties, with which Mr. Monk, gardener to — Fowler, Esq., Forest House, Leytonstone, secured two first prizes, and which were in all respects first rate. Of the first prize group of six Pompons, however, we have nothing but words of the highest praise to bestow, so remarkably well grown and well-flowered were the huge specimens, 6 ft. across, shown by Mr. Reeve, gardener to — Elliott, Esq., Hadley Green, Barnet. As other growers may like to know what sorts can be grown to the dimensions of these plants, we may say that the varieties were Rose Andromeda, La Vogue, Lilac Cedo Nulli, Fanny, Sœur Mélanie, and Marguerite De Coi.

The centre of interest in the Cut-Flower division was found in the class for forty-eight blooms, twenty-four incurved and the same number of Japanese, the first prize in which was £15, the second £7, and the third £4. As was to be expected, such handsome prizes as these brought out a strong competition, and it required very close scrutiny indeed before the judges could say which were the best of the two leading collections. They did, however, eventually award the premier prize to Mr. Herrin, gardener to T. N. Hibbert, Esq., Chalfont Park, Slough, and the second to Mr. Gibson, gardener to Mr. J. Wormald, Esq., Morden Park, Surrey, and the general opinion seemed to be that the judgment was right. In both collections the flowers were of great size without being coarse. Mr. Herrin had of Japanese, Comtesse de Beaurepare, Fair Maid of Guernsey, Madame C. Audiguer, Hiver Fleur, Thunberg, Fanny Bourchalet, J. Delaux, Soliel Levant, M. Ardenne, Duchess of Albany, Triomphe de Chatelet, Roseum superbum, Album plenum, Madame Monhise, F. A. Davis, and Baronne de Prailly. His incurved varieties were Jean d'Arc, Lord Wolseley, Venus, Barbara, White Venus, Golden Empress of India, Lady Hardinge, Empress of India, Lord Alcester, Cherub, Refulgens, Mrs. Heale, Jardine des Plantes, Princess Teck, John Salter, Prince Alfred, and Golden Empress.

The next most important competition took place with twenty-four Incurved Varieties, and here the President, Mr. Edward Sanderson, came in first with perfect examples, amongst others of Alfred Salter, Mr. Brunlees, Miss Mary Morgan, Jardin des Plantes, Emily Dale, Hero of Stoke Newington, Queen of England, John Salter, Barbara, Golden Eagle, &c. Mr. G. R. Wildman, Oaklands, Grove Road, Clapham Park, was a good second. Mr. Berry, gardener, Roehampton House, Roehampton, beat the President with eighteen incurved blooms; while Mr. Herrin was again first with a dozen blooms, four each of incurved, Japanese, and large anemone-flowered varieties; while the highest award for six blooms of any incurved variety was taken by Mr. Wills, gardener, The Firs, Bassett, Southampton, with wondrously fine examples of the Primrose-coloured Lord Alcester. In the corresponding class for one Japanese Variety, Mr. C. A. Anderson, Waverley Abbey, Farnham, was first with splendid specimens of Madame C. Audiguer.

In addition to the remarkably good show of Chrysanthemums, there was also a large and extremely good display of vegetables shown in competition for liberal prizes given by Messrs. Sutton & Sons, of Reading, and Messrs. Edward Webb & Sons, Wordsley, and also a nice show of Grapes, Apples, and Potatos. The Messrs. Sutton's prizes were won by Mr. J. May, gardener to Captain Le Blanc, Northaw House, Barnet; Mr. A. Miller, gardener to W. H. Long, Esq., Rood Ashton; Mr. C. W. Howard, Bridge, Canterbury; Mr. A. Waterman, gardener, Preston Hall; and Mr. G. Woodward, Bland's Farm, Isleworth. Mr. Millar was first; Mr. C. Waite, Glenhurst, Esher, second; and Mr. May, third, in the Messrs. Webb's competition. The Grape prizes were well contested, and with a collection of twelve bunches Mr. Pratt, Longleat Gardens, Warminster, had no difficulty in securing the first prize, his large and well-finished samples of Lady Downes, Muscat of Alexandria, and Black Alicante taking a strong lead of all the others. Mr. S. Castle, West Lynn, was second, and Mr. Howe, gardener to H. Tate, Esq., Parkhill, Streatham Common, third. Mr. Howe's Black Alicantes were first in the Single Dish Class for Black Grapes; and Mr. Pratt's superb Muscat of Alexandria took the lead in the White Class.

For a Dozen Dishes of Potatos the prizes went in the order named to Mr. C. W. Howard, Mr. R. Dean, Ealing, and Mr. C. Osman, South Metropolitan District Schools. Mr. Dean, Mr. Howard, and Mr. Ross secured the honours for Six Dishes; Mr. Howard, Mr. Osman, and Mr. May taking Messrs. Hooper's prizes; and Mr. Herrin, Mr. Howard, and Mr. Tom Tooley, the prizes given by Mr. R. Dean.

Ealing.—Amongst the earliest of our series of autumn shows, in all of which the Chrysanthemum plays so important a part, the very pretty and always interesting show at Ealing takes front place. Held in the elegant Lyric Hall on November 5th, earlier than usual, yet a capital show of flowers was seen, especially in the Open Class for twenty-four cut blooms, in which Mr. Strong, of Wellington College, Berks, and Mr. C. Herrin, Chalfont Parks, Bucks, were first and second respectively. Mr. Strong was rather best in the opinion of the judges with incurved kinds, but Mr. Herrin had far the best Japanese, for the class comprises two-thirds incurved flowers and one-third Japanese. Yet the former in Mr. Strong's stand were rather uneven, some blooms being very fine and others rather small, whilst Mr. Herrin's blooms, if none were giants, at least were all even. We should like to see this Open Class, which is, of course, a very attractive one to visitors, divided another year into one for twelve incurved, and another for twelve Japanese. From the technical point of view, of course, the incurved flowers are much the best. The general public, however, perversely have a strong preference for the beautiful tasselled and strangely-formed Japanese. Hence it is best to judge each section quite apart from each other.

There were plenty of plants of Chrysanthemums at Ealing besides cut flowers, and not a few of those miscellaneous groups which assist to give so much of life, beauty, and variety to our autumn shows. Perhaps the splendid bunches of Zonal Pelargonium blooms shown in his customary brilliant form by Mr. Cannell, of Swanley, will assist to promote in the district a taste for these Pelargoniums as winter decorative plants. They can be had in bloom in November with ease, and the hues of the flowers are then singularly rich and beautiful. But at Ealing, almost more than at any other autumn show round London, there may be seen a remarkable display of common garden produce in the form of fruit and vegetables. These are garden elements that not only always merit the fullest encouragement, but prove eminently attractive. Thus Grapes, Apples, Pears, Potatos in great numbers, and many good winter vegetables, were very largely shown. The Messrs. Sutton & Sons' special prizes for four dishes of Potatos brought some six dozen lots, whilst other classes were largely filled.

Then again the cottager element is one well cared for and strongly encouraged, so that there were to be seen from these not only remarkably good Chrysanthemum flowers, but also splendid Potatos, Onions, Carrots, Turnips, Celery, and other good and useful products. Mr. James Hudson, Gunnersbury House Gardens, sent some fine bunches of Muscat of Alexandria, West St. Peter's, and Black Alicante Grapes, and good Apples and Pears, and also staged a charming Immortelle decoration. Mr. Roberts, of Gunnersbury Park Gardens, sent some small but beautifully-flowered plants in variety. Messrs. Lee & Sons, nurserymen, had a fine lot of Chrysanthemums in pots and also of cut blooms; and from others came many capital lots of plants or other objects of interest not named in the schedule. It is pleasant to learn that the Show was immensely patronized, and proved to be a great financial success.

The Royal Southampton Horticultural Society held its Autumn Show of Chrysanthemums, Fruits, and Vegetables in the Victoria Skating Rink on the 6th and 7th inst., and to say that it was superior in number and quality of exhibits to any of the Society's preceding Autumn Shows, which are acknowledged to rank among the best in the country, is saying a good deal in its favour. The specimen Chrysanthemum plants, of which there were about ninety in 10-in. pots, ranging from 4 ft. to 5 ft. through —one of Mr. Wills' (La Nymphe) being nearly 6 ft.— and grandly flowered, were arranged along the centre of the Rink, whilst the cut blooms (in great force and grand condition) and fruit were effectively set up on stages on either side, with the vegetables in the Victoria Rooms close by. Groups of decorative plants—always a great feature in the Southampton shows—were arranged for effect on either side of the platform occupied by the band. In the eleven classes devoted to Specimen Plants, Mr. E. Wills, gardener to Mrs. Pearce, The Firs, Bassett, secured four first prizes; Mr. J. Allen, gardener to J. Bailey, Elmfield, Southampton, three first; and Messrs. W. Joy, A. Pragnell, W. Reeves, and Mr. H. Broodie one first each; Messrs. L. King (Lyndhurst), Osborn (Wilton House, Southampton), Joy, Reynolds, and Reeves being good seconds. In the Cut Bloom Classes, Mr. Molyneux, the celebrated grower from Swanmore Park, Bishop's Waltham, secured all the big prizes, and was followed closely by Messrs. Wills, Allen, and Neville. In the two classes for gardeners who have never won a prize for Chrysanthemums at any exhibition, Mr. W. Wildsmith, Heckfield Gardens, secured chief honours in both classes. Mr. Wills was first for a group, and Messrs. Ransome, Blandford, and Reynolds second, third, and fourth respectively.

The Fruit Classes were keenly contested, and the exhibits excellent. In the Grape Classes Mr. H. W. Ward, Longford Castle, Salisbury, was first for three bunches of White Grapes with Muscat of Alexandria, Messrs. T. Hale (Stoneham House, Southampton), and Sanders (Langstock House, Stockbridge), being second and third with the same variety. For the heaviest bunch the awards went to Messrs. Ward (with Gros Guillaume, 8 lbs.), Hale (with Black Alicante), and Budd. For three varieties, one bunch of each, the prizes were awarded to Messrs. Hall, Ward, and Molyneux, in the order named. Mr. Hall was also first for three bunches of Black Grapes, with well finished Black Alicante, Mr. J. Grant, Ossemsley Manor, Christchurch, being a good second with the same variety, and Mr. Molyneux third. There were only two Pine Apples shown, two nice Queens, for which Messrs. Richards (Lord Normanton's gardener, from near Ringwood), and Budd (Lockerley Hall, Romsey), secured first and second prizes. Mr. Wildsmith was first for three dishes of dessert Apples, as he also was for a dish of Filberts. In the Vegetable Classes, Messrs. Cox (Corehampton House, Bishop's Waltham), Sanders, West (Northlands, Salisbury), and Amys (Hamble Cliff, Southampton), secured the prizes in the order named for eight kinds of vegetables, the prizes for the best Collection of Salading going to Messrs. Richards, Sanders, Amys, and Cox. In concluding our brief sketch of this excellent Show, we must not omit to mention two nice collections of Orchids, which were staged by Messrs. Osborn and Blandford respectively, and which secured the first and second prizes.

Kingston-on-Thames.—The eight annual Exhibition of this Society was held on Tuesday and Wednesday, in the Drill Hall. Prizes to the amount of £100 were offered, and the competition was keen. There was a magnificent display of cut blooms, but the overcrowded state of the hall, where visitors were permitted to move, or rather to attempt to move, rendered it extremely difficult to view the exhibits. The Silver Cup, value twenty-five guineas, for forty-eight Cut Blooms, distinct, was won for the third year in succession by Mr. E. Molyneux, gardener, Swanmore Park, Bishops Waltham. His blooms of Lord Alcester, Queen of England, and Grandiflora were perfect; and of the Japanese forms Madame C. Audguier and Golden Empress could not be matched for size or form. The same exhibitor was also first with Princess of Wales, for six Cut Blooms of one variety; first also for twenty-four incurved blooms, among which we remarked Lady Carey and Mr. Heal; first for twelve anemone-flowered varieties, the best blooms of which were Fleur de Marie and Madame Cabrol. The chief prize for twenty-four Japanese Blooms was won by Mr. G. King, gardener, Wolsey Grange, Esher. His stand was very striking, and the bloom the largest we ever saw. Among them we noticed particularly: Triomphe de la rue du Chatelot, Madame C. Audiguer, Marguerite Marrouche, Red Gauntlet, Comte de Germiny, &c. There was a third exhibitor, whose flowers specially deserve notice. Mr. W. Fyfe, gardener to W. T. Dick, Esq., Thames Ditton, who took the prize for twelve Japanese Blooms, and Soleil levant, F. A. Davis and Mad. C. Audiguer in his stand were remarkable flowers. The schedule of the Show contained forty-eight classes, but the specimen plants, the Chrysanthemums in pots, &c., were not above the average.

HORTICULTURAL SOCIETIES.

Royal Horticultural, *November 11th.*—The Floral Committee, at their meeting on Tuesday, had some very fine new Chrysanthemums from Messrs. John Laing & Co., Stanstead Park, Forest Hill; Messrs. James Veitch & Sons, Chelsea; and Messrs. Cannell & Son, Swanley, to adjudicate upon, though but few, comparatively speaking, came out of the ordeal successfully. Messrs. Laing & Co. received two First-class Certificates, the selected flowers being La Purtié, Japanese, a very fine white flower in the way of Lady Selborne, but a much heavier built bloom; and Anais, a most peculiarly coloured Pompon, double Daisy-like in form, very compact, and in colour a medley of creamy-white, pale lemon, orange, and pale rose. The Messrs. Cannell took three of the coveted awards, and had the honour so far of showing the flower of the season, a perfect gem belonging to the reflexed section, named "Cullingford," large and fine in form, and of a rich glowing crimson colour; it is a great beauty. The other varieties recognized were La Bien-Aimée, a fine white pale lilac-tinted, Japanese variety; and a remarkably good white Pompon, named Star of Whyke, of the Mdlle. Marthé type, a very free bloomer and valuable for cutting. The Messrs. Veitch were awarded First-class Certificates for Criterion, a noble flower of a rich orange, shaded with cinnamon, very large, full and stout in the petals, and intermediate in character between the Japanese and reflexed varieties; and Roseum pictum, a grand reflexed flower of great size, and rich deep rose colour, a handsome decorative variety. Messrs. Laing and Messrs. Veitch showed flowering plants, but the Messrs. Cannell confined themselves to cut blooms, putting up in a most effective manner a representative set of each section, with bunches of three blooms of each variety wired and set up after the manner adopted with single Dahlias, the whole forming a most novel and pleasing display. The Messrs. Cannell also received a First-class Certificate for the fine double-white Zonal Pelargonium, Le Cygne, which produces large trusses of white, flat, semi-double pips. Other Certificates of the same value were voted to Baron Schrœder, The Dell, Egham (Mr. Ballantine, gardener), for Cattleya tropthalma, with lilac-mauve sepals and petals, and the lips a pretty shade of purple, with lemon-coloured blotch at the base, and for the new Aerides Sanderiana; to W. Lee, Esq., for a pure white variety of Oncidium incurvum; to Mr. G. Fleet, Uckfield, Sussex, for Cupressus Lawsoniana Fleeti, a very distinct silvery-variegated form, of close, compact habit; to Messrs. Charles Lee & Son, Hammersmith, for Viburnum Tinus aureo-marginata, a golden variegated form of the common Laurustinus, to Messrs. Veitch & Sons for the white-flowered Ipomæa Thomsoni, the stove climber sent out last year by Mr. B. S. Williams and Messrs. Ireland & Thomson, and for Carraguata angustifolia, a pretty little Bromeliad with orange scarlet flowers, that will make a nice plant for room decoration; to Messrs. Hooper & Co., Covent Garden, for a perpetual flowering Carnation of dwarf free habit, named Chevalier, primrose yellow ground, flaked with crimson on the edges of the broad petals; and to the Royal Horticultural Society for the handsome purple flowered Groundsel, Senecio pulcher.

The Fruit Committee had a number of Seedling Apples before them, but none of them were sufficiently distinct or otherwise good enough to be distinguished by a Certificate of Merit. Messrs. Barr & Son offered prizes for three stems of Brussels Sprouts, for which there was only one entry, Mr. J. May, gardener to Captain Le Blanc, Northaw House, Barnet, who for a good average sample was awarded the first prize.

Manchester Horticultural Improvement.—The first meeting for the Session 1884-5 of this Society was held on November 6th, in one of the rooms at the Old Town Hall, King Street. Mr. Bruce Findlay, the president, occupied the chair, and the attendance of members was very large. The first business before the meeting was the appointment of officers for the coming year. Mr. Findlay was re-elected president, Mr. Robert Tait, treasurer; Mr. William Swan, secretary; and the following gentlemen constitute the committee:—Messrs. F. Robinson, William Plant, E. G. Hughes, J. Briddon, and J. S. Butterworth. It was decided that the future fortnightly meetings of the Society should begin at seven o'clock.

Mr. H. Marshall Ward, M.A., lecturer on botany at the Owens College, delivered a lecture on "Roots: their power of selection." The object of his address he remarked, was to show how most valuable information could be derived from a careful study of a common root, and that that information was important alike to the botanist and agriculturist. The germination of a seed was shortly described, and he showed that the young roots proceeded to enter the soil to fulfil the purpose for which they had become adapted, namely, to hold the rest of the plant and to absorb water and dissolve food matters in the soil. The curious properties of this tip of the root were examined. It was sensitive to various influences turning towards the centre of the earth with marked persistence. It also avoided light and tended towards a moist surface. But strangest of all perhaps were its sensitive actions towards solid bodies and irritants and its curious rocking movements, which probably aided the tip to enter the soil. The structure of the firm, rigid and even elastic tip and its protective coat were then sketched, stress being laid on the fact that such a body could not possibly serve as an absorptive organ, but that it was admirably adapted for being steadily pushed between particles of soil aided by its sensitiveness to various influences, its tendency to slightly rock on all sides, its slippery surface and conical shape. The elongation of the cells behind pushed the tip slowly and steadily forward with relatively enormous force. The lecturer proceeded to show how root-hairs arose in millions, at the parts which had ceased to elongate, an obvious adaptation which prevented their being rubbed off as the rest of the root moved forward. The efficient distribution of root-hairs and rootlets was commented upon, showing how every crevice of the soil was successively explored from the central root, the rootlets reacting differently as regards gravitation from the primary root. A description was given of the mode in which root-hairs attach themselves to particles of sand and slate in the soil, glueing themselves to their surface. Mr. Ward also explained their action in absorbing aërated water and its dissolved salts. The lecture, which was listened to throughout with deep attention, was illustrated by a number of diagrams.

Mr. William Plant, of Ashton-on-Mersey, asked Mr. Ward whether roots of plants had power of selection; in other words, were there sets of separate and distinct roots for producing wood and others for producing fruit?

Mr. Ward most unhesitatingly said no. The matter must necessarily be one of experience, and it must be remembered, when he gave that answer, that he was utterly ignorant of any experiments whatever which showed that roots possessed the power in question. As he understood the query it was, "Is there any evidence to show that a plant possesses two kinds of roots one of which produces fruit and the other produces wood?" (Mr. Plant: That is my question.) His answer was that there was no evidence so far as he knew which supported that view in the least; in fact he said unhesitatingly that such was not the case.

Pyrus Maulei.—Will some of your readers kindly tell me how the fruits of this plant are converted into a preserve? We have some fruits ripening against an orchid-house wall, and should be glad to know the method of using them as the late Mr. Maule did.—*W. D.*

ANSWERS TO CORRESPONDENTS.

Plants named.—*G. E. Parr.*—A Gesneraceous plant, Cyrtodeira fulgida, a native of the Chontales Mountains, in South America.

Gardenias turning yellow.—*Vanda.*—They have, somehow or other, got wrong at the roots, and deficient root action will turn the leaves yellow quicker than anything. If you can give them a little steady bottom heat, and, about a fortnight after they have been under this treatment, apply liquid manure and soot-water they should soon come round again. The plants are really starving now.

Glazing.—*A. B.*—The double system of glazing has been often tried and found wanting. We cannot recommend you to adopt it for a forcing house, in which all the light possible is desirable. If any of our readers can say anything in favour of the system we should be glad to hear from them.

Trade Catalogues Received.

John Kennard, Swan Place, Old Kent Road.—Horticultural Soils, Sundries, and Pottery.

Daniel Margetts, 16, York Street, Covent Garden.—Florists' Requisites, Floral Devices in Wire, &c.

H. Boothby, Louth, Lincolnshire.—List of Strawberries, Hardy Florists' Flowers, &c.

LONDON SEED TRADE.

November 12th.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report that the market continues inactive, and that the large supplies of English Red Clover have in the absence of buyers caused prices to recede. White Clover, Alsike, and Trefoil are neglected and unchanged. Spring Tares are offering at prices above views of buyers here. Canary, Hemp, and Linseed are easier; Blue Peas unchanged.

COVENT GARDEN MARKET.

November 13th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6– 4 0	Kent Filberts and Cobbs, per 100 lb.	60 0–62 6
— Nova Scotian, per barrel	12 0–18 0	Melons, each	3 0– 4 0
— Extra samples	20 0– ...	Pine-apples, Eng., lb.	3 0– 4 0
Figs, per dozen	0 6– 0 9	,, St. Michael's ea.	3 0–10 0
Grapes, per lb.	0 9– 3 0	Peaches, per dozen	6 0– 8 0
		Pears, French, p. doz.	1 6– 3 6

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0– 4 0	Horse Radish, bundle	3 0– 4 0
Beans, French, lb.	0 4– ...	Lettuces, Cabbage, per dozen	1 6– ...
Beet, per dozen	2 0– 3 0	— Cos, each	0 2– ...
Brussels Sprouts, ½ sve.	2 6– 3 0	Marrows, each	0 3– ...
Cabbages, per dozen	1 6– 2 0	Mint, green, bunch	0 4– ...
Carrots, per bunch	0 6– ...	Mushrooms, p. basket	1 0– 2 0
Cauliflowers, English, dozen	3 0– 4 0	Onions, per bushl.	2 6– 3 6
Celery, per bundle	1 6– 2 6	Parsley, per bunch	0 6– ...
Cucumbers, each	0 6– 0 8	Radishes, per dozen	1 6– ...
Endive, French, per dozen	2 6– 3 6	Small salading, per punnet	0 4– ...
Garlic, per lb.	0 6– ...	Spinach, per strike	2 0– ...
Herbs, per bunch	0 2– 0 4	Tomatos, per lb.	0 6– 0 8
		Turnips, bunch	0 6– ...

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0– 4 0	Lapageria, white, 12 blooms	2 0– 3 0
Azalea, 12 sprays	1 0– 1 6	Marguerites, 12 bun.	4 0– 9 0
Bourvardias, per bun.	0 9– 1 0	Pelargoniums, per 12 sprays	1 0– 1 6
Camellias, 12 blooms	2 0– 6 0	—scarlet, per 12 sprays	0 4– 0 9
Carnations, 12 blooms	1 0– 2 0	Pinks, various, 12 bunches	...– ...
Chrysanthemums, 12 bunches	2 0– 6 0	Primula, double bun.	1 0– 1 6
— large, 12 blooms	0 6– 2 0	Pyrethrum, 12 bun.	–
Cornflower, 12 bun.	2 0– 4 0	Roses, out-door, 12 bunches	9 0–12 0
Dahlias, 12 bunches	2 0– 4 0	Roses, indoors, p. doz.	2 0– 6 0
Encharis, per dozen	4 0– 6 0	Stephanotis, 12 spr.	6 0– 9 0
Gardenias, 12 blms.	3 0– 6 0	Tuberoses, per dozen	1 0– 1 6
Gladiolus, various, 12 spikes	1 0– 3 0	White Jasmine, bun.	0 6– 1 0
Heliotropes, 12 sp.	0 6– 1 0		
Lapageria, red, 12 blms.	1 0– 2 0		

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0–24 0	Ficus elastica, each	1 6– 7 0
Begonias, per dozen	4 0–12 0	Foliage Plants, various, each	2 0–10 0
Bonvardias, dozen	9 0–18 0	Fuschias, per dozen	3 0– 6 0
Chrysanth., dozen	4 0– 6 0	Heliotrope, dozen	3 0– 6 0
Cockscombs, dozen	–	Lilium, various, p. doz.	–
Cyperus, per dozen	3 0– 9 0	Marguerites, per doz.	–
Dracæna term. doz.	30 0–60 0	Palms in variety, each	2 6–21 0
— viridis, per dozen	12 0–24 0	Pelargoniums, scarlet per dozen	2 0– 6 0
Evergreens, in var., per dozen	6 0–24 0	Petunias, per dozen	–
Ferns, in var., dozen	4 0–18 0	Solanums, dozen	9 0–15 0

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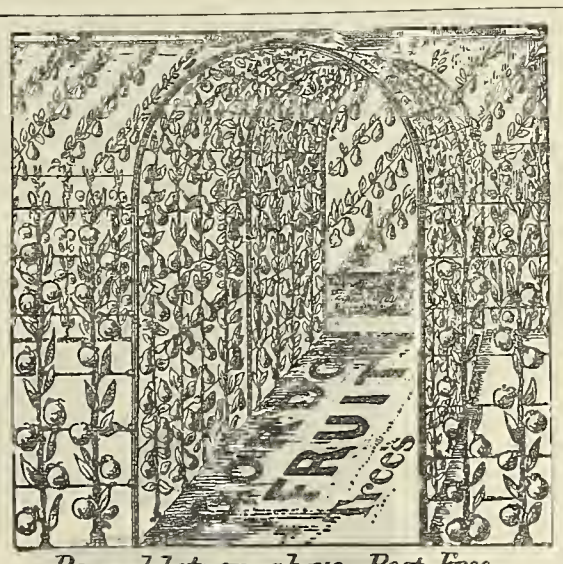

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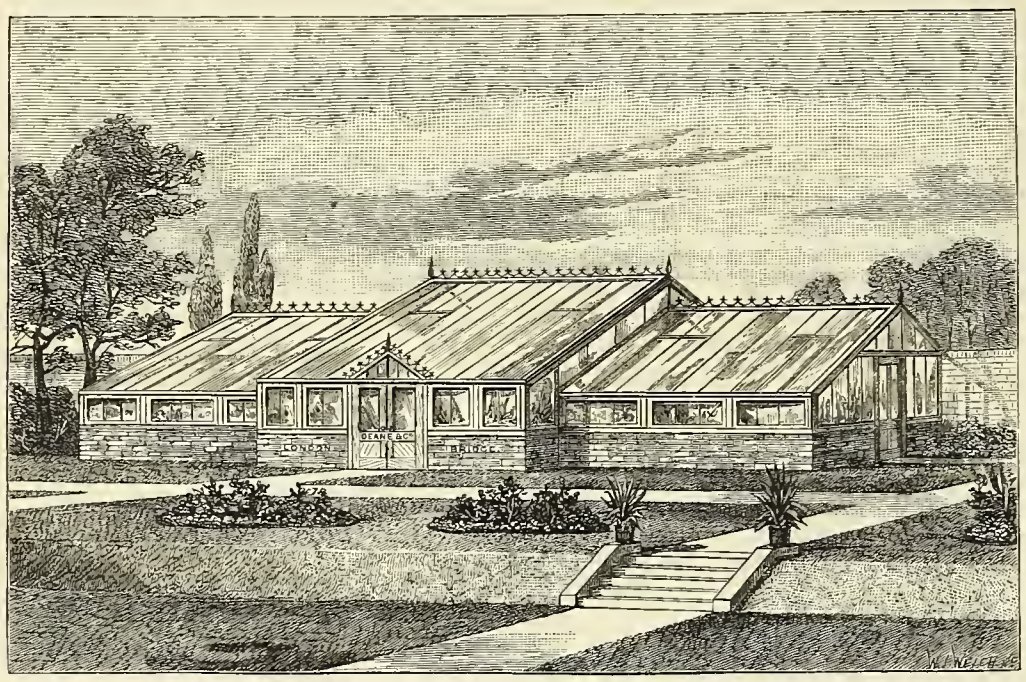

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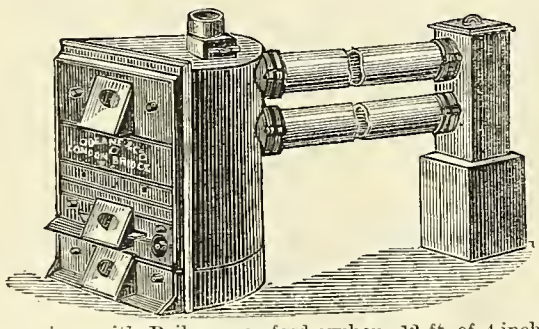

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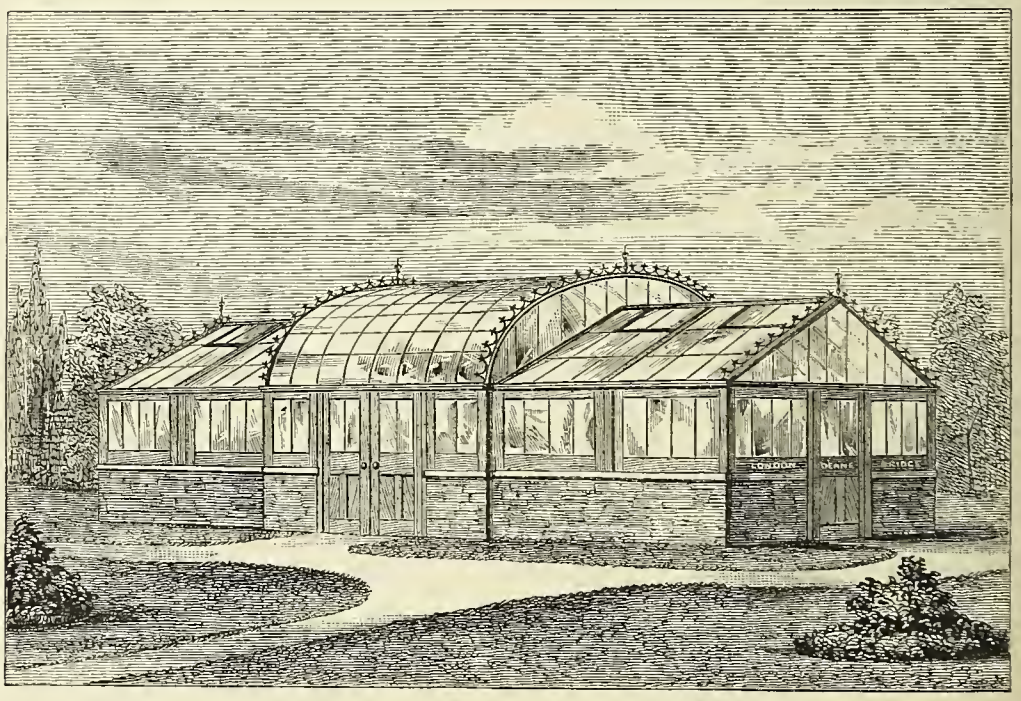

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SWEET-SCENTED PLANTS.—Six of the most delicious of all flowers for perfume are Stephanotis floribunda (fine variety), 1*s*. 6*d*. each; Gardenia florida, 1*s*. 6*d*.; Gardenia citriodora, 2*s*. 6*d*.; Pancratium fragrans, 2*s*. 6*d*.; P. speciosum, 2*s*. 6*d*.; Jasminum Maid of Orleans, 1*s*. The six fine strong plants for flower this winter for 10*s*. Packages gratis and Ferns extra to pay carriage.—JOHN H. LEY, Woodside Green, South Norwood, S.E.

6 MOST ELEGANT PALMS for 6*s*.—Three pairs of Cocos Weddelliana, Areca lutescens, Cocos plumosa; pretty plants in small pots; hamper gratis.—JOHN H. LEY, Woodside Green, S.E.

12 DRACÆNAS, 4-in. pots, 12*s*.—All finest and distinct sorts, just showing colour; in 5-in. pots, 1½ ft. to 2 ft. high, 21*s*. dozen. Packages gratis for cash with order.—J. H. LEY, Woodside Green, S.E.

12 HALF-HARDY FERNS, 6*s*. — Strong plants from cold pit of the new Lastrea aristata variegata, Cyrtomium lucidum, Tree Ferns, crested Scolopendriums, and a great variety of others; all distinct. Box gratis for cash and one Fern gratis.—JOHN H. LEY, Woodside Green, S.E.

6 DAVALLIAS, 5*s*.—Hare's-foot, Squirrel's-foot, D. Tyermanni, D. tenuifolia, D. immersa, D. Novæ-Zelandiæ. Box gratis, or by post for 6*d*. extra.—J. H. LEY, Woodside Green, S.E.

12 CROTONS, highly coloured, 12*s*.—Fine plants in 4-in. pots of the best sorts in cultivation; all distinct (any sort not required excluded). Double size, very handsome plants in 5-in. and 6-in. pots, for 21*s*. Packages gratis.—JOHN H. LEY, Woodside Green, S.E.

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Roses for Removal in November. Per doz.
Standards, choicest and best sorts ... 18*s*. and 21*s*.
Half-Standards ,, ,, ,, ... 15*s*. ,, 18*s*.
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Great UNRESERVED SALES every MONDAY, WEDNESDAY and SATURDAY.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C. (next door but one to Bennett's Clock), every MONDAY, THURSDAY, and SATURDAY, at half-past 11 o'clock precisely each day, extensive consignments of the best named HYACINTHS, TULIPS, CROCUS, NARCISSUS, SNOWDROPS, and other ROOTS from Holland, in lots to suit the Trade and Private Buyers.

On view mornings of Sale. Catalogues of the Auctioneers, 67 and 68, Cheapside, E.C.

Ascot.—Important Sale.

TO THE TRADE AND OTHER LARGE BUYERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. J. Standish & Co. to SELL by AUCTION, on the Premises, the Royal Nurseries, Ascot, on WEDNESDAY and THURSDAY, November 26th and 27th, at 12 o'clock precisely each day, several acres of remarkably well-grown NURSERY STOCK, including 40,000 Pinus Austriaca and 30,000 P. laricio, two years transplanted and seedlings; 1,500 seedlings, 2 ft. to 4 ft.; 6,000 Spruce, 1 ft. to 4 ft.; 15,000 Seedling Scotch Fir; 12,000 ditto, 2 ft. to 5 ft.; 3,500 Weymouth Pines; 6,000 Ornamental Trees, 6 ft. to 9 ft.; 3,000 Green Hollies, 2 ft.; 15,000 common Laurels, 1 ft. to 3 ft.; 6,500 Laurus caucassicum, 1 ft. to 3 ft.; 2,000 Retinosporas; 1,000 named Rhododendrons, budded; 500 Border Shrubs; 650 Cupressus Lawsoniana alba and compacta, 1½ ft. to 2½ ft.; Retinospora plumosa alba; 3,000 Conifers of sorts, 2 ft. to 7 ft.; 1,000 Standard, Pyramid, and Trained Fruit Trees; 1,000 Standard, Half-Standard, and Dwarf Roses, and a quantity of GREENHOUSE PLANTS in variety.

May now be viewed. Catalogues may be had on the Premises, and of the Auctioneers and Estate Agents, 67 and 68, Cheapside, London, E.C.

The Fallowfield Collection of Orchids.

MESSRS. PROTHEROE AND MORRIS beg to announce that they will SELL the remaining portion of the well-known Collection of ORCHIDS at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, December 2nd, at half-past twelve o'clock precisely.

Further particulars will appear next week.

TUESDAY NEXT.

Orchids in Flower.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY next, November 25th, at half-past twelve o'clock precisely, ORCHIDS in Flower and in Bud, from various well-known Collections, and including seven Rare and Valuable Species, in all about 300 Lots.

On view morning of Sale, and Catalogues had.

MESSRS. PROTHEROE AND MORRIS'S SALES for NEXT WEEK:—

MONDAY, November 24th.—Sale of DUTCH BULBS at Protheroe and Morris's Rooms.

TUESDAY, November 25th.—Special Sale of FLOWERING ORCHIDS at Protheroe and Morris's Rooms.—Sale of ROSES, BULBS, &c., at the City Auction Rooms, by Protheroe and Morris.

WEDNESDAY, November 26th.—Sale of JAPANESE LILIES, PLANTS, ROSES, &c., at Protheroe and Morris's Rooms.—Sale of NURSERY STOCK at the Royal Nurseries, Ascot, by Protheroe and Morris, two days.

THURSDAY, November 27th.—Sale of DUTCH BULBS at Protheroe and Morris's Rooms.

FRIDAY, November 28th.—Sale of Imported ORCHIDS at Protheroe and Morris's Rooms.

SATURDAY, November 29th.—Sale of DUTCH BULBS at Protheroe and Morris's Rooms.

Bulbs.—Mondays, Wednesdays, and Saturdays.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, regularly three times a week, as above, large consignments of first-class Dutch flower roots lotted to suit both large and small buyers.

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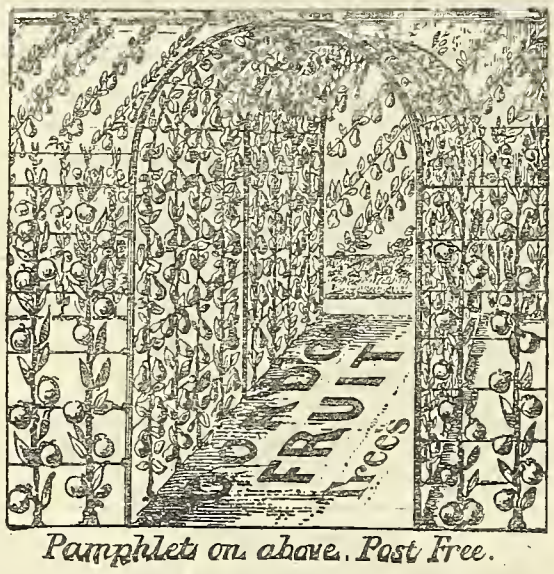

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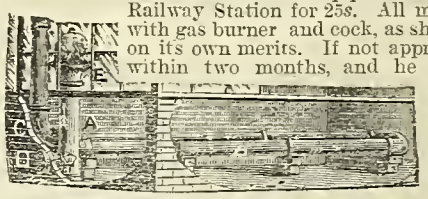

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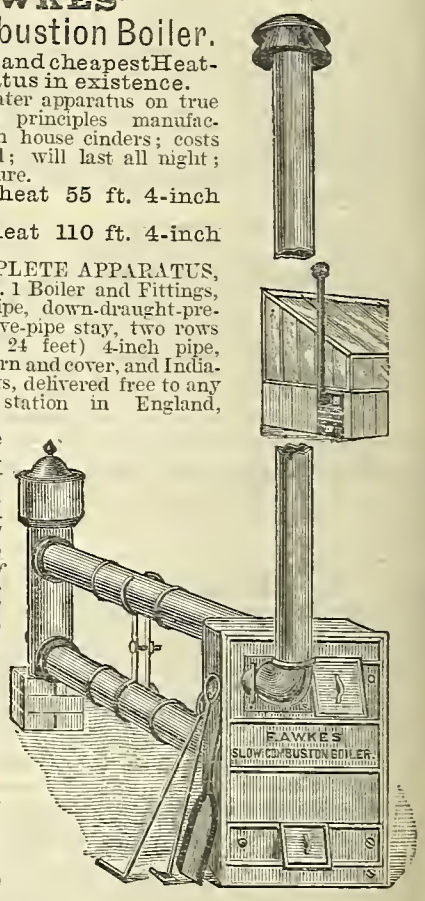

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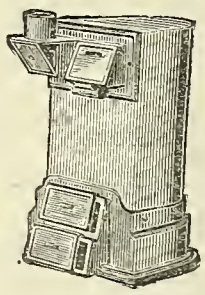

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, NOVEMBER 22ND, 1884.

THE CHRYSANTHEMUM SHOWS. — Ere this appears in print the season of Chrysanthemum Exhibitions will be over for another year, the competitions will all have been fought, and gains and losses counted. There can be no doubt but that many somewhat ambitious growers have met with disappointments, whilst the quietly confident have been fairly successful; and this fact serves to show that in the culture of Chrysanthemums, as in other deeds, there is no royal road to success. Without doubt the best growers and the best blooms and plants will win. Perhaps some of our more distant growers have learned a lesson because nothing is easier than for a man whose position is somewhat retired, and whom circumstances isolate from other growers, to jump hastily to the conclusion that his exhibits are the best, and that he is invincible. Confidence is all very well when we are sure with good reason, but over-confidence is a dangerous element in any grower's character, and the sooner he gets rid of that the better for his future labours.

But whilst the gay and giddy round of shows has been without doubt pleasantly profitable to many, and to not a few others eminently instructive for future efforts, it has been a season of exceeding labour to those who, in a vain effort to chronicle the doings at these shows, have found the work one of great difficulty, and often disappointing monotony. Shows have not only followed each other in rapid succession, but have come in clusters, falling simultaneously, so that it has been possible for no single man to keep pace with them. And then when seen, if not the shows in bulk, at least the exhibits have been from show to show marvellously like each other, so that the only variations to be found were that in some the exhibits were a little better, in others a little worse. But the evil, for such it is, does not end there. We find shows increasing fast all over the kingdom, and perforce all falling within a short period of some fourteen days!

It is the great misfortune of the Chrysanthemum that it can wait for no one. Its best season is so limited in range of time that we must show it then or not at all. If it were like the Rose, that permits its finest flowers to be seen for a month at least, the fecundity of shows might be better endured, but with only a few days of best bloom the fecundity is becoming bewildering. But the public may or may not visit all shows; that is optional. It is not so with readers of gardening papers, which are so largely filled with reports of shows at this season of the year, and which must give these reports *in extenso* if reputations are to be maintained. How much readers find one report to read like another, simply because such is the product of exhibiting. Growers will grow only those kinds which produce the finest show blooms, and these kinds appear and re-appear not only constantly in the same show, but in all shows. Exhibiting flowers and the culture to that end, very much resembles the fatting of pigs or oxen for the butcher, they are grown only to be slaughtered. Shows become the holocausts of thousands of glorious flowers, which grown, tended, cultured with wondrous patience and care for a whole year, are the moment they have reached perfection cut and set up in a box for the pleasure of the public for a couple of days, then, perchance drooping in petal, disappear for ever. That is a sad ending after all for so much of beauty, but it is the outcome of all exhibitions, whether of Chrysanthemums or other flowers.

To Londoners, we are sure, some means of checking the excessive number of these autumn shows would be a relief. No doubt there is some enthusiasm behind the shows, but there is also very much of pounds, shillings, and pence. We are exhibitors too much for selfish reasons. Perhaps we ought to be grateful that even for selfish purposes men will undertake such labour and strive to create such splendid objects of beauty as are found in exhibition flowers. With questions of that kind, however, it is not our purpose further to deal. We would rather ask whether it is not possible to provide some means by which, not one or two, but several societies would group themselves into one for temporary show purposes and, securing a central habitation, hold one monster show at one and the same time? Why should not the National, Kingston, Putney, Richmond, Stoke Newington, and several other committees unite their forces to produce one grand central exhibition, which should remain open four days, and should thus be made instrumental in bringing together all the best growers of the day in one grand competition?

Failing such an act of unity, and we know too much of the spirit of localization which influences local bodies, is it not possible to create a really National Show on so grand a scale that it shall attract to itself all the best gardeners and the most beautiful exhibits of the year? A show of this kind must not be held in a place hampered with associations of dubious morality and where many first-class growers dare not compete. There seems no better place for such National Exhibition than the spacious arcades at South Kensington. We must, however, leave the consideration of the subject to those who can, perhaps, do something to render it practical.

WINTER-BLOOMING ZONAL PELARGONIUMS.—Going the round of the autumn shows, we have just here and there, and unfortunately here and there only, found encouragement given to winter-blooming Zonal Pelargoniums as subsidiary subjects for exhibition. In a few cases moderate prizes have brought capital plants full of bloom, and as fresh and beautiful as in July. Charming and well-grown, however, as these plants are, we may well doubt whether their cultivation as large specimens is desirable at this time of the year. In the summer plants of these Pelargoniums, however big, will thrive well in the open-air, but in early winter they must have house room, and those specimens that range from 30 ins. to 36 ins. through, even if ever so finely flowered, are somewhat troublesome, especially if space be limited. What is far better than half-a-dozen of big plants giving only as many colours, is a group of, say, two dozen plants in 32-sized pots, the plants neat, clean, and robust, and carrying each several trusses of fine rich-coloured blooms. The group should, if consisting of twenty-four plants include not less than a dozen kinds, and the awards should be made for display, variety, and general good quality in bloom, foliage and growth. A few such groups dotted about here and there at our late autumn shows would be singularly pleasing, and they would prove not less useful and meritorious at home. Let it be understood, too, that Zonal Pelargoniums will bloom as freely now as in summer.

PUMPKINS AGAIN.—We had thought that the biggest of these vegetable monsters were those seen recently at the Health Exhibition, when specimens of some 156 lbs. were shown. The other day, however, we alighted upon a gigantic Pumpkin of the Mammoth Squash type, roundish, of capital form, yellow of flesh, and finely netted, that carried down 160 lbs. How such a big fellow was obtained, what amount of space was required for the plant which bore it, what amount of manure was given, and what other aids in the shape of liquid stimulants were added, nothing is known; but the product of such a huge mass of vegetable flesh by one plant almost excites our wonder and admiration. Of course it is now known that Pumpkins are chiefly used to make pies that are, with considerable stretch of the imagination, supposed to be as nice as Apple pies, but the general belief was that these monsters were very much employed to decorate the shops of the greengrocers, and attract very much as prize pigs attract admiring customers. We now learn that a much more profitable use is found by the greengrocers, that indeed they cut up their Pumpkins without remorse and dispense them in slices to purchasers at 2*d.* per lb. Whether thus purchased for the making of pies, or for the making of a dish for the ordinary dinner course, we cannot say. At any rate, it is now shown that a gigantic Pumpkin may be of some more value than even a white elephant.

THE ALLOTMENT QUESTION is coming rapidly to the front. At a conference of members of the Farmers' Alliance held on Tuesday at the Holborn Restaurant, Mr. W. E. Bear read an able paper on the Agricultural Crisis. Among the "only immediate remedies" worth a moment's consideration, he mentioned the desirableness of "some scheme by which land in plots and small farms may be placed within reach of industrious and frugal labourers." If some such opportunities could be found for the employment of "idle hands" there would be a greater preponderance of "industrious and frugal labourers." We are glad to observe, however, that farmers who have hitherto shown a coolness and lack of sympathy in the movement are coming round. No class of men could give the cause more valuable help. And nothing could be done towards attaching the more intelligent and skilful of the labourers to the land more effectually than the plan he suggests.

GUMMING ROSES.—A florist of many years experience writes:—"The protest on the part of the Leek Rose Society against the practice of gumming Roses has brought so many testimonies from leading exhibitors against the practice, as to raise the whole question of dressing and manipulating flowers for the exhibition table. If it is allowable to gum the blossoms of Pelargoniums, why not of Roses? It is well known that the flowers of large-flowered or show Pelargoniums are gummed on specimens sent for exhibition, and were it not done one-half of them would fall ere the show day was over. In the case of Carnation, Picotee and Pink, dressing by skilful operators is carried to such an extent as to entirely change the character of the flowers; this is done by re-arranging and removing defective petals, sometimes considerably reducing the natural size of the flowers. The Dahlia can be greatly improved by dressing—by removing damaged petals, by rounding off others, a skilful dresser can take a flower deficient in outline and so improve upon its symmetry as to make it difficult to swear to it. Pansies can be flattened into shape by placing weights upon the flowers.

"A spike of a Gladiolus that feathers to the sides can have the flowers tied to a front, and

materially changed in appearance. Dressing can do very much for the Auricula. I have seen a dresser busy over a faint grey, rubbing the farina from the edge, and changing it into a green. In the North of England especially, where dressing is an art, flowers are materially changed during the process. Take the flower of the present season—the Chrysanthemum—and see how great an improvement is worked in the blooms by clever dressing. I have known exhibitors grow large and full flowers, and have heard them say, 'I shall be beaten by So-and-so, he understands dressing better than I do.' I am not condemning the practice, for it is a waste of words to do so; but I do ask why should the Rose be made an exception to the other flowers I have named? An exhibitor has a lot of fine Roses, he knows that grand as they are they may not all of them last through the journey to the show and exposure in a hot tent for several hours, and he applies a little gum to the base of the petals. It is done in the case of the Pelargonium, and no one protests.

"Let us be consistent. Either abolish dressing altogether, as some say, but which I am sure cannot be done; or leave exhibitors to do as they please. If they adopt practices that are of a nature to wilfully mislead the judges, and they are found out, they must take the consequences. but who shall undertake to say what is lawful and what unlawful? The old Lancashire florists, it is said, invariably made a practice of sitting down to pipe, glass, and pleasant chat after their exhibitions, and before all loyal and complimentary toasts drank this one with unbounded enthusiasm, 'May we never be found out.' It is when somebody is found out that we hear a good deal about the iniquity of dressing flowers, there is a great flow of virtuous indignation, and it is forgotton. Does anyone suppose that Roses were gummed for the first time at Leek? It was perhaps done a little slovenly, and the operator was found out. Think you he was the only offender? Not he. Nor will he be the last. There will be plenty of Rose gumming next year as a result of the publication of the fact by the Leek Rose Society."

Gardeners' Royal Benevolent Institution.—We are requested to state that, in order to meet the wishes and convenience of a great many collectors for the Pension Augmentation Fund of this institution, the time for closing the list has been extended to Monday, December 15th. We understand that at a meeting of the Committee of Management, held on Monday night, it was decided that the annual meeting and election of pensioners should take place on Wednesday, January 14th next, and that nine pensioners should be added to the list, making a total of 104 on the books of the Institution. Three of the applicants will be put on the list without the trouble of an election, in accordance with rule six. The Committee also decided that consols to the value of £300 should be purchased and added to the reserve fund, to which there is also good reason to believe will shortly be added the £500, less £50 legacy duty, left to the Institution by the late Mrs. Dodgson.

Plants certificated in Ghent.—At the last meeting of the Belgian Chambre Syndicale des Horticultuers, held in Ghent, a few days ago, the jury, composed of Mr. Charles van Geert, of Antwerp, President, Messrs. A. Verschaffelt, A. Van Geert, senior, Louis De Smet, Pechers, Charles Spae, Fr. Desbois, and Lubbers, Secretary, awarded Certificates of Merit to M. Louis van Houtte for Batemania valis major, and Vriesia fenestralis; and to M. De Smet-Davivier for Globa coccinea. Cultural Certificates were voted to M. Ad. d'Haene for Maranta Makoyana; to M. Beaucarne d'Eename for Vanda Lowii, Cypripedium Lowii, Cypripedium lævigatum, and Cypripedium Parishii; and to M. Ed. Pynaert for Philodendron Selloum.

Gardening Miscellany.

On Tuesday and Wednesday next Chrysanthemum Shows will be held at Liverpool and Basingstoke, and on Wednesday, Thursday and Friday at York.

Professor Oliver, of the Herbarium, Kew, has been awarded the Gold Medal of the Royal Society.

At a meeting of the Nottingham Horticultural and Botanical Society, held on the 12th inst, Mr. A. H. Pearson, of Chillwell, read a paper on "Hardy Fruit for the Midland Counties."

Mr. George Povey, late of Weybridge, has been engaged as gardener to W. Graham, Esq., Manor House, Crayford, Kent.

Messrs. Ireland & Thomson have just acquired by purchase the extensive ranges of hot-houses and offices, and a portion of the nursery ground, lately belonging to the Lawson Nursery and Seed Company, Edinburgh, and have also secured on a lease about thirty acres of land adjoining, belonging to the same Company. It is, we understand, the intention of Messrs. Ireland & Thomson to still carry on their Royal Exotic and Craigleith Nurseries.

Mr. Wilson, formerly gardener at Castle Hill, South Molton, Devon, who went out to Australia last February, has returned to London, after visiting Adelaide, Sydney, and Melbourne, and failing to find any adequate scope for his abilities. Mr. Wilson is seeking another engagement in England.

"The Garden Annual" for 1885, which has recently been published, seems to be an improvement on its predecessors. When we note that there are 3,385 names in the trade-list, and that the number of gentlemen's seats, with the names of the gardeners thereat, in Great Britain and the Channel Islands, exceeds 7,260, and consider the number of changes which take place every week, the errors are few indeed.

The tubers on the root of the Liliputian Potato, several times shown this autumn by Messrs. James Carter & Co., were counted the other day and found to number 353 in all.

Messrs. Nutting & Sons, seed merchants, who, for the last thirty years, have carried on their business at 60, Barbican, are now, in consequence of the expiration of their lease, removing to Southwark Street, having purchased the premises lately occupied by the Lawson Nursery and Seed Company.

Mr. H. J. Oldroyd, after carrying on the business of a nurseryman and seedsman for nearly forty years in Shrewsbury, has at length resolved to retire, and on Tuesday, Wednesday, and Friday the whole of his valuable nursery stock was sold by auction by Messrs. Lythall, Mansell, & Walters.

The Lawson Nursery and Seed Company, Edinburgh, has been re-organized, and the business will, we hear, be conducted in future under the style and title of Peter Lawson & Son, with Mr. David Syme at the head of the firm.

We much regret to hear that, after the publication of the next number, *The Florist and Pomologist* will cease to exist. This once popular monthly has been in existence for thirty-six years, having been started in January, 1848, as *The Florist and Garden Miscellany*, by that well-known florist, Mr. Edward Beck, of Isleworth, and under whose editorship it soon became recognized as "an honest authority in florists' flowers." In 1851 Mr. Charles Turner succeeded Mr. Beck as editor, and continued to direct its affairs until the end of 1860, when Dr. Hogg and the late Mr. John Spencer, of Bowood, took a share in its management. In 1867, when it became the property of Dr. Hogg, Mr. William Paul, and Mr. Thomas Moore, of Chelsea, the title was changed to its present form, and Mr. Moore became its editor, and a few years later its sole proprietor.

At the annual meeting of the Royal Horticultural Society of Ireland, held on the 14th inst., it was reported that the financial results of the exhibitions of 1884 have been exceptionally small and unsatisfactory. All liabilities have been cleared off, but, in order to do this, it was found necessary to draw upon the reserve balance to the large amount of £155 7*s.* 2*d.* It is intended to hold most of the exhibitions of the coming year in the Rotunda grounds, the central position of which makes them equally convenient and accessible to exhibitors and visitors from all parts and sides of the metropolis.

THE APPLE CONGRESS REPORT.

We have been furnished with a copy of the Report of the Committee which carried out with such singular success, the great Apple gathering last year at the Royal Horticultural Society's Gardens, Chiswick, to promote which the Council of the Society seems to have simply granted the use of the gardens and nothing else. This great Congress was but another evidence of the absolute uselessness of a great Society, when anything of value in horticultural work is to be performed, and how much better such work can be and is done by private enterprise. The Report which is a somewhat voluminous one of 250 pages, comes rather late it is true, and the reason for the delay that has taken place is not stated, but still it is a case in which the old adage of better late than never holds good, and the thanks of all fruitists are due to Mr. Barron, the compiler and editor, and also the energetic and active Secretary to the Congress Committee, for his exertions to press the Report to a successful issue at last.

The Report is in all respects simple in character, and is almost entirely a pure record of facts. It is in no way disfigured by personal references or toadying allusions to this or that personage. Mr. Barron has faithfully and fully set forth all the information which came in his way in regard to Apples, and that will be found of exceeding interest and value. The book is prefaced by a short report of the circumstances which led to the organization of the Committee, and the ultimate carrying out of the Congress, and is followed by a list of the names and addresses of the 231 persons who so cheerfully sent examples, contributing as they did the enormous number of 10,150 dishes of fruits. The body of the Report gives the kingdom, including Ireland and Jersey, as divided into twelve sections, the most important of which is the Southern section or group of seven counties, Middlesex, Berks, Kent, Hants, Surrey, Sussex and Wilts, this section giving no less than 3,500 dishes, or more than one-third of the whole. Kent, as becomes the county famous as the garden of England, heads the list of dishes with 913, whilst Middlesex also, a great Apple-producing district, follows with 908 dishes; Surrey, Sussex and Berks falling next in order.

The next most prolific group is the South-Midland, which includes the counties of Bedford, Bucks, Herts, Hunts, and Oxford, giving 1,560 dishes, of which number Herts gives 716, and ranks next to Middlesex in productiveness, whilst Bucks, with 458, comes between Sussex and Berks, as also does Oxford Curiously enough, the great Western district, comprising as it does eight counties so well-known to fame for the growth of Apples, gave a somewhat less number of dishes than did the five South-Midland counties just noticed, but then it is probable that great trade growers are not so common in that district as in some others. However, it does but become painfully evident that the farther we get north the more rapidly do the number of exhibits lessen, showing that after all it is in the sunny south that Apples must ever be the most abundant.

In all these groups Mr. Barron has, with exceeding care, given alphabetically the names of each exhibitor, the number of dishes each one sent, and remarks, concisely revised, made by the sender upon his exhibits. The reporter has made special mention of particularly good kinds in each collection. Lastly, there has been made by the exhibitors in each group an election or selection of best kinds, both of Dessert and Kitchen, for the district represented, though it would seem that in this matter doctors of Apples. as well as of other things, materially differ. Thus we find that Kentish exhibitors, to the number of 14, being asked to select the best 12 Dessert and 12 Kitchen kinds for their districts, gave, in the former, 63 kinds, and in the latter, 59 kinds. Again, 12 Middlesex growers, in reply to the same queries returned 43 sorts in one case and 46 in the other, so that the selection of the best 24 sorts remains as open as ever. One or two things however are noteworthy. In the first place the most popular dessert kind in the three chief Apple-sending counties is Cox's Orange Pippin, and of others which come into the highest places are Ribston, King, and Kerry Pippins, and Scarlet Nonpariel. That beautiful early Apple, Mr. Gladstone, gets six marks in Kent, because it is there better known, but in Middle-

sex it gets but one, whilst in Herts it secures two, showing that Apples have been selected pretty much as they are known or otherwise. If a dozen experts or reliable growers, say one from each chief Apple county, would now take all these county selections and re-select the best twelve of each section from these, we should be nearer an universal selection of a limited range than we now are. It is worthy of note that our best selections in the South remain the most popular selections in the North.

Finally, all the county returns have been collated and the selections from each totalled in their respective groups, and even with all those having one vote only omitted, we still have of the Southern group not less than fifty-six Dessert kinds, and fifty-three Kitchen kinds. Still of Dessert kinds, Cox's Orange, King, Ribston, Blenheim, Kerry, and Cockle Pippins are the most favoured Dessert; and Dumelows' Seedling, Lord Suffield, Blenheim Pippin, Keswick Codlin, Warner's King, and New Hawthornden seem to have the leading place amongst Kitchen kinds.

With great labour Mr. Barron has compiled a list of the names of Apples shown at the Congress, giving evidently some 1,600 diverse appellations, which it has been a matter of extreme difficulty to reduce to something like order and system. It would seem as if the greater portion of these appellations referred to distinct kinds, so that it is evident the list of sorts in cultivation is, apart from synonyms, an enormous one. Of course, many of these names are purely local, but the sorts are local also. It may be, perhaps, that this list is not so perfect as it might be, but its value is greatly helped by some descriptive notes of each kind, where found distinct, or reference to its synonym if not distinct. As evidence of possible error we may point out that Norfolk Bearer, a very distinct and pleasant eating dessert Apple, and a very free bearer, is classed with Norfolk Beefing, but that is obviously incorrect. It is possible some other errors might have been made. The list of synonyms under which Apples were shown in the Congress is interesting, especially to those who may wish to correct their too often bad nomenclature. Mr. Barron has also published with the Report a new system of classification, of his own, which appears to us to be of considerable value, and to which we must direct attention on another occasion. Taken as a whole, the Report is a valuable product of the Congress, and should find a place in every gardener and nurseryman's library. It is extremely well printed, the type is clear, and the paper good, and it is published by the well-known house of Macmillan & Co.

EUCHARIS SANDERI.

ON GRAFTING CAMELLIAS.

Camellias grafted this month will readily unite, and will, especially if the following treatment is adopted, grow into good plants by the spring of the following year. In the first place, three-year-old seedlings are by far the better stock for grafting upon, and it will be found that the grafts will grow with much greater vigour than if cuttings were used for stocks, as is sometimes done. Some preparation is necessary before grafting. The stocks should be removed to the intermediate house, the pots they are in should be washed, and the drainage attended to, well soaking each plant with water, and should any black or green fly be discovered, the plants must be smoked as well as syringed, for if these insects once get into the grafting frame, they are likely to prove a source of much trouble. After the stocks have been in the intermediate house about three or four days, they are ready to be grafted upon.

In selecting the grafts, preference should be given to the tops of shoots which should be of firm wood, well finished up, of intermediate growth, and in length about 3 ins. Care should be taken to select these tops of shoots, because grafts having no leader, often take a very long time to form a growth. A piece should be cut from the side of the stock, as near the pot as possible, to receive the graft. For this purpose, a cut an inch long should be made down the side of the stem and a little deeper than the bark, but the knife should be withdrawn without completing the cut, which should be done from the outside in a downward slanting direction, thus leaving a niche like the barb of a fish-hook, in which to rest the end of the graft, which should be cut to fit the stock. In binding the graft to the stock, care should be taken to make the bark of each meet as nearly as possible.

The grafted plants must be placed in a grafting-case or frame, upon a very little bottom heat, and for at least five days the case must be kept quite close, but at the end of that time they should be looked through and any dry ones will require watering. Besides this it will, from time to time, be necessary to wipe the matting by which the grafts are secured with a piece of cloth, in order to prevent the inroads of a little blue fungus, which, if not removed, invariably destroys the graft. With regard to ventilation, the glasses of the case should be removed or the lights tilted, as the case may be, for an hour every morning, but as soon as the grafts have thoroughly united more air can gradually be given them, until at length they are strong enough to be stood outside the case. In about a fortnight after this the stock should be cut back to half its length for the purpose of diverting the sap to the grafts, but they are not finally cut back until about ten days later. Great care must be exercised in conducting this operation, lest in cutting off the remaining portion of the stock above the graft the latter be cut also. They should be allowed to stand another ten days before potting them.

The soil to be used should be composed of half peat, a quarter loam, and a quarter of river sand. The grafts can be potted into small 48-sized pots, they must be pressed firmly into the soil, and each plant should have a stick to which it should be tied in two places, once to the grafted part and once to the stock, that its liability to be knocked off by the watering-pot may be lessened. The plants should now be placed on a front platform in a house of intermediate temperature; they should not only be kept well watered, but should be syringed daily until their growth has been completed, and then they can be removed to the Camellia-house, or any other cold house.—*T. H.*

EUCHARIS SANDERI.

This very distinct and very fine new species has been several times mentioned in our columns in laudatory terms, as being a plant which when better known must become largely grown in gardens, and we are indebted to Mr. Bull for the opportunity of now publishing its portrait. The habit of the plant is well known, so that on that score we need only remark that the leaves are deep green, and the flowers pure white, with six yellow stripes on the shallow corona. It flowers with remarkable freedom, even from small bulbs, and seems to require very little heat to bring it to perfection, by comparison with E. amazonica.

THE GOLDEN MARGUERITE.

If I were asked to name the most floriferous plant, and the one alike most useful for cut flowers and for using as a decorative plant, I should at once answer Chrysanthemum frutescens Étoile d'Or. Although it is only of recent date that the different forms of the Paris Daisy have come into popular favour, it is surprising how few gardens there are of any pretensions in which it is not to be found. The cultural requirements of the plant we may therefore presume are fully understood by professional men, though perhaps not by amateurs, to whom the following remarks may be of use. The Marguerites are at once easy to cultivate and certain to yield an abundant return for any pains bestowed on them. I find them answer well by putting in the cuttings early in March, six or eight cuttings in a 6-in. pot, using a compost of three-parts loam to one part of leaf-soil with sand added.

When rooted, which will be in about a fortnight, if placed in a little heat—bottom heat is not altogether necessary, but if at command will insure a more speedy root action—they will require to be gradually hardened off previous to putting them singly into 3-in. pots; and at this potting and each succeeding shift I use a similar compost to that recommended above, substituting, however, rotten dung for leaf-soil, and placing them in a little heat until they have taken hold of the new compost, when they may at once be put into a frame, and afterwards as the season advances be plunged out-of-doors and treated in every way similar to the ordinary Chrysanthemums; in fact, I always pot them on at the same time as the latter, and I keep them well pinched back until the middle of September, which makes them dwarf and bushy.

I find them most serviceable when occupying 8-in. or 9-in. pots, a size alike useful for producing quantities of flowers and for using for any other purpose for which they may be required. It is not necessary to stop pinching at the date I mentioned, as the cultivator may require them earlier or later and so can vary the time of stopping to suit his own convenience. I continue to give them weak liquid manure from the time the pots are fairly filled with roots until they are turned out-of-doors in the spring. The old plants may then be sheltered from cold cutting winds and frost and afterwards be planted out in borders, when they will soon be in flower again, the peculiar shade of yellow being valued even in the summer when so many more things are open for choice.

While I have been endeavouring to show their utility as winter-flowering subjects, it may not be out of place to call attention not only to the fact that the old plants may be planted out, but that they make very nice bedding-plants and help to tone down the glare produced by Pelargoniums, besides using them to advantage in mixing with sub-tropical arrangements. For these purposes I propagate them at the same time as I do those for producing cut flowers for winter use, and allow them to remain in the 3-in. pots until they are required for their summer quarters. Should the stock of plants grown in pots be insufficient these may be taken up and potted, as recommended in a recent number of The Gardening World, on taking up Chrysanthemums and potting from the open ground.—*E. Dumper.*

"THE BOTANICAL MAGAZINE."

The November number of this work contains the following:—

Crinum leucophyllum (t. 6783).—It is evident that Tropical Africa is the head-quarters of this ornamental genus. The present species occurs in Damara-land, whence it was brought to England by a Danish sea captain. The bulb was purchased for the Kew collection, and flowered in August, 1881. It is a large and ornamental species; the bulb is ovoid, and nearly 6 ins. broad; the leaves are lanceolate, 1 ft. 6 ins. to 2 ft. by 5 ins. to 6 ins. broad, whitish green; twelve to fourteen in number, and recurving from a distichous column about a foot high. The scape, which is thrown up from just below the leaves, is 1 ft. long, stout, much flattened, spreading, and bears from forty to fifty pinkish flowers, with recurving segments of early 2 ins. long.

Dendrobium aduncum (t. 6784).—A very curious Dendrobium, which was described forty years ago by Dr. Lindley; who received it from Messrs. Loddiges in 1842, and from Messrs. Veitch in 1846. The native country remained a mystery until recently, when Mr. Ford, the Superintendent of the Hong Kong Botanical Garden, found it growing on the Lo-fau-shan Mountains, on the Chinese coast, just opposite to Hong Kong. A plant, sent by Mr. Ford, flowered at Kew last July. The stems are 1 ft. to 2 ft. long, slender, and pendulous; the leaves elliptical-lanceolate, 2½ ins. to 3 ins. long, green above and red-brown beneath. The drooping flowers are solitary, or in a few flowered raceme. 1 in. to 1¼ ins. in diameter, and the segments pale transparent rose; the small white lip is boat-shaped, abruptly terminating in a short hooked tip—hence the name. The column is short, villose in front, and the anthers dark purple. It is a pretty, though not very showy species; not closely allied to any other; and is remarkable for the shape of the lip and the purple anthers.

Pinguicula hirtiflora (t. 6785).—Closely allied to the common Butter-wort of our bogs—P. vulgaris—which differs in the brighter blue of its flowers, and in the retuse corolla-lobes. P. hirtiflora has the corolla-tube white, with lilac or rose-coloured lobes. It has a somewhat restricted range in the mountains of Italy and Greece, attaining an elevation of 6,000 ft. The specimen figured flowered in a cool pit at Kew in February last; having been received from Miss E. M. Owen, of Gorey, Ireland.

Tulipa primulina (t. 6786).—A native of East Algeria. Mr. Elwes obtained it, in 1882, on the Aures Mountains, on ridges in open glades in the cedar forest, at an elevation of 6,000 ft. The leaves are three to six in number, 6 ins. to 8 ins. long, and very narrow. The flowers are very fragrant, funnel-shaped, and the segments oblong-lanceolate, acute, 1½ ins. long, pale primrose, and more or less suffused with red on the back of the outer segments; anthers orange-yellow.

Iris hexagona (t. 6787).—A native of the Southern United States. The plate was prepared from a specimen flowered by Mr. R. I. Lynch and which was exhibited before the Royal Horticultural Society in June last. The leaves are sword-shaped, 2 ft. to 3 ft. long by 1 in. broad; the flower-stems 2 ft. to 3 ft. long, with two or three clusters of flowers. The flowers are bright lilac; the outer segments 3 ins. long, with obovate blade, 1 in. to 1¼ ins. broad, and a bright yellow keel; inner segments oblanceolate. It will probably require protection in winter.

Ravenea Hildebrandtii (t. 6776).—This is the name of the Palm figured in the September number (mentioned in our columns on pp. 41 and 87). It is a native of the Comoro Islands, E. Africa. The plant figured is a male, which last summer flowered for the first time, at Kew, whilst quite small. The female flowers and fruit were furnished by Mr. Wendland.

PEACHES AND NECTARINES.

Select Varieties.—The season having now arrived when all kinds of fruit-trees and bushes should be planted, a few remarks, with notices of the best kinds of Peaches and Nectarines, followed on by others relating to Apples, Pears, Plums, Cherries, &c., will perhaps be of use to many in making selections to replace worthless sorts or to add to their stock. Taking Peaches first, the one I would specially recommend for early work, either for forcing or growing outdoors, is Alexander, which, in favourable summers, ripens on open walls by the middle of July, and not only is it a very precocious variety, but the fruit is large, well coloured, and of excellent flavour. Hale's Early is so much like the Alexander, but not so early, that it is useless growing the two; but Early Rivers is quite a distinct kind, having large pale-skinned fruit, not of high quality, and yet it is useful for coming in to keep up a succession.

Beatrice and Louise are both small and poor compared with the two named, and therefore not worth planting, the next best being Early Grosse Mignonne, which is a first-class Peach and a very free bearer. The next deserving of notice, taking them in their order of ripening, is Dr. Hogg, which bears large fruit that colours with deep crimson on the sunny side, and has yellowish-white flesh, that is melting, juicy, and of very rich flavour. Outdoors it ripens about the middle of August, and as it is so early and good in every respect, it is deserving of cultivation even in the smallest collection, and what renders it more valuable is that it is firm and travels well without bruising.

Royal George has stood the test of many years, and for its season there are none better either for growing indoors or out, as it is a capital forcer, free setter, and one that bears fruit very handsome and fine, its only fault being that it is a little subject to mildew on the points of the shoots. To speak in praise of the Noblesse is like painting the Lily, as that sterling old kind is the standard of excellence and unsurpassed by any other Peach in existence, its fruit being not only large and rich-looking, but luscious and full of sweet juice. Alexandra, a seedling from it, has all its good qualities, and is said to be hardier, and may therefore be better to plant. Violette Hâtive is a fine Peach, that bears large, rich, melting fruit, that colours well, and the tree is hardy and prolific indoors or out. Bellegarde is one of the best and a great bearer and forces well, swelling up its fruit to a large size, and finishing it with high colour and flavour.

Goshawk is another first-class Peach, ripening about the same time, the fruit being the same size and shape as that of the Noblesse, but carrying more colour. Dymond is also a very fine kind, and is one of the best for exhibition, as it is large and showy and delicious in flavour. Grosse Mignonne finishes up all that are desirable of the early summer sorts, and coming to those that succeed them and ripen immediately after, the first deserving mention is the Barrington, which is a grand Peach and a sure bearer. The fruit of this kind is very large, roundish obovate in shape, and has yellowish skin, that colours deeply when exposed to the sun, the flesh being firm, and delicious in flavour. Sea Eagle is also a remarkably fine September Peach that bears large fruit, with pale skin and rich refreshing juice, and to succeed these none are equal to the Walburton Admirable, which has the good qualities of the Noblesse, and though ripening so much later is little inferior. To give the fruit a fair chance the trees should be planted on a south wall, that they may have all the sun we get, to ripen and bring it up to the mark. Princess of Wales is a very large handsome Peach that ripens just after the Walburton, but though more showy is not equal in flavour. Lord Palmerston is still later than the Princess, and is even larger and finer looking, as besides its great size, it has a delicate creamy white skin, flushed and suffused with pink, which gives it a rich and imposing appearance. Although there are many others, those enumerated above are the very best, and afford sufficient variety for even the largest of gardens.

Nectarines are not so numerous, and the earliest and finest of all of them is Lord Napier, which has not been out many years, but is fast making its way as the favourite for forcing, as it is earlier and finer than the old Elruge, and sets just as freely indoors or out. The fruit is large and round, and when fully exposed to the sun, colours deeply, and the flesh is firm and delicious in flavour. To succeed the Lord Napier, Elruge is still worth growing, and Hardwicke Seedling is a very hardy free-bearing kind, having large showy-looking fruit of excellent quality. Violette Hâtive is likewise a fine Nectarine, and one that forces well, as it sets its flowers freely under glass, and bears rich fruit that ripens after the Elruge. To succeed the trio named, Pitmaston Orange is as good as any, and this, with Humboldt and Pine Apple, complete the list of Nectarines, as they are the cream, and last on in succession as late as they ripen.

Cultivation.—To grow Peaches and Nectarines well, either indoors or out, they must have good soil, but not of a rich nature, as in that they would soon become too strong and produce gross shoots, which, if they ripen, seldom bear fruit. That which suits the trees best is fresh turfy loam, which should be got from some old pasture, or waste place by the roadside, and, when carted, chopped up roughly, and if not sandy, it will be improved by the addition of a little sharp grit, which will help to keep it open and porous. Another thing that benefits Peaches and Nectarines greatly is chalk or lime rubble, as some calcareous matter of that kind is necessary to assist the fruit in stoning, and therefore if the soil lacks the ingredient, it should be added, and, at the mixing, be stirred up together. Soot also, in small quantities, is very

suitable for the trees, and a sprinkling of that may, with advantage, be given, but on no account should leaf-mould be made use of, or dung, as the former is almost sure to breed fungus, and the latter drive the wood in an unruly and rampant condition.

In the selection of trees those trained one year are the most preferable, and these should be picked out with good clear stems, free from knots or suckers, as when they have such robbers they never do well. All that is necessary at planting is to trim the mangled or bruized points of the roots, but the heads of the trees should remain untouched, as to cut them back is the most mischievous thing that can be done, for the severing of the tops throws the plants back at least a year, as when they have made a summer's growth they are just about at the same stage as before, and yet how few there are who ever think of this, but go on in the old track, mutilating the plants and reducing them to the merest stumps.—*Alpha.*

NOTES ON GARDENS.

Heckfield Place.—These gardens are always attractive. It would, indeed, be difficult to pay a visit to Heckfield and partake of the genial hospitality of Mr. Wildsmith, without being shown some fresh feature of interest as well as learning some practical lesson from the high-class culture there displayed in all branches of the profession. At the time of our latest visit the flower-garden (now become quite famous for its unique arrangement and excellent keeping) was being stripped in a partial measure of its summer dress, and re-clothed throughout all the beds with suitable shrubs for the winter season. This happy combination of many hardy plants that are suited to either season of the year leaves no great amount of extra material to be needed in order to complete the beds, either with tender plants for the summer time or hardier types for the winter months.

The groundwork of nearly all the beds remain intact, the necessary additions being chiefly dot plants wherewith to complete the designs for the time being. The terrace-walk next the mansion being several feet higher than this garden, affords an excellent view of all the beds; each design and set of beds are thus seen to the best possible advantage. The dwarfed forms and varied hues of the Retinosporas, the variegated Euonymus, golden and silver Hollies, Cotoneaster microphylla, Mahonia aquifolia, with several other similar and suitable subjects, all help to form a most cheerful and attractive arrangement for this season. The variegated variety of Iris fœtidissima was also to be used, and this struck us as being a most promising addition to the already excellent selection of plants employed. Where any extra carpeting in the beds is needed, a free use is made of a dwarf-growing form of Heather that abounds in the locality.

At the time of our visit the long central walk was still most effective with some of the best forms of single Dahlias arranged in one long line on either side, and next to a beautifully-grown hedge formed of Cupressus Lawsoniana. This struck us as being the best system we had yet seen of growing this type of the Dahlia, forming as it were a second hedge from which the many coloured hues of the freely produced flowers were seen to the very best advantage. Near to the lakes are the beds more specially devoted to sub-tropical plants, and a more suitable spot could not well be chosen for these ornamental subjects.

The Eucalyptus globulus and other species of the Blue Gum of Australia, Acacia lophantha, Ricinus Gibsoni, Wigandia caracasana, the best of the Cannas and ornamental leaved Solanums, were here growing most luxuriantly. Arundo conspicua (the feathery Arundo, or, as it might be appropriately termed, "the summer-flowering Pampas Grass") had also thrown up numbers of its graceful spikes that were reflected in the water with pleasing effect. The paths in all parts of the pleasure grounds are kept in the best possible order, and models of what paths should be; in fact all the walks in every department of these extensive gardens are maintained in the best condition. Excellent gravel is procured in the neighbourhood, and Mr. Wildsmith knows well how to make the best use of it.

The kitchen-garden crops all evinced that their wants were thoroughly well studied, deep trenching being an important factor in obtaining these results. After such a season of remarkable drought as we have experienced, such practice as this is of all things the most essential in vegetable culture.

The latest of the Peaches had been gathered, good crops having been borne throughout, and the wood ripening off well and full of promise for another season. Mr. Wildsmith speaks in high terms of the Nectarine Peach as a late variety, we have ourselves proved the Sea Eagle to be an excellent late kind, and those who do not possess either one or the other may advantageously add them to their collections.

Heckfield is always famous for its Grapes, and the high position they have taken at this season's exhibitions is sufficient proof that the vines have lost none of their vigour. Lady Downes' Seedling was a splendid crop, fine in bunch and berry, the latter being covered with that deep blue-black bloom that is characteristic of the variety when well finished. As a proof of the estimation in which Gros Maroc is held at Heckfield, it suffices to say that a newly-erected vinery is to be almost entirely devoted to this variety. Lord Eversley, who is himself an excellent judge of Grapes, thinks highly of this handsome variety.

Strawberries in pots were unusually robust and healthy, ripening off their crowns well and promising for an excellent return in due time. Vicomtesse Hericart de Thury and President are the two kinds chiefly relied upon. Long may the noble owner of Heckfield be spared to further appreciate the productions of his garden and the able services of his gardening chief.—*Grapho.*

HOME MANURES FOR THE GARDEN.

(*Concluded from p.* 167.)

Conversion of Refuse into Compost.—The high value of compost manures to the gardener ought to make him more than usually careful to collect and prepare all materials suitable for conversion into soluble plant-food.

Wherever there is matter which can supply vegetation with a single organic or inorganic ingredient, there is a manure, and it ought not to be wasted. All animal or vegetable matters, or their remains—whatever purposes they may have served, or however valueless they may appear—and all materials which contain any of the constituent elements of plants, however worthless they may be for other purposes, are not valueless to the gardener, and are in fact manures commanding the greatest care.

The materials for the preparation of compost may be considered under four heads:—

I. Earthy refuse, such as ashes, building rubbish, clay, quicklime, gas-lime, scrapings of roads, mud from ditches, ponds, or sluces.

II. Vegetable refuse, comprising all fallen and decaying leaves, whether of trees, shrubs, or kitchen vegetables; sea-weed, Potato haulms, trimmings of hedges and trees, peat-rubbish, mowings of lawns and trimmings of garden-paths, weeds, moss, heather, sawdust, soot, and stray rubbish in general.

III. Animal refuse, including blood, dead animals, feathers, bones, night-soil, and slaughter-house refuse of all kinds. According to Boussingault, 30 lbs. of blood, 32 lbs. of blood, 64 lbs. of bone, or 29 lbs. of cow-hair, contains as much nitrogen as half a ton of stable-dung.

IV. Liquid refuse from dwelling-houses, soap-suds and wash-water, drainings from stables, cow-houses, and piggeries; and gas-liquor.

In fact, whatever contains the constituents of which the living fabric of plants is composed will be found useful to promote future plant-life, and is therefore deserving of attention. In plain words, the compost heap should be regarded by the gardener as his savings bank, upon which he can draw in all times of manurial-needs.

Animal matters extremely rich in nitrogen, phosphoric acid, potash, carbonic acid, &c., and the earthy and vegetable refuse of a garden generally, have in them both organic and inorganic food of plants, that may be employed, if not as a direct food, yet as absorbents for liquid manure, or for admixture with other highly nitrogenized bodies which are apt to ferment too rapidly. Hence it is for the purpose of making compost with liquid and other fertilizing matters that even the coarsest vegetable matters, such as dead leaves, sawdust, heather, peat, and moss, are most useful; saturated with urine and liquid drainings they form a manure of no inconsiderable value.

The practical gardener, as we have already shown when speaking upon liquid manures (p. 119), will find that liquids act more readily alone than when combined with solid matters; and if applied to light, sandy soil they will be especially valuable by improving the mechanical condition of such soils, making them firmer and more capable of retaining moisture.

Also in dry, hot weather surface-watering becomes absolutely necessary, as the gardener frequently finds to his cost. If weak liquid manure can be used for this purpose so much the better.

Compost matter employed for mulching trees, rows of Peas, Beans, and Strawberry plants will have the effect of retaining the surface-waterings for a greater length of time than if the ground was left unprotected to the scorching rays of the sun.

The value of a well-constructed compost heap arises from the fact that it, like stable-dung, contains all the elements of plant nutrition, and being in a decomposed and soluble condition, furnish the crops to which it is applied with ready-formed and consequently quickly digestible food.

Heavy tenacious soils will be benefited by a good addition of compost manure, supplying as it does abundance of carbonic acid.

The utility of intermixing quicklime, gas-lime, gypsum, ashes, and soils in compounding compost heaps consists in the fact that their addition not only promotes decay both of vegetable and animal refuse not otherwise easily decomposable; but they become actually necessary if the materials added to these mixtures are previously strongly imbued with acids, as is the case with peat moulds, fresh pond mud, &c.

That vegetable and animal substances must be moist in order to ferment is taught by daily experience. Iron will not rust without moisture. Hence it is evidently necessary to have compost heaps copiously watered with liquid manure, or gas-liquor, if we wish to produce a rapid decomposition; taking care, however, not to overdo the watering so that the liquids run out at the sides and bottom. If mould or mildew is found in any portion of the heap, it is a sign that that particular part is not moist enough.

Dr. Stockhardt, in his *Agricultural Chemistry*, says, "In long-continued winter cold when a compost heap is cooled down below the freezing point, so that it becomes hard and solid, all further decomposition is arrested; it only recommences when the heap is thawed again, and rises vigorously and rapidly in proportion to the increase of heat. The internal heat developed in the fermenting mass itself during decomposition is of more importance than the external heat of the atmosphere; and it is particularly important during the first period of fermentation, in which the firmness of the fibre of the refuse-materials has to be overcome, and thus rendered soft and rotten, which only takes place rapidly and completely when the fermentation and heating are in full working condition. For this reason it is advisable during the first months to beat the compost heap into a solid mass after each moistening, since the dense packing of the heap and the prevention of the circulation of air will cause the heat to be kept in, better than when the former is loose and has many interstices. When the process of fermentation has advanced to that point of rottenness where the fibrous materials have become soft and crumbly, it will be advantageous to fork over the heap frequently, and to let it lie in a looser condition; as during the first half period, which may be termed the time of putrefaction, the access of air is injurious; while in the latter half, which constitutes the period of decay, atmospheric air is useful.

Whether a compost is active or inert depends entirely upon the quality of strong manuring substances added to the bulk, therefore plenty of urinous liquids should be poured in, night-soil and large sprinklings of soot also added to each layer.

In laying the foundation of the heap care must be taken that none of the liquids can drain away into the earth which forms the bed. It is equally plain that earth, mud, ashes, &c., should be sifted previously, so as not to add stones, slag, &c., to the mass, as unnecessary ballast.

There is scarcely any crop or plant to which good compost manure may not be applied with advantage.

The Amateurs' Garden.

Arrangement of Cut Flowers.—People generally seem to have improved very much in their ideas as to how best to arrange cut flowers, and we now seldom meet with those horrible mixtures of flowers placed together just as they came to the hand that we used often to see. The fact is, that it is now well-known that many sorts of flowers used in the same arrangement generally spoils the effect, and the fewer the kinds used, the more striking the arrangement, and the more easy to make. The great hold which the Marguerite has on us, seems mainly to be due to the many chances given to it of being seen alone, there being but the white and the yellow varieties, they never fail to arrange well, were these all shades of colour, the thoughtless would mix them together and soon ruin the character of the lovely Marguerite.

So also it is with the single Dahlias, they are now very popular because the distinct colours are used, but whenever all the shades get mixed together, they will decline in favour. The question might be asked, Why mix them? and the answer is not easy to find, certain it is that people will buy mixed and uneffective flowers, but the sale of such soon comes to an end, and the field is left open to the distinct coloured and effective favourites once more, many of them very old ones indeed. A glance round Mr. Green's shop in Crawford Street, or that of Messrs. Nieman & Cornish, in Orchard Street, Portman Square, reveals the favourites arranged each by itself in a suitable vase, the arrangement of colour being effected by the artistic arrangement of each vase with its pretty tenant, the most prominent being vases of Marguerites, Marigolds, Chrysanthemum, Elaine, Fair Maid of Guernsey, Peter the Great, Niphetos Roses, Mareschal Niel, and crimson hybrid perpetuals; Roman Hyacinths, Violets, Odontoglossum Alexandræ, Bouvardias and the ever present Vesuvius Pelargonium, Eucharis and Stephanotis, and many bunches of the useful Maiden-hair Fern, which has to supply foliage for everything.

It is to be regretted that many of the market flowers are cut with such short stalks as the bringing up of the flowers in an arrangement is absolutely necessary, and the larger the flowers are the more the necessity for elevating and loosely arranging them, for by such means a dozen or so of flowers of Chrysanthemums with stems a foot long can be made to look much more effective and natural than three times the number with short stems would. All who have the making of table bouquets and floral arrangements will do well to remember that those made up of one, two, or three distinct kinds or colours of flowers, with suitable foliage, always look well, and anyone with ordinary taste can make them, but to use many colours effectively is a laborious task for an artist, and even when such arrangement is artistically done the one who made it can always find plenty of faults. —*Madeline.*

Utilizing the Tops of Roses.—A correspondent of *The Field* writes:—"The time of year has arrived when the long growth on Roses is of no further service on the plants, and, as a matter of fact, it will be a relief to them to have it shortened back, so as to reduce the size of the head, and give the wind less power to blow the Roses about. The shoots thus obtained may be turned to profitable account by converting them into cuttings, which by careful planting may in due time be made into plants. There are two ways of dealing with the cuttings from which a fair proportion of plants may be expected. In our own case, having an odd light to spare, we have made a temporary frame on a warm border, and, having mixed some sand with the soil, have dibbled in the cuttings pretty thickly, and put the light over them. The latter we shall cover up during very severe weather, and once or twice during winter we shall get a thick stick and ram the soil firmly between the cuttings, as I find they root better in a firm soil than in a loose one, and the worms will be sure to work amongst them and loosen the earth. Another way is to plant the cuttings on a warm border in the open. The best way of doing this is to cut a niche 4 ins. deep with a spade, then put in some road grit or sand, an inch thick, to receive the base of the cuttings. Let the rows be 1 ft. apart, and the cuttings 3 ins. asunder in the rows. Press the cuttings firmly into the sand, so that they may have a firm bed on which to rest, and then press the earth firmly with the feet about them, so as to securely fix them in the soil.

"In securing the cuttings, no attempt should be made to prune the Roses, but on most established plants there will be long shoots, which, as before suggested, may be advantageously reduced in length. It is from this surplus growth that any number of cuttings may be obtained, and, as has been already stated, it will do the plants no harm if these long shoots are shortened back to within 6 ins. of where they will have to be cut back to in spring from the hardest of the shoots. Thus obtained, the cuttings may be made, rejecting the soft tops, as they will be sure to die. For this purpose, a rather long cutting is desirable, as it enables the operator to fix it more securely in the soil than a short one. As nearly as possible, every cutting should be 8 ins. long. It is not of much importance whether they have leaves on them or not; although, if they can have two or three leaves above ground, they will be likely to form roots sooner than such as have none.

"I find that when the cuttings are put in at this time, whether under glass or in the open, it is best to let them stand one year before being moved, as by that time they will have made a sufficient number of roots to bear removal with safety. Some like to take them up in spring just as they have formed a callus, and pot and place them in heat; but unless they can be dealt with in a careful manner, great risk of losing many of them will be incurred. Those put in frames will require an occasional watering as spring advances, and the light should be tilted in warm weather to admit air. At the end of May the lights may be removed altogether, and as summer advances many of them will begin to grow vigorously. The strongest may have their tops cut off when they have reached a height of 18 ins. If left to themselves, some will flower during the summer; but if strong plants are wanted, they should not be allowed to do so. By the time they have been twelve months in the ground they will be ready for potting, or for any other purpose for which they may be required."

Apple, King of the Pippins.—If I were so closely restricted for room that I could grow only one Apple-tree, the King of the Pippins is the one I should desire before all others that I am acquainted with. There is one tree of a good size here from which I gathered three sacks of Apples this autumn, and I gathered exactly the same quantity in the autumn of 1883; the tree, in fact, almost always bears a good crop. A gardener, my senior in years, and a good pomologist too, called here a few days ago, and was much struck with the beauty of the fruits as they laid on the shelves in the fruit-room. It is a fine golden-yellow when ripe, with streaks of crimson on the sunny side; the flesh is also yellow, with a crisp sweet, juicy flavour. It is not a late Apple, but if kept covered from the air, will keep some time into the new year. The tree is a free, but not a gross grower, because it makes long shoots, which develop a quantity of fruit buds, and eventually fruit, quite weighing the branches down. It does not get thick so as to require thinning-out like some kinds; in fact, its habit of growth is peculiar to itself, for the tree here is a facsimile of two trees that grew close to the cottage home of my younger days in Flintshire, and which were then, and in that district, known as the Orange Pearmain. It is first-class for either cooking or for the dessert. It is in some places miscalled the Golden Winter Pearmain, and in others is known as the Hampshire Yellow, but rightly it is the King of the Pippins, and well it deserves the name.—*T. W., North Norfolk.*

Parrotia persica.—This handsome little tree is still somewhat rare in gardens, which is largely due to its not being easily propagated. The large oblong dark green leaves are very effective during the summer, but in the autumn as they change to the deepest yellow and even to scarlet, the tree has a brilliant appearance.

THE LOWFIELD NURSERIES.

The fine collections of Apples which Messrs. J. Cheal & Sons have exhibited in London and elsewhere during the last few years, have brought the Lowfield Nurseries well to the front, indeed we do not know of any firm which has gained so high a reputation in so short a time, or one which is so likely to become still more widely known in the future, if we may judge from the enterprising spirit with which their business is conducted. Fourteen years ago, to somewhat alter a now familiar expression, the Lowfield Nurseries were not in existence, indeed the land now occupied by thriving Fruit, Forest and Ornamental Trees, was under the plough, and but a short time before formed a portion of Lowfield Heath, an open common in the large parish of Charlwood, Surrey. The nearest railway station and post town is Crawley, Sussex, about two miles distant, but between that town and Lowfield Heath runs the boundary line of the two counties, and the Lowfield Nurseries are on the Surrey side.

The visitor to Lowfield, who may have heard much of the famed Cordon fruit-trees there grown, or have seen some of the splendidly coloured Apples exhibited from time to time by the Messrs. Cheal, immediately on his arrival somewhat feels a sense of disappointment. He has pictured to himself, may be, a sunny site, sloping to the south, and snugly sheltered from north and east winds, a place made by nature for a fruit-tree nursery—but what is the reality? A flat open country for miles around, without an atom of shelter of any kind, so that all the nursery quarters are exposed to every wind that blows—a country that delights the hearts of fox and stag hunters, but which can hardly be considered a horticultural paradise. The soil of the district is a good stiff loam, on a subsoil of clay strongly impregnated with iron, which is believed to be responsible in a great measure for the high colour attained by many of the varieties of Apples grown in it. That the soil suits the trees well, and the fruit-trees especially, is seen as soon as we get amongst them, so clean and thrifty a growth do they make, and so free are they from any symptoms of canker or blight.

From the time the first tree was planted on the ground, the Messrs. Cheal have gone in largely for Cordons, and Cordon-trained trees are the speciality of the nursery. The stock increases yearly in large numbers, and the demand also, so rapidly, we are glad to say, is the prejudice against the Cordons dying out, for there can be no doubt where variety and high quality are demanded the Cordons are the trees for garden culture. This year's saleable stock of Cordons consists of 15,000 Apples, Pears, and Plums, to say nothing of Cherries, and one may note the fact as a sign of the times that a greater demand than usual has sprung up for Cordon Plums. As a stock for the latter, the Messrs. Cheal have been trying the Myrobella Plum, which is blight proof, and admirably suits their soil. For the Pear Cordons, the Quince is used entirely, and many of the sorts are double worked, a process the value of which has hardly yet been so much recognized as it deserves to be at the hands of fruit-tree raisers. As Apple Stocks, the French Paradise is used for the dwarf trees, the Doucin for those required of medium strength, and the English Paradise for the tall ones; and as far as possible the stocks are budded in preference to grafting, the latter method being only followed when budding cannot be done.

The greater portion of the Cordons are single and upright at first, as they can be planted obliquely afterwards if desired, but a certain number are trained as double Cordons, to be used either for planting against pillars, or to form those pretty diamond patterns, which look so well, and are withal so useful, in any kitchen-garden. The single Cordons are also recommended, and indeed have been largely used for covering archways over garden paths, and for which purpose they are admirably adapted. The great advantage gained from planting Cordons in new gardens especially, is that they give a return at once, that is to say, if frost lets them alone, they will bear a crop the season after planting, and some varieties a good crop too, while as to quality, the Messrs. Cheal, Mr. Haycock and other successful exhibitors, have shown conclusively that the largest and best fruits are obtained from the Cordon trees.

The Messrs. Cheal are no believers in the old system of cutting back and hard-pruning, and their trees show that they are right in confining their pruning operations, as closely as possible, to summer pinching late in July, and the leading shoots are not stopped then. Winter pruning encourages the formation of useless shoots, and it is found by practical experience in the nursery, that regular transplanting to keep the roots in bounds, and summer pinching are the best means of inducing the trees to develop fruitful spurs. To those who appreciate successful cultivation regularly and systematically carried out on a large scale, no greater pleasure can be afforded than a walk through the quarters of a well-managed nursery such as this. Quarter after quarter are passed as it were in review order, every Cordon as straight as a gun barrel, well-ripened to the tip, studded with spurs down to the stock, and the bark as fresh and bright as one can desire to see it, while the strength of the plants may be inferred when we say that the trees two seasons from the bud, range from 4 ft. to 6 ft. in height, and others in proportion.

It must not be supposed that because we have so far confined our remarks to the upright Cordons, there are no espaliers, no standards, or fan-trained trees to be seen in the nursery, for these, too, are done well, notably the trained Peaches and Nectarines, Cherries, and Plums, but, as we said before, the Cordons are the speciality. Pot Vines, Peaches, and other trees in pots, for orchard-houses; Strawberries, Raspberries, &c., also claim attention in the fruit department.

On the occasion of our visit the fruits had all long been gathered, but a visit to the fruit-room amply confirmed previous impressions as to their quality. Here were all the leading varieties, carefully arranged for inspection and as carefully named, the Messrs. Cheal being particularly careful in the important matter of nomenclature. We have no time to go through them all, but note a few specially fine samples. Cellini is highly praised, it suits this soil well and makes a handsome Cordon. Two local Apples are also pointed out as the favourites among the cottagers in that part. These were the Forge Apple, a delicious little fruit, raised at the Forge Farm, about a mile away; and what is locally known as the Pomeroy or Duck's Bill, but which Dr. Hogg considers is the true old Winter Pearmain. The Forge Apple is a somewhat slow grower, taking a year or two longer to make a tree than most other varieties, but its habit is very neat and it is a wonderful bearer. Samples of Manx and Keswick Codlins were shown us that had been allowed to hang on the trees till the end of October. The Golden Reinette, Cox's Orange Pippin, Ribston Pippin, Cornish Gilliflower, Hoary Morning, and Hanwell Souring were pointed out as being especially fine, and the latter variety as one that should be much more planted than it is.

We learnt going through the nursery that whether owing to the clean healthy growth the trees make or to the presence of the iron in the soil, but little trouble is given by blight, and that what American blight does make its appearance is soon killed by the use of a dry stiff brush. We noted too the large use made of discarded canes from an umbrella factory for training the trees to, and which being stiff and uniformly straight, are so much better fit for the work than the coppice wood generally employed.

The nursery, which covers an area of about fifty acres, also contains a flourishing stock of forest and ornamental trees and shrubs, the commoner sorts in large quantities, a choice stock of about one hundred varieties of Rhododendrons, which make a clean growth, and bud freely in the stiff loam. Roses too are largely grown, and herbaceous plants, Dahlias, and the usual miscellaneous assortment of plants to be found in a large nursery establishment, are grown here, and done justice to. Near the residence of the Messrs. Cheal, which faces the main road to Brighton, there is a pretty combination of water rockwork and summer-house, which we have chosen as the subject of the accompanying illustration. A few roots of good size have been used, but the bulk is composed of the dull red stone of the district, put together in a natural way, and being planted with alpine and spring-flowering bulbous plants, mixed with Cotoneasters, Escallonia macrantha, and a few other evergreens of a similar character, has a pleasing effect in a garden that is otherwise monotonously flat.

ROCKERY AND SUMMER-HOUSE IN THE LOWFIELD NURSERY.

FRUITS.

Gathering and Storing Fruit.—An inspection of the fruit store of a veteran gardener the other day forcibly reminded me that there is still too much ignorance and carelessness displayed in the handling of Apples and Pears during the operation of gathering and storing. This ought not to be the case, for the gardening papers teem with the necessary instructions for gathering fruit as the season comes round. Non-readers of course are not likely to be reached through that source, so they must continue in their careless ways; and in this category I must place the "old-fashioned gardener," as he designated himself upon my complimenting him on the appearance of some of the crops in the kitchen-garden, and notably some Apple trees, which, being worthless kinds, had been cut down four years ago and grafted with well-known sorts, and which I was informed bore well last year and this. "I am only an old-fashioned gardener, but I *know* how to do some things, and grafting is one of them." The produce of one tree was weighed last year, and found to be over 65 lbs.

While in the fruit-room I picked up a few samples of one sort or another, and finding them much bruised, I remarked, "I suppose many of your Apples were blown down by the wind?" "No," was the reply, "*they be* sheltered too much for that, and the shoots will not give way much to the wind." I then concluded that as he gathered them off the tree they had been dropped in the basket at whatever distance it might happen to have been from him, and from the gathering basket many had been unceremoniously thrown into hampers, and out of them on to the shelves in the fruit-room. Being a little deaf, the sound of the fall and tumbling of the Apples do not suggest to him what is taking place, and his defective eyesight fails to detect the result, but he is mentally concerned as to how it is his fruit does not keep like those of Messrs. A. and B.; and whilst the words are leaving his mouth two or three Apples leave his hand with some force back to the place from whence he had picked them out to show me, inflicting at least half-a-dozen bruises by his reckless act, and which half-an-hour's reading might have obviated. "That Apple," I said, pointing to a fair sample of Grenadier, "was certificated by the Apple Congress last year; you perhaps saw an account of it in the gardening papers?" No, he had not, for he did not read them. He used to read a little at one time, but he discovered that some wrote what they never practised, and he had no faith in that sort of teaching. "The idea of a man telling you how to grow a plant that he has not been able to grow respectably himself! Why, I saw some time back a long piece copied from one of the gardening papers, in which the writer was giving instructions how to make a lawn. If he was a gardener, he must have had a patient master if that was the speed he went at," and down went another Apple. "Had he been here when I made this lawn, I would have shown him a different way to that. I do not believe the man ever made one."

It is not my business at present to defend or denounce this plain-speaking man's statements, but I feel convinced that all intelligent gardeners are unanimously of opinion that too much care cannot be bestowed on gathering fruit as well as when dealing with it after. I am, however, persuaded that whatever the practice of some may be, their contributions to the literature of the subject have appeared defective and somewhat misleading. It will be observed that in most instances the writers on fruit-gathering tell us to be sure and line the baskets and hampers with hay or straw, so that the fruit may not be injured by the wicker-work. But, I ask, why name baskets at all? I have long ago abandoned their use because I discovered that whenever I attempted to move a basket containing something like a bushel of Apples, the struggle between myself and the basket caused the ribs of the latter to give way so as to press the fruit one against the other with sufficient force to cause depression, which means bruising the cells and hastening decay. For the purpose of gathering I use the "Sussex Trugs," made of split wood, and their shape and construction has given them the name of "Boat baskets" in Kent and other parts. Some larger ones, as well as boxes, are used to convey the fruit on a hand-barrow to the store-room. I have also used flour barrels, but they take more time to fill and empty on account of the inconvenient depth the operator has to reach when near the bottom.

If evidence were wanting of the advantage of employing boxes instead of all kinds of wicker baskets, we have only to examine the condition of the American Apples after their long journey and rough handling by frequent removals before they reach the retail vendor in this country. Many that I have inspected have been in better condition than some of our home-grown fruits that have only journeyed from the orchard to the fruit-room, a few hundred yards distant. As for those that are conveyed to market in sieves and half-sieves by the majority of English growers, it will be found that all the fruit in contact with the sides of the basket will be branded with as many depressions as it is possible for the wicker to execute.

The absence of ruggedness in the barrels, combined with close packing, will, therefore, in a great measure account for the comparative immunity of the American Apples. In fact, nothing short of the shifting of the ship's cargo or severe bumping of the casks in loading or unloading can affect them, but if the best of baskets were used the result would be disastrous. These barrels are extremely convenient to store Apples in if there is not sufficient accommodation in the fruit-room, and an amateur of my acquaintance made a practice of enveloping his best samples of late-keeping Pears and Apples in soft paper, and pack them in one of these, also in shallow boxes. I have been long convinced that every fruit-room should have a few close drawers, and the worse the fruit-room is the more desirable are such auxilliaries.—*North.*

Apple, The Stamford Pippin.—I don't often notice any remarks anent the Apple called Stamford Pippin, and am surprised it does not now and then come to the front. It possesses some excellent qualities, such as being a good cropper and of good quality. I have had it many years, and never knew it to be barren or anything approaching thereto. Some twelve years ago I budded one, it is not a very large tree now, but its productiveness may be imagined by the fact that, during the heavy gales of last summer I picked off the ground as many as 800 eatable-sized Apples, and last week I gathered off the tree upwards of 1,800! It is a capital keeper, a good cooker, and at Christmas time and thenceforth a capital table Apple, and it is sweetly coloured. The tree is, and has been from the beginning, perfectly free from canker.—*H. Boothby, Louth, Lincolnshire.*

Wingham's Industry Gooseberry.—I have grown this Gooseberry for the last twelve years, and can fully endorse what has been said in its favour by Mr. Fawkes (p. 138) so far as regards cropping qualities, as well as the weight and size of the berries. I remember a few years ago that when trying several varieties for a dish to exhibit for weight, this was one of the sorts tested, and twelve of the fruits weighed close upon ½ lb. It also makes a capital dish for the dessert, and the flavour being good, a rare quality in most large Gooseberries, it is much thought of here for that purpose, although I believe there is rather a prejudice against these large fruiting sorts for the table. The plant is a very strong grower and requires plenty of room, indeed to give access all round the bush it ought not to be planted closer than 7 ft. or 8 ft. It is not, however, an upright grower like the Champagne or Sulphur varieties, but partakes more of the character of the Old Scotch or Large Red, from which it may be a seedling, but of this I am not certain. It has at least a long-standing reputation in this locality, where I believe it originated. It has one serious drawback, however, in growing for marketing ripe, as in wet weather it is very liable to crack, more so than any other sort I know, and will not stand so much hard pruning as is generally given.—*R. Stevens, Paston.*

Late Peas.—From a row of William the First, Peas sown in June, Mr. Henry Little, Hillingdon Place, Uxbridge, gathered a fine dish of well filled pods as late as the 18th instant.

FLOWERS.

Seasonable Work in the Plant-houses.—Owing to the beautiful weather we have had this autumn, flowering plants generally are in good condition, therefore, the main aim will be to keep them so, and as we may now expect foggy or damp weather, the chief thing is to study how best to ward off the ill effects, especially of fog. It is only those who have experienced the effects of a London fog who can fully realize the damage it does to plant-life. We recommend that all houses should be kept at as low a temperature as is consistent with safety, and that no ventilation be given during foggy weather. Roses, or in fact any kind of plants that will not be damaged by syringing, should be frequently syringed with water of about the same temperature as that of the houses in which they are grown. Pelargoniums or other flowering plants that cannot be syringed should not be allowed to get quite dry at the root. Many of the early flowering varieties of Chrysanthemums will now be over, and where good cuttings can be obtained they may be put in at once, and thus save the trouble of storing the old plants. Cinerarias where required for cut flowers will well repay the extra trouble of potting on into large pots, and both these and herbaceous Calceolarias should be examined, and on the first appearance of fly should be regularly fumigated. French and Fancy Pelargoniums will also require attention, and the earliest sorts should now be in their flowering pots. As plenty of light is very essential to these, it will be a good plan to wash the glass occasionally.

Flowers out of Season.—The dry winter of 1883-4, the dry spring, and still drier summer which followed have put many things out of their course. We have here a good-sized bush of Rhododendron ponticum, bearing nearly 100 trusses of blooms, a singularly conspicuous object at this season. It is growing amongst other shrubs under some large forest trees and near to a large evergreen Oak. In spring and through the early part of the summer it flagged so much and the other shrubs also that we thought the whole would succumb to the drought, as it was impossible to water everything that required it. The plant strove to make a little growth, but the flower-buds remained hard and intact. The autumn rains have, however, altered the aspect of affairs and have caused this particular shrub to bloom as though it were June. Some Ferns growing on a mound under a large Cedar tree made no growth until the end of August, and were in a shrivelled state, but the September rains started them well into growth. On a Magnolia grandiflora, growing on a somewhat low wall, there are several buds still to open if the weather remains as fine as at present a little longer, for we have only to-day taken up our tricolor Pelargoniums, which have been very bright lately and have not been injured by frost.—*T. W., North Norfolk, November 17th.*

Zonal Pelargoniums for winter flowering.—Two of the best double-flowered varieties for winter work are F. von Raspail and Candidissimum plenum. The former is of a beautiful crimson-scarlet colour, and the pips are large and full. It is also a good trusser, and may be had in flower throughout the winter. Candidissimum plenum is the purest white variety that we have seen, and the fact of its being grown largely for market purposes is sufficient to recommend it as one of the best. Of the single white varieties, Niphetos is one of the finest, being very pure, large in the truss, and of a good dwarf habit. It deserves to become as popular as the Niphetos Rose.

Violets.—These, like most plants, are feeling the very mild autumn, and the Czar and other hardy kinds are flowering quite freely out in the open, which is most unusual for this time of year, and the scent they exhale is something delightful. Weather prophets say we shall suffer for all this by-and-bye, but let us enjoy the sweets while we may, and visit the Violet beds as often as we can, for they breathe promises of the spring yet to come. In frames, the

best of all Violets is the Marie Louise, the blooms of which are very large and double, and of a deep purple colour, sending forth an odour delicious, that quite perfumes the air near. Those who have not made acquaintance with this superb Violet, should make a point of getting it at once, that they may increase it for planting and growing next year, for it is in every way superior to the old Neopolitan, which is much more tender and later in bloom, as though ours were grown side by side with the Marie Louise, and treated precisely the same, they are not showing expanded flowers yet, and we have gathered many times from the others.—*Alpha.*

Plants in flower at Oakwood.—On Saturday, the 15th inst., there having been six degrees of frost the night before, I looked over our plants in flower at Oakwood and made a list, of which I send you a copy. On some plants there were only one or two flowers, but very many were in good bloom, though somewhat touched by the frost.

Malva capensis
Agathea cœlestis
Neja gracilis
,, larger flowered
Œnothera taraxacifolia
,, missouriensis
Lychnis, fl. pl.
Scabiosa Parnassi
Androsace lanuginosa
Abelia rupestris
Thymus rotundifolius
Mazus pumilio
Campanula Portenschlagiana
Rubus rosæflorus
Vinca acutiloba
Carnations, a few
Pinks, ,,
Schizostylis coccinea
Senecio pulcher
Rudbeckia Newmanni
Pyrethrum, double
,, single
Arenaria laricifolia
Coronilla Iberica
Phlox Nelsoni
,, amœna
Geum miniatum
,, aureum
Erodium Manescavi
,, Reichardi
Potentilla, many
,, dubia
Erigeron mucronatum
Pernettyas
Matricaria inodora, fl. pl.
Anthemis tinctoria
Arabis procurrens
Chrysanthemum maximum
,, atratum
Coreopsis
Calamintha grandiflora
Eryngium falcatum
,, pandanifolium
Asters, a few
,, Sikkimensis
Geraniums
Delphiniums
Penstemons
Pansies
Fuchsia Riccartoni
Fuchsia coralina
Morina longifolia
Malva lateritia
Gentiana acaulis
,, verna
Lobelia splendens
Tradescantias
Crocuses
Zauschneria californica
Lychnis Legascæ
Plumbago Larpentæ
Verbena venosa
Primula floribunda
,, denticulata
,, obconica
,, capitata
Primroses, Bunch Primrose
,, double yellow
Bouquet Wallflower
Erpetion reniforme
Artemisia maritima
Viola glabella
Erigeron glaucum
Cheiranthus mutabilis
Houstonia cœrulea
Ophiopogon Jaburan
Salvia patens
,, Horminum
Parochetus communis
Meconopsis cambrica
Antirrhinums
Astrantia major
Linum monogynum
Silene maritima, fl. pl.
Lobelia illicifolia
Veronica elliptica
,, decussata
Lamium, white
Heaths
Menziesias
Rhododendron Wilsoni
Aponogeton distachyon
Leycesteria formosa
Wahlenbergia saxicola
Violets
Laurestinus
Arbutus Croomi
Gynerium argentium pumilum
Cyclamen hederæfolium

George F. Wilson, Heatherbank, Weybridge Heath.

Impatiens Jerdoniæ.—Several plants of this highly curious and pretty Balsam are flowering in the stove at Kew. The stems are very gouty, spindle-shaped, and scarcely exceeding 6 ins. high; the leaves are long-stalked, lanceolate, and bright dark green; and the striking flowers are red, green, and yellow, making a very pretty contrast. The lateral sepals are green; the dorsal one is larger, bifid, and bright yellow; and the anterior petal—or nectary of Linnæus—is a large, compressed, curved sac, the extremity forming a short spur, and the whole of a bright red colour. It is a native of the Neilgherry Hills, India, and was introduced in 1852. It is well figured in *The Botanical Magazine*, t. 4736; also in *The Illustration Horticole*, t. 9.

Nerine amabilis.—This pretty Cape bulb may now be seen flowering at Kew in the Heath-house. The leaves are about 1 ft. long by ½ in. wide; the scapes are stout, 2 ft. long, bearing umbels of twelve to fourteen pale pink flowers, with undulating segments about 1 in. long.

VEGETABLES.

Peas.—No sooner are the crops of summer Peas gathered and over than it is time to be sowing again, if we are to have any to pick early, for unless the seed be got in before the end of this month, the plants will not have full pods till after the end of next May. The most suitable place for growing the rows is on a sloping border, facing south, as they must have warmth and shelter, or they become injured by severe frosts, or get cut and damaged by keen winds during March, which tell on the leaves and young tender tops. Not only is it necessary to have shelter and warmth, but it is important that the soil be light and dry, otherwise the seed is apt to rot instead of germinating, as at this season it lies long in the ground, where, to prevent its decay, it is a good plan to sow over it some dry earth, sand, or coal ashes, which either absorb the water or assist in draining it off from the Peas.

To insure having good rows of Peas, they must be sown thick, for besides the inevitable loss of some of the seed there will be slugs toc ontend with, as well as mice and birds, from the attacks of which it is a difficult matter to save them. To ward off the feathered depredators I have found nothing equal to black cotton, and if three lines of this are strained, the one down the middle and the others along each side of the rows, no sparrow, however bold, will venture near more than once, as when they alight and attempt to feed the cotton gets among their feathers and alarms them to such a degree that they beat a hasty retreat and keep away from the mysterious danger, that seems to puzzle them much. As to frightening mice, that is quite out of the question, and the only way to deal with them is to catch them, which may easily be done with cunningly devised traps, baited with some tempting bait, such as a soaked Broad Bean or a piece of cheese, which must be tied tight to prevent the mice getting the bait off without being caught. One of the best traps for these nightly marauders is the old figure of four to prop up a brick or tile, and there are excellent small iron spring traps, made like those used for rats, in which we catch a great many, and they are very easy to set.

As to slugs, the best bait for them is Lettuce or Bran, and if small traps of the latter are laid and searched after dark, numbers may be picked up while feeding upon it, and it is also a good plan to place a few pieces of board or tiles on the ground, under which the slugs crawl for shelter and hide, and may then be taken and killed while lurking, as they suppose, out of the way. Dust, from air-slaked lime, sown over the ground early in the morning, is fatal to slugs, and if repeated a few times will rid the soil of them for weeks after, and render crops safe.

With regard to the best sorts of Peas to grow, my favourite for first sowing is Kentish Invicta, and for putting in at the same time William the First, which succeeds the Invicta, and is a superior Pea both in colour and flavour. To follow on the heels of the last-named, there are none equal to Advancer, and after that Veitch's Perfection, which is a grand sort for the summer. Of the tall kinds none are equal to the old Ne plus ultra, and those who grow the varieties here enumerated will have quite enough and be able to keep up a more regular supply than they will if they attempt other sorts.—*Alpha.*

THE FLORAL NURSERIES, BOYNE HILL.

This is an entirely new establishment, of which Mr. Robert Owen is the proprietor. It is situated on the main Bath Road, and is about a mile distant from the Maidenhead Station on the Great Western Railway, and is founded for the purpose of cultivating the best groups of florists' flowers together with cut flowers, now so much in demand. Of florists' flowers none are receiving greater attention just now than the Chrysanthemum, and that deservedly. The rapid strides of late, which seems increasing year by year, has served to arouse enthusiasm in the minds of hundreds—aye, thousands—who a few years ago never thought of attempting to cultivate these charming flowers. The growing taste is a good one, and we trust a lasting one also; indeed, there are such great facilities for obtaining plants, rooted cuttings, and so forth, through the post, that to return to the old ways seems next to impossible.

Although only recently established in his new home, Mr. Owen has already a large house, 60 ft. by 20 ft., filled with Chrysanthemums, and which now are all ablaze; upwards of two hundred and fifty selected varieties of all sections are grown; but it is not to the general collection I wish now to draw attention, but the new varieties of 1884, and which seem a great advance on all which have preceded them, especially in the Japanese section. Never before this year has the quantity and quality of new Japanese varieties attained to such a high state of perfection, the flowers are considerably increased in size in many kinds, and many new and striking shades of colour, combined with a strong vigorous habit, present themselves. Space forbids a full detailed account of all the new arrivals, so it must suffice if I name a few of the most worthy.

L'Or du Rhin is a very free-flowering decorative variety, golden yellow; Frizou is a charming deep canary-yellow, with twisted florets, very distinct; Colibri, a rich dark crimson, early and free; Madame de Sevin, pleasing rosy-amaranth; Fernand Feral is an acquisition, having large flowers of a pleasing rosy-lilac, a grand bush plant grown naturally; Beauté de Jardins, brilliant amaranth, shaded with violet, and changing to purplish-violet; Anna Delaux, rich cinnamon, edged with golden yellow, a grand flower; Aurora Borealis, rich salmon-red, reverse of petals shaded gold; M. John Laing, reddish crimson, lighter the reverse side; L'Or du France, rich golden bronze, very free; M. Cochet, silvery-white, suffused with rose, and the reverse of the petals carmine-violet; Mdlle. Augustine Gautheut, clear silvery-rose, heavily suffused with white; Mdme. Lacroix, a superb pure white flower, a grand addition; Rosea Superba, exquisite rosy-lilac; M. Henri Jacotot, rich reddish chestnut, tipped with gold, and gold centre, a novel and charming variety; Dr. Macary, clear rosy-lilac, very fine; Souvenir d'Amsterdam, rich velvety crimson-carmine; Mons. Tarin, an immense flower of a soft silvery-lilac, with quilled florets; M. Moussillac, rich reddish crimson, the reverse of the petals orange; Source d'Or, glistening golden amber, with gold tips, an acquisition; Albert, rich reddish crimson, central florets spiral, very fine, free and dwarf; Étoile Toulousaine, immense flower of reddish crimson, and gold reverse; Emblem, amber yellow, suffused with cinnamon, excellent; M. Plancheron, soft silvery-lilac, decided improvement on the well-known Bouquet Fait; Beauté de Toulouse, pleasing light rose, base of petals of deeper hue, tipped white; Mons. Boyer, charming rosy-lilac, with lilac-purple centre, very fine decorative variety; Duchess of Albany, blush-white, enormous flowers; Margot, violet-rose, with creamy centre; Jeaune Delaux, intense velvety maroon, very effective; Mastic is very distinct, and is of a dark yellow-ochre, with a suffusion of pale primrose; Triomphe de la Rue des Chatelets should meet with many admirers; it is a salmon colour, shaded with buff, flowers very large.

Many others may be mentioned, but I think enough has been said and sufficient varieties cited to show that all the leading and most recent novelties may be met with in Mr. Owen's establishment. In conclusion I may remark that I have seldom seen more spirit shown in the creation of a new nursery than I have here witnessed. Only six months ago the land formed part of a corn-field, on which now stands large spacious plant-houses of first-class style, and most conveniently arranged. As a practical gardener Mr. Owen is widely known, and we doubt not but that his enterprise will meet with due appreciation.—*Fero.*

Pyrus Maulei Fruit Preserve.—In reply to "W. D." p. 174, I may say that the fruits of Pyrus Maulei may be converted into a splendid marmalade if the following directions are followed:—Cut the fruit open and take out the core, then slice the fruits, but do not peel them, and to each pound of the sliced fruit add three-quarters of a pound of sugar dissolved before mixing with the fruit; then boil very gently over a slow fire for two-and-a-half or three hours, till quite tender and clear.—*J. C. Mundell, Moor Park Gardens, Rickmansworth.*

THE

Orchid Growers' Calendar.

Wire injurious to Orchids.—There is no doubt that wherever wire comes in contact either with the leaf, stem, or flower-spike of an Orchid for any length of time, injury of a very unsightly character is certain to take place, and remain to bear evidence of the fact so long as the portion of the plant injured remains a part of it. As a means of suspending blocks, baskets, and ferns, wire of course cannot be done away with, but as copper wire is not so quick in injuring plants coming into contact with it as galvanized iron, it should be used where practicable, and in all cases where either copper or galvanized wire is used, great care should be taken to watch growing leaves, and either guide them away from the wires by placing a smooth stick between them and it, or if it is impossible to avert contact, to bind the part of the wire against which the leaf or growth is coming with cotton wool, or tie a strip of thin wood to that side against which the plant is growing, and by this means, in most cases, injury may be averted.

Whether the action of the wire on the plant be galvanic, or whether it is caused by corrosive exhudations, I cannot say, but it certainly appears to me that in many cases, where I have seen the stems of Dendrobiums and other Orchids injured by contact with galvanized iron wire they looked as though they had been struck with lightning, their stems for some inches at the point of contact being blackened, swollen and twisted; common prudence, therefore, should suggest the necessity of keeping the plants away from the wires.

In many collections I find wire is most unnecessarily used for making pegs for securing plants in their pots, and often they are used to a most ridiculous extent for securing the lumps of peat on the surface of the pots, or pieces of cork, which is very puzzling to an unpractised hand, but which is so simple to the skilled practitioner. Recently I saw a Cœlogyne cristata with over one hundred wire pegs about it. The question admits of no argument, as wherever the metal is brought into contact with the plant injury is certain, even though its effect may not be immediately visible. It is needless, therefore, to point out that wire should never be used for such purposes, indeed, pegs of any kind are unnecessary, and the sooner the cultivator accustoms himself by practice to securing the plant and the material used in potting it while the process of potting is going on the better.—*James O'Brien.*

ORCHID NOTES.

Miltonia spectabilis radians is an evergreen plant, and grows about 8 ins. in height, with short thin pseudobulbs of a light green colour. The foliage is also pale green, and the flowers are produced each on a scape about 6 ins. high, springing from the side of the pseudobulbs. The sepals and petals are of a creamy white, and the lip is pure white, with seven or eight radiating blotches of crimson-purple at the base. It blooms during July and August, and lasts four or five weeks in beauty.

We find this plant does well grown in pots or baskets, and will also thrive on blocks of wood, but we prefer the two former modes. The compost should consist of rough fibrous peat or live sphagnum moss. These plants have a sort of creeping stem or rhizome, and, of course, require more pot room for the plant to ramble over; but they require very little material to grow in. The pot should be nearly filled with drainage, and moss or peat placed on the top of it, being raised to about 2 ins. over the rim of the pots; then set the plant on the top, and peg it down securely, when it will quick root into the fresh compost. A few lumps of charcoal should be put between the roots. The plants require a good supply of water when they are in vigorous growth, but after that is completed less will suffice. The pseudobulbs should always be kept plump, and the roots never allowed to get dry, as the bulbs are then apt to shrivel, which is injurious to them.

We find the shadiest part of the East Indian house to suit them best; in this position the foliage keeps of a better colour. We often hear people complain of them turning a sickly yellow-green, but we attribute this to giving them too much sun. These plants are best potted when they are starting into growth.—*B. S. Williams in the Orchid Album.*

Zygopetalum Mackayi.—We have just now in flower two large plants of this useful and pretty Orchid bearing twenty-five spikes of bloom, and most of them with seven flowers on a spike. It is sweetly-scented, and will last in perfection for a month or six weeks. Associated in the conservatory with Eucharis, Chrysanthemums, Primulas and Cyclamens, it has a very pretty effect, and is a great favourite with the ladies. We grow it in a mixture of loam, peat, and old rotten cow-manure, with plenty of drainage. No amateur need hesitate to grow this Orchid, for its cultivation is as simple as that of a Pelargonium.—*W. Driver, Longfords, Minchinhampton.*

Orchids at Kew.—In looking through the Orchid houses at Kew the other day, several interesting plants were observed, including a good plant of Cypripedium Spicerianum, though not a twin-flowered variety like the one figured in these columns last week. C. purpuratum is very similar, except that the olive-green of the last is replaced by purple and the flowers are somewhat smaller. Liparis Sanderiana, is an interesting species from Jamaica, with ovate bright green leaves and racemes bearing from twelve to twenty dull purple flowers, ⅓ in. in diameter. The plant bore ten racemes. Goodyera pubescens is a curious little plant from North America, the ovate leaves are dull dark green, with silvery-grey nerves, it bears spikes of small white flowers of no beauty. Polystachya pubescens, is a small Cape Orchid, with racemes of bright yellow flowers. Masdevallia velifera is a very curious plant, the flowers are 3 ins. long, yellowish-green outside, and looking as if varnished, and marked with various shades of sepia-brown inside. The lateral sepals are united for a considerable distance, and strongly bent back at the base. A number of well-known species may also be seen in flower.—*Orchis.*

Cattleya exoniensis.—At the Chrysanthemum Show of the Royal Botanical Society of Manchester, held on Wednesday and Thursday last, Mr. George Hardy, Pickering Lodge, Timperley, exhibited a cut spike of Cattleya exoniensis, with seven perfect blooms, a most beautiful and highly creditable production. It is doubtful if more flowers on a spike were ever seen before.

FLORICULTURE.

Chrysanthemums at Messrs. Veitch's.—The Royal Exotic Nursery, King's Road, Chelsea, is one of the centres to which all lovers of the plant are annually drawn with the certainty of finding in addition to a very fine general collection, a number of new varieties of sterling merit. The display of the present year is well calculated to keep up the fame of the establishment in this particular, for the large house devoted to the plants is one mass of flower, and the conveniently arranged collection standing in single rows on each side of the walk in the long house at the entrance, most interesting for comparison of the different flowers, and useful for making selections. There it will be seen that on the whole, the old favourites hold their own, but still in the new ones there are plenty worthy and even desirable to add to the collection. Among the

Best Varieties of 1884, are *large-flowered:* Madame Féral, a fine white; Mrs. Todman, rosy-mauve, incurved petals with silvery reverse; Ville de Toulouse, deep carmine, incurved; Carmen, deep red, with yellow centre. *Fringed flowers:* Etincelant, chestnut crimson; Diamant, bright crimson-red; Elise Layellon, glowing red. *Japanese:* Mastic, buff-yellow; L'or du Rhin, bright gamboge yellow; Annie Holborn, white and lilac; Mons. Astorg, fine white; Roseum Superbum; satiny-rose; Comet, reddish-rose passing to yellow, Saltern, deep red, scarlet shaded carmine; Gloria Solis, bright golden yellow; Henri Jacotot, red with yellow centre; this seems at present the most distinct of the new varieties. Of the

Old Favourites, a good selection, as seen at Messrs. Veitch's, includes *Large-flowered:* Virgin Queen, snow-white; George Glenny, light yellow; Mrs. Dixon, golden yellow; Barbara, bronze; Dr. Sharpe, crimson; Lord Alcester, sulphur; Progne, claret-crimson; Prince of Wales, dark claret; Duchess of Manchester, white and rose; St. Patrick, ruby-red; Mrs. G. Rundle, white; Golden Beverley, canary yellow; Jardin des Plantes, fine yellow; Refulgens, purple-maroon; Lady Talfourd, rosy-lilac; Julia Lagravière, crimson; Miss Mary Morgan, delicate pink. *Japanese* and half-bred Japanese: Criterion, bronzy-yellow; Comte de Germiny, bright nankeen and astonishingly fine; Safrans, primrose; Eclatante, red and yellow; Source d'Or, grand dark gold; Étoile du Midi, bright crimson; Gloire de Toulouse, deep rose; Peter the Great, lemon yellow; Soleil Levant, canary yellow; James Salter, clear lilac, incurved petal; Lord Beaconsfield, salmon red, in the way of James Salter; Bouquet fait, delicate rosy-claret; Fair Maid of Guernsey, white; Elaine, snow-white, one of the finest for cutting; Duchess of Albany, white to blush; Mr. Richd. Lariss, peach; Rose Mignonne, yellow and brown; Mons. Crousse, crimson and yellow.

Among the *Pompons*, Madlle. Marthe, a lovely snow-white is very prominent, and the growers of Chrysanthemums for cutting think much of this and Elaine.—*O.*

Dressing Florists' Flowers: the "Father" of the Art.—While the vexed question of dressing Florists' Flowers for exhibition purposes is again under discussion in the gardening papers, some of our readers may be interested in the following extract from *A Treatise on the Culture of the Carnation and other Florists' Flowers*, by Thomas Hogg, of Paddington Green, and which was published in 1823:—

"One Christopher Nunn, of Enfield, a noted florist in his day, was eminent for his skill and dexterity in dressing Pinks and Carnations for prize exhibitions; some will even tell you that Kit was the father of the art. Upon such occasions he had as many applications to dress flowers as he had to dress wigs, for he was a barber and *friseur* by trade, and withall a good-natured facetious prating barber, and could both shave and lay a Carnation with the greatest nicety. The novices of that day, who, being unacquainted with his secret art, trusted to Dame Nature to open, expand, and perfect their flowers, were no match for Nunn, for he began where she left off, and perfected what she had left imperfect. His arrangement and disposition of the petals were admirable, and astonished those novices. Kit's art of dressing is still an enviable art, and attainable only by few.

"Kit, as a florist, possessed other merits besides this; he could mix and temper soils with the same skill as he did his pomatum; he was a great experimentalist and compounder of manures; it was all the same to him whether he snuffed up the odour of the roses or the less inviting fragrance of animal ordour; it was he that first applied sugar-bakers' scum as a surface-dressing to flowers, having witnessed its surprising effect upon the land of a neighbour of his from Goodman's Fields; and he also had the credit of persuading and convincing Sir Somebody Tressilian or Trevannion, a Cornish Baronet, that old rags and old wigs, which contained so much grease and human fat, were a much warmer and richer manure for his land than the oily carcasses of his pilchards; and it is further said that Kit, as agent or factor, in one week bought up more than 2,000 wigs in the neighbourhood of that celebrated mart, Rosemary Lane, which were sent down to try the experiment. Be not impatient, courteous reader, to get rid of poor Nunn; remember he was a brother-florist and belonged to the fancy; wait till you learn the result of one of his own experiments, and take this moral with it, though there be no fable here:—'Other men's mishaps should make us wary.'

"In the early stage of his fancy, Kit upon mature reflection once concluded, that neat and genuine horse-dung, divested of all extraneous straw, must be better than much straw and little dung, as are usually put together. The resolution once taken, he hastened to the shop of a neighbouring blacksmith, and agreed for all the droppings that the horses, which came to be shod, should make in a twelvemonth, with

all the parings of the hoof to boot. He amassed above two loads of this dung, and after it had become rotten, he mixed it up with the mould for his flowers in every way; he made use of it for Pinks and Carnations, both in pots and in beds. His expectations for a fine bloom that summer were raised to the highest pitch, and yet ended in disappointment; his plants towards midsummer began to look yellowish and sickly, and turn cankery about the roots; his bloom too was very indifferent; and what could be the cause? His loam he was sure was sweet and good; and his dung was nothing but dung. He layered the plants, the layers also turned sickly, and several of them perished. Kit's lamentations about his flowers were loud and incessant; they were heard in all the villages around him—he repeated them to his customers at home and abroad—and the cause, he could not devine the cause.

"It was well for him that all this happened before Mr. Pitt, Prime Minister of State, had laid a summary tax on heads that wore hair powder; had these two evils occurred at the same time, they must have broken poor Nunn's heart. But to cut the tale short, in the same way that the said tax cut off the pig-tails of many of his customers afterwards, Kit was not aware, till he had been informed by some chemist, naturalist, or botanist, that the hobnails, the filings, the flakes, and the bits of iron, that had been swept up and mixed with the dung, had been the cause of all the mischief, and which had produced that 'salsa rubigo,' rust and canker, which had corrupted and poisoned the juices of the plants and nearly destroyed the whole. He never after could endure the sight of a rusty nail in his compost.

"So much for poor Christopher Nunn!"

PLANTING FRUIT TREES.

While the subject of planting is receiving the attention it deserves in the columns of The Gardening World, let me urge the importance of early planting, for it can scarcely be overrated, especially in the case of large trees, as getting them moved now instead of later on makes all the difference between success or failure in securing a crop. When transplanted before, or immediately following, the fall of the leaf, the ground is warm, and root action sets in at once, which being so, the plants operated on quickly become re-established, and are able to go on feeding and plumping up their flower-buds, and as these receive so little check, they are able to open strong in the spring, and set a fine crop of fruit. In preparing to lift good sized trees, a wide trench should be opened out around at a fair distance off, when, by the aid of a fork, the earth can be worked away and the plant raised without injuring the roots.

Before planting again, the points of the roots should be carefully trimmed with a sharp knife to remove the broken ends, and the plant then placed at once in the position intended for it. Although the border soil may appear good, it is always advisable to have a few barrow loads of fresh, and nothing answers so well as green fibry loam, which should be chopped up rough and thrown into the hole that the tree may be stood on it and have its roots properly spread out, after which they ought at once to be covered with the same kind of soil and have a heavy watering before the final filling in to settle it about them, and then left for a few hours for the earth to subside, when some of that dug out may be returned to the top.

The next thing is to mulch with half-rotten dung and leave the same on for the winter, as it acts beneficially in keeping out frost and maintaining an equable temperature about the roots, which encourages the emission of a supply of young feeders. Young trees from the nurseries require precisely the same treatment, and it is a good plan to have a few of these of different kinds every autumn, that there may always be some on hand ready trained and of a useful size for filling up any gaps on walls or vacancies that may occur anywhere in the garden. By managing thus years are saved, but after procuring these young trees, or starting with any, there is one thing I would impress on those who buy and plant them, and that is not to cut them in as is often done, but lay the branches in full length, as they are far better in every way, and furnish their allotted species in half the time they would if they were beheaded, which is a pernicious system, serving no useful purpose whatever, as any healthy tree planted in suitable soil will break back without having its branches lopped off, and the more top it has in starting the quicker will root action be, and the more speedy will the plant get established.—*A Gardener.*

CANFORD MANOR.

Leaving Wimborne Station and journeying on foot for about half-a-mile, we arrive at the lodge entrance of the park belonging to the above-named palace. In many instances the entrance—and its immediate surroundings—of a private domain, afford a very truthful representation of the general keeping and character of the place, at least such has always been our own idea, and the entrance to Canford Manor supplies us with one more example of the general accuracy and correctness of our opinion. Here we have a lodge with its necessary adjunct, a small garden, which presents what we cannot refrain from terming a highly refined appearance, and it is at once seen that neatness and order of a high character prevail, betokening as it were on the part of the owner thereof, a desire to see all things as they should be, and which brings forcibly to one's mind that good old adage—"A time and a place for all things," &c.

Banks of Laurels neatly trimmed, with a few trees of the Fir tribe dotted about here and there; a lodge for its inhabitants resembling some beautiful suburban villa, and its walls bedecked with suitable climbers; an avenue of stately trees, mostly Limes, which stretch away to the vanishing point in the distance, and more banks of Laurels on each side of a well-kept carriage drive, is the picture presented to us as we pause for a few moments admiration, ere we pass through the portals of this beautiful and picturesque Dorsetshire seat of Lord Wimborne. The park itself is both large and well-timbered, and contains some of the finest Lime-trees we have ever seen, and also good specimens of Oak, Beech and Elm.

Having traversed upwards of a mile and greatly enjoyed this charming woodland scenery, we come to the gardens, the primary object of our visit, and in company with Mr. Williams the able gardener, make a tour of the department under his charge; being forthwith conducted to the kitchen-garden in which are all the plant, fruit and forcing structures of the establishment. We must here ask to be excused from giving a categorical description of the houses and their contents, as we are writing solely from memory and not from notes taken on the spot, suffice it to say there are a very large number, each and all of which are devoted to their special adaptation. In the plant-houses we are at once struck by the enormous number and great variety of subjects grown for decorative purposes, and it is obvious that the demand for these must be very great, at the same time it would appear that there are adequate means and skill to furnish a plentiful supply. Of ornamental foliaged plants such as Crotons, Dracænas, Aralias, Diffenbachias, Marantas, Pandanus, Palms and Ferns grown in 4-in. and 6-in. pots, we should not care to venture on estimating the number, but will content ourselves merely with saying they are clean, well-grown, healthy stuff, being alike creditable to the chief and his subordinates. We may indeed remark, that of certain subjects—Maiden-hair Ferns for instance—we have not previously seen in a private garden such large quantities in the same robust health. Winter-flowering and hard-wooded plants are in equal proportion to the foregoing.

In the fruit department there appears to be every convenience for the production of high-class fruit, houses being set apart for the culture of Grapes, Figs, Peaches, Melons and Strawberries, thus obviating the necessity—yes, and sometimes the vexation—of having to grow two or more kinds of fruit in the same structure. At the time of our visit, the end of October, the vineries presented a pleasing appearance and contained excellent and well-finished examples of Alicante, Lady Downes, Trebbiano, Gros Colmar and Muscat of Alexandria. The kitchen gardens are about four acres in extent, the soil which is of a rich alluvial character, some 2 to 3 ft. deep, resting on a gravelly bottom, is fully capable of producing—and indeed does—crops of vegetables which are highly meritorious; two and three crops in the same year without impoverishing the land cannot certainly be done everywhere, yet such is the case here.

We next find ourselves in the Rosary on the borders of the pleasure-grounds. Respecting the latter, we shall probably convey some idea of their extent by remarking that there are something like twenty acres of lawn-mowing, with many fine clumps and borders of evergreen and deciduous shrubs and trees interspersed here and there, forming vistas and secluded nooks and corners sufficient to gratify the most ardent admirers of nature and solitude. The flower-garden, which is close to the mansion, is quite in harmony with its surroundings, and is on a large scale and of geometrical design. The chief feature here at the time of our visit, and one concerning which we shall long retain—if life is spared to us—a vivid recollection of, is the number of large and handsome Standard Portugal Laurels. At this time of the year, when most other trees are leafless, these standard specimens, with their beautiful umbel-shaped heads, look exceedingly pretty, and add, as it were, some semblance of life to the dull autumn days. The flower-beds are bereft of their summer-flowering occupants, and are filled with winter and spring-flowering plants, which we can readily believe must be worth going a long way to see when at their best.

There is also here the finest wall of Magnolia grandiflora (Exmouth variety) we have ever met with, and shall probably never meet with its equal elsewhere. It is 20 ft. high and 120 ft. long, and when it is borne in mind that it is clothed from top to bottom with strong healthy wood, no very great stretch of the imagination is needed to picture to oneself what a charming sight it must be when in flower. That we did not pay Mr. Williams a visit earlier in the year, when it was in bloom, was the only regret or disappointment experienced in connection with a very interesting and enjoyable trip to Canford.—*J. Horsefield.*

POPULAR NAMES OF PLANTS.

"It is singular," remarks your correspondent, p. 153, "how many plants there are that bear the popular name of Lily," indeed, it is remarkable, inasmuch as the interesting series there cited, by no means exhaust the list, to which the following may be added, Lilium auratum, "The Golden-rayed Lily of Japan;" Anthericum liliago, or the St. Bernard's Lily; Lilium Harrisi, the Easter Bermuda Lily; the Black Lily, Sarana Kamschatica, Syn Lilium nigrum; the Belladonna Lily, Amaryllis Belladonna; the Corfu Lily, Funkia subcordata, which genus has also received the modern definition of Plantain Lily.

Then we have the Lily Hyacinth, Scilla liliohyacinthus; the Water-Lilies must not be passed by, and which are Nymphea and Nuphar, white and yellow. Then we have in Zephyranthus atamasco, the Atamasco Lily, while some others of this genus are recognized as the Swamp Lily; while in Lilium longiflorum we get a good representative of the Trumpet Lily. The Flax Lily is Phornum tenax, and is suited for the margins of lakes in sheltered positions; the common Turk's Cap Lily is Lilium martagon, and an old inhabitant of our gardens; the Persian Lily is Fritillaria persica, and belongs to an interesting group of spring bulbs; Lilium giganteum is the well-known giant Lily, a noble member of its genus; Zephyranthus candida is called by Parkinson the "Lily Daffodil of Virginia," and makes a good mass for autumn blooming in the open ground; it is also well-suited for pot culture.

There may be others yet, though not so well known. One instance occurs to my mind of a plant much used of late, and an excellent plant for grouping in shrubberies, for naturalizing and so forth. I refer to Hyacinthus (Galtonia) candicans, and for which I beg to suggest the name of (The Giant Snowdrop Lily), as not inappropriate; popular names for plants not only render them easy of recollection, but must eventually assist their wider distribution among certain classes, who regard their scientific names as unpronounceable; and not only so, since familiar names for good old-fashioned flowers will soon make gardening and garden gossip among amateurs a pleasure, and an interesting and edifying pastime.—*E. Jenkins.*

CHRYSANTHEMUM SHOWS.

Reading.—This was the first Exhibition of a new Society, having an organization quite distinct from that of the long-established Reading Horticultural Society. The Hon. Secretary is Mr. Richard W. Catchgood—who has worked hard to secure the success of the new movement, and, we are happy to state, not without ample reward—assisted by Mr. William Smith. The Exhibition took place on November 14th, and it was a great improvement upon that held last year by the Reading Horticultural Society. There were enough subjects to fill both Town Halls, the old and new, which are in one set of buildings. The plants were pretty good, the cut flowers very fine. Something has yet to be learned by local growers in regard to tnrning out thoroughly good specimens, but what was seen on this occasion was such an advance upon last year that there is ample reason to believe next year will show a still greater improvement. Mr. Farey, gardener to C. Shepherd, Esq., Woodley Hills, Reading, had the best nine plants of Large Flowering, and Mr. Brooker, gardener to R. Tompkins, Esq., Reading, the best six. The former lot were dwarf-trained specimens, the latter plants of upright growth, carrying good heads of bloom. Mr. Turton, gardener to John Hargreaves, Esq., Maiden Erleigh, the President of the new Society, had the best three Specimens; Mr. Farey had the best three Standards, Japanese varieties being admissible in all. Mr. Ashby, gardener to W. Fanning, Esq., Whitchurch, had the best six Pompons, upright-grown plants, with excellent heads of bloom. A fine dark variety named Fanny, and the golden St. Michael were particularly noticeable.

In the class for a Group of Chrysanthemums to fill a space of fifty square feet there was a good competition; the best came from Mr. Brooker, well-grown plants of Japanese and incurved, having good heads of bloom; Mr. Baskett, gardener to W. J. Palmer, Esq., Reading, was second; and Mr. Ashby third. Extra prizes were awarded to Messrs. Turton and Hatch.

The prizes for Incurved Blooms brought several outside growers of note. The best twelve came from Mr. W. R. Strong, gardener, Wellington College, and he staged very fine examples of Golden Empress, Cherub, Golden Queen of England, Empress of India, Lady Hardinge, Prince of Wales, Queen of England, Empress Imperial (a yellow sport from Queen of England, greatly resembling Golden Empress), Empress Eugénie, Mr. Jay, Lady Slade, and Mr. Shipman. Mr. Farey came in second with a very good lot indeed. Mr. T. W. Flight, Twyford, Hants, had the best eighteen incurved, a very fine lot indeed, the following being of high-class quality:—Mr. W. Shipman, Empress of India, Hero of Stoke Newington, Golden Empress of India, John Salter, Empress of India, Nil Desperandum, Princess Teck, Prince Alfred, Barbara, Mr. Bunn, Mr. Brunlees, Lady Slade, Eve, Lady Hardinge, Venus, Cherub, and Isabella Bott. Mr. Strong, Wellington College, was second, with a very good lot also. The best six, and they were superb blooms, came from an old friend, Mr. Wildsmith, whom we were pleased to see reaping honours in a new field of action. The reflexed Varieties were very good, better, we thought, than at the Royal Aquarium. Mr. Elliott, of Maidenhead, had the best twelve, and Mr. Flight the best six; these were very fine, and consisted of Pink Christine, Golden Christine, King of Crimsons, Dr. Sharpe, Cloth of Gold, and Mr. Forsyth. In the Japanese Classes there was a very keen competition. The best twelve came from Mr. Flight, who had really grand blooms of Il Japonaise, Mr. Barnes, Comte de Germiny, Sultan, F. M. Davis, Fanny Boucharlat, Comtesse de Beauregard, Fair Maid of Guernsey, Duchess of Albany, Thunberg, Baronne de Prailly, and Alba plena. Mr. Wildsmith was first in the class for Six Varieties, staging perfect blooms of Fair Maid of Guernsey, Comtesse de Audiguier, Soleil Levant, Comte de Germiny, Hiver Fleur, and Thunberg. The anemone-flowered varieties, both large flowered and Pompon, were very pretty, and appeared to attract much attention. Pompons in bunches of six varieties were very good also.

Epergnes, Baskets and Bouquets of Chrysanthemums were well done; but especially so by Mr. George Phippin, of the Oxford Road Nursery, Reading's chief floral decorator, who had a stand of crosses, wreaths, bouquets, &c., of choice flowers that formed a leading feature in the Show.

There were a few Fruit Classes: for Grapes, collections, &c. The Grapes were below par, but then it is a little late for them. Mr. Turton had the best six dishes of fruit, staging Lady Downes and Muscat of Alexandria Grapes; Beurré Diel Pears, King of the Pippin Apples, Medlars, and Filberts. Mr. Mills, gardener to R. Ravenhill, Esq., was second; and he had a dish of well-kept Coe's Golden Drop Plums. Mr. Turton had the best six dishes of Apples, staging capital examples of Ribston Pippin, King of Pippins, Cox's Orange Pippin, Court Pendu Plat, Prince Albert, and Mère de Ménage. Mr. Hermon, gardener to F. Skurray, Esq., Reading, was second. Mr. Turton had the best six dishes of Pears, staging very fine examples of Catillac, Beurré Bachelier, Triomphe de Jodoigne, Beurré Diel, Beurré Clairgeau, and Beurré d'Aremberg. The show-rooms were completely crowded during the afternoon.

Manchester.—The annual Chrysanthemum Show of the Royal Botanical Society of Manchester was held on Wednesday and Thursday, in the Town Hall, and compared favourably with former ones of the same class. It was, indeed, a larger and more complete exhibition of Chrysanthemums than has been seen in this city for some time. The Society had, as usual, offered a series of money prizes, amounting in the aggregate to about £50. The entries were numerous, and the Show would have been still larger if all the expected exhibits had been staged. The present autumn has been on the whole favourable to the cultivation of the Chrysanthemum, though probably a little more moisture would have been an advantage. Mr. Charles S. Agnew, whose name will be familiar to many readers in connection with the growth of these plants, carried off the principal award of the day, namely, the first prize in the class for nine large-flowered, distinct varieties. His specimens were of great merit, and well deserved the position assigned to them. The blooms numbered from seven to twelve on each specimen, and were finely developed and beautifully coloured. There were one or two plants of Chevalier Domage, a blaze of yellow; an exquisite Princess of Teck, a mass of white; Hero of Stoke, pink, and others. Mr. William Holland, of Higher Broughton, took the second prize with a collection of more than usual excellence, including Chevalier Domage, Mr. Bunn (another yellow variety), and the dark Triomphe du Nord. Mr. Thos. Statter, of Whitefield, took the third prize with a series in which there were a number of very good plants. An extra prize was awarded in this class to Mr. M. L. Yates, of Didsbury, for a number of plants which in point of merit approached closely to those of the other exhibitors named. In the next class, for four large-flowered distinct Chrysanthemums, Mr. Charles S. Agnew again took the premier position. His capital quartett of specimens included Queen of England and Empress of India. Mr. William Holland was again second, and the third prize fell to Mr. James Fletcher, of Stoneclough, who competed without success in the class first mentioned. The Pompon and Japanese Chrysanthemums, whilst not so numerous as the large-flowered varieties, were nevertheless very good. In the class for four Pompons the first prize was awarded to Mr. M. S. Bles, of Broughton Park. Well flowered, and of varied colour, the specimens sent by him were at the same time of good habit, and bore evidence of careful and intelligent cultivation. Almost equally good were those of Mr. Thos. Dickins, of Higher Broughton, who obtained the second place, and of Mr. A. Bles, Higher Broughton, who secured the third prize.

In the class for eight Chrysanthemums for Conservatory decoration, not disbudded, the first prize was taken by Mr, Thomas Dickins. Among the plants shown were illustrations of Golden Cedo Nulli, Mons. Plancheron, La Nymph, and Mulberry. In the class for Six Japanese Chrysanthemums, Mr. C. S. Agnew carried off the palm with some beautiful flowers. Noticeable in his collection was a fine specimen of La Nymph, with nearly thirty blooms, and an equally good Cossack, with a great mass of flowers. Mr. M. L. Yates took the second position with some exhibits of great merit, which had evidently been carefully cultivated, whilst the third prize went to Mr. Thos. Statter. Mr. J. Allen, of Oldfield Hall, Altrincham, showed, not for competition, a capital series of large-flowered Chrysanthemums consisting of some forty plants. The judges considered the collection so good that they awarded Mr. Allen an extra prize. There was a large and attractive show of cut blooms of Chrysanthemums and a number of exquisite bouquets. In the latter the prizes went mostly to nurserymen. Messrs. Dickson, Brown, and Tate, Messrs. G. and W. Yates, Mr. J. Hooley (Stockport), and Mr. A. J. A. Bruce, Edge Lane, Chorlton, exhibited miscellaneous collections of plants including a few Chrysanthemums. The Silver Medal of the Society was awarded to Mr. T. W. Tatton, of Wythenshawe, for a rich collection of Apples, embracing some forty dishes and nearly as many varieties. Apples are also shown by Mr. W. G. Caldwell, nurseryman, Knutsford, and Messrs. Richard Smith & Co., of Worcester.

Birmingham.—The twenty-fourth annual Exhibition of Chrysanthemums, Fruit and Flowers at Birmingham, was again held in the Town Hall on Wednesday and Thursday, and surpassed all its predecessors in the number and beauty of the exhibits. The arrangement of the exhibits was an improvement on last year's, the stages in the centre of the hall having been lowered, and those under the galleries dispensed with, thus enabling visitors not only to see to greater advantage the general effect of each collection, but to inspect with greater ease the beauties of individual specimens. In the centre of the hall were ranged the large Chrysanthemums, and in the midst of these stove and greenhouse plants. Under the galleries the cut flowers and groups of flowering and foliage plants were shown; while the galleries were chiefly devoted to fruit. The Chrysanthemums in pots formed the most numerous department, and taken as a whole, were wonderfully good. In the class for nine there were three competitors, the plants running very close together in point of quality. H. H. Hill, Esq. (gardener, Mr. W. Doughty), took the first prize for a very fine lot of plants; the second going to Mr. J. Crook, whose plants were exceedingly well-flowered; and the third to the Mayor (Alderman Martineau). In the class for six, the Mayor was first, and the whole of the plants shown in the class were of high quality. Among other specialities in the pot-classes were some very fine Japanese varieties, which took a first prize. This collection included one of the finest specimens ever seen in the district. The Pompons were much finer than usual. Prizes were awarded for groups of Chrysanthemums without any condition as to the number of plants shown in each. J. Marigold, Esq. (Mr. W. H. Dyer, gardener), took the first prize for an excellent group, remarkable for great variety of colour and specially fine blooms. Of the cut flowers it is impossible to speak too highly, the flowers throughout the exhibition being of the first quality. The first prize in the Premier Class fell to F. H. Gossage, Esq., of Wooton (gardener, Mr. J. Jellicoe). The blooms in this collection were marvellously fine, especially the Japanese. This gentleman and Sir H. Allsopp, Bart., who took the first prize in the class, showed well throughout the exhibition. In the class for eighteen Chrysanthemums, the first prize went to Mr. Gossage, the second to Mr. G. A. Everett (Knowle), and the third to Mr. J. Marigold. The class for twelve Japanese Blooms, was a very interesting feature of the Show. Mr. Gossage was first, and Sir H. Allsopp second.

In the miscellaneous department the Mayor took the first prize for a collection of plants of very great merit, which included a magnificent specimen of Croton Veitchii. The collection also included very fine specimens of Eucharis Amazonica and Callicarpa purpurea. The second prize collection was shown by Mr. H. H. Hill, and included splendid examples of Cycas revoluta, and Croton augustifolius. In the class for Stove and Greenhouse Plants, Mr. J. Marigold took the first prize with a collection conspicuous in which was a good example of Gleichenia Mendelli and a beautiful Croton majesticus. The Rt. Hon. J. Chamberlain, M.P. (gardener, Mr. J. Cooper), exhibited a very pretty and well-grown group. Mr. H. Elkington also showed a fine collection of plants, well-grown and uniform in

size. The other collections in this class were of unusually good quality. Mr. C. E. Matthews exhibited, not for competition, an interesting group of Cape Heaths and Epacris. Three very fine pots of Mignonette came from the Mayor, each plant being fully 2 ft. 6 ins. in diameter. Chinese Primulas, always a great feature in autumn exhibitions at Birmingham, were not quite up to the usual standard. Messrs. H. Pope & Sons took the principal prizes in almost all the classes. A very beautiful group of plants was exhibited by Mr. Hans Niemand. In the centre of the group was a very fine specimen of the climbing Asparagus, and among the other plants shown were Arum Lilies, Poinsettias, Ferns, Palms, and other ornamental plants. Special praise must be awarded to the arrangement of this group. Mr. R. H. Vertegans also contributed an excellent group of plants, which, like the one just mentioned, was not for competition. Messrs. R. Smith & Co., of Worcester, sent a very extensive collection of rare, hardy, ornamental Evergreens, chiefly Japanese. Messrs. H. Cannell & Son, of Swanley, Kent, sent a collection of Chinese Primroses, many of them new varieties; a very fine lot of cut flowers of Zonal Pelargoniums and single Chrysanthemums, and specimens of a new White Zonal Pelargonium, "Queen of the Belgians," which is a decidedly valuable acquisition. Messrs. Pope & Son exhibited a beautiful group of 150 Zonal Pelargoniums, remarkably well-grown and well-flowered, Heaths, dwarf Chrysanthemums, and other plants, all in fine condition. Mr. F. Perkins, of Leamington, had a good collection of single Chrysanthemums. Some splendid bouquets were exhibited by Mr. Vertegans, Mr. Hans Niemand, Messrs. Perkins & Son, of Coventry, Messrs. Pope, and Mr. H. Mayo. In the class for gentlemen's gardeners Lady Edwardes's gardener was first, Mr. J. G. H. Payton's second, and Mr. W. C. B. Cave's third. In the classes for Ferns Mr. H. Elkington won the first prize, and Miss Cooper (daughter of Mr. Chamberlain's gardener) the second. A very charming collection of cut Orchids, which included some very rare varieties, was shown, not for competition, by Mr. Chamberlain, M.P. Wreaths and crosses of considerable size, and containing choice flowers, well arranged, were exhibited by Mr. James Tompkins and Mr. Vertegens, Messrs. Perkins & Son, of Coventry, and Mr. T. Perkins, of Leamington. Messrs. Perkins & Son also contributed some fine bouquets of Roses. The fruit department included 215 dishes of Apples, and a finer lot was, perhaps, never seen at an exhibition; eighty-six dishes of Pears, most of the fruit being of exceptionally fine quality; and a very fine display of Grapes for a provincial show. Among the miscellaneous fruits were some fine Pines, Melons, ripe Strawberries, and autumn Raspberries.

EDINBURGH BOTANICAL SOCIETY.

A MEETING of this Society was held on Thursday evening, November 13th, at 5, St. Andrew Square, under the presidency of Mr. WM. B. BOYD. In his retiring address, the President directed attention to the subject of Mosses. One marked feature, he said, of the present day was the rapidly increasing taste for scientific knowledge among all classes of people, and the increased facilities for its acquirement. Botany was, perhaps, one science which had of late years increased most rapidly in popular favour. In our country Mosses had recently received, and were daily securing, the attention of cultivators; and Mr. Boyd pointed out that their great variety and interesting features opened up a pleasant and profitable field of study. In concluding his address, the President spoke of the advantageous influence of the Forestry Exhibition, which he regarded as the greatest botanical event of the year, and expressed the hope that one of its results would be the establishment of a fully-equipped School of Forestry in Edinburgh, seeing that forestry was closely interwoven with our national prosperity.

Dr. PATERSON, Bridge of Allan, sent for exhibition a cluster of flowers, fourteen in number, of the beautiful Lapageria alba on a single stem, this abnormal occurrence being somewhat rare.—Dr. A. P. AITKEN exhibited a specimen of and read a note on Astragalus molissimus, a weed chiefly found in the northern part of Texes, and described by the friend who sent it to him as having an effect on horses similar to that of opium on the human frame. It was called "loco," and the horse became dazed, grew thin, and died; and some ranchemen lost largely by its effects. Dr. Aitken mentioned that he intended to experiment upon it in order to ascertain more definitely whether it was a narcotic.—The Rev. D. LANDSBOROUGH, Kilmarnock, communicated a paper on Australian and New Zealand plants grown on the east coast of Arran.

Mr. ROBERT LINDSAY, Curator of the Royal Botanic Gardens, in his report on the temperature and vegetation at the gardens, stated that since the last meeting of the Society, on July 10th, outdoor vegetation, had, on the whole, made satisfactory progress. July was a very wet month, there being only seven days when no rain fell, and thunderstorms were frequent throughout. The lowest night temperature was 39 degrees, on the 20th and 26th of the month; the highest 55 degrees, on the 10th and 16th. The lowest day temperature was 58 degrees, on the 24th; and the highest 77 degrees, on the 8th and 14th. August and September were dry, and during the latter month all outdoor work had little interruption. During October the dry character of the preceding months was continued. There were nineteen dry days, and the wind was westerly throughout the whole month. The first frost this season occurred on the 11th, when 29 degrees, or 3 degrees of frost, were registered, and again on the 29th, when 28 degrees occurred. The highest night temperature was on the 16th, 49 degrees; the lowest day temperature was 45 degrees, on the 10th, and the highest 69 degrees, on the 4th. Deciduous trees and shrubs had parted with their foliage early. Forest and fruit-trees generally had formed firm well-ripened wood, which would be a great advantage in the event of a hard winter taking place. Rhododendrons, Azaleas, and other ericaceous plants had not been so well set with flowers for some years back. The season was most favourable for transplanting and outdoor work generally. On the Rock Garden 315 species and varieties of dwarf-growing herbaceous and Alpine plants came into bloom since last meeting, making a total of 1,112 for the season, as against 981 at the same date last year, being the largest number yet recorded as having flowered there in one season.

Mr. Lindsay stated that, through the kindness of the Japanese Commissioners to the International Forestry Exhibition and Dr. Cleghorn, a large quantity of seeds of Japanese trees and shrubs, many of them new to cultivation, had been presented to the Royal Botanic Garden. The seeds appear likely to germinate, and may yet not only form a lasting memorial of the Exhibition recently closed, but might also form a most interesting exhibition of their own.

GARDENERS' BENEVOLENT AUGMENTATION FUND.

Third List of Subscriptions.

	£	s.	d.
J. Wickens, Esq., Donnington Hall ...	5	0	0
Mr. M. Biggs, Gardens, Garnstone	0	10	6
Mr. F. Helps, *Foreman*, Garnstone	0	5	0
Lady Emily Foley, Stoke Edith	5	0	0
Mr. G. H. Green, Enville	0	10	0
Subscriptions on previous Lists	34	7	0
	£45	12	6

William Coleman, Eastnor Castle, Ledbury.

ANSWERS TO CORRESPONDENTS.

LIQUID MANURE.—*A. K.*—See "Home Manures," in our issue of October 25th, p. 119.

OLEANDERS.—*J. C.*—Oleanders frequently drop some buds on being removed from outdoors to the greenhouse, but those which remain will no doubt come to perfection.

CALCEOLARIAS.—*B.*—The cold frame will be sufficient protection for your bedding Calceolarias, if carefully covered against frost. Remove the Cinerarias to the greenhouse at once.

NAMES OF PLANTS.—*Hull.*—1. Tacsonia van Volxemii; 2. Solanum jasminoides; 3. Justicia carnea.—*H. J.*—Polystichum angulare proliferum.—*C. C.*—The varieties of Tuberous Begonias are so numerous that we cannot undertake to name them. Yours are probably seedlings. There are many better.

PASSION-FLOWER FRUITING.—*Doctor.*—It is not at all unusual for the blue Passion-flower, Passiflora cœrulea (as we take your plant to be), to bear fruit freely in warm seasons, indeed on the outskirts of London, it seems to bear every year. We have never heard of the fruit being of any use or value.

COMMUNICATIONS RECEIVED.—W. Macdonald (many thanks, we shall endeavour to follow the lines you indicate).—J. M.—P.—W. S.—B. F. (many thanks).—C. W.—H. W. W.—H. W.

LONDON SEED TRADE.

November 19th.

MESSRS. HURST & SON, of 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report that to-day's market was dull, and that the large supplies of English Red Clover have caused a further reduction in values. White Clover, Alsike, and Trefoil are unchanged in value, with moderate supplies. Hemp seed is cheaper. Linseed and Canary firm. Blue Peas, owing to a better demand, are held for more money.

COVENT GARDEN MARKET.

November 20th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6– 4 0	Kent Filberts and Cobbs, per 100 lb.	60 0–62 6
— Nova Scotian, per barrel	10 0–13 6	Pine-apples, Eng., lb.	4 0– 6 0
— Extra samples	20 0– ...	Pears, French, p. doz.	1 6– 3 6
Grapes, per lb.	0 9– 3 0		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0– 4 0	Horse Radish, bundle	3 0– 4 0
Beans, French, lb.	0 4– ...	Lettuces, Cabbage, per dozen	1 6– ...
Beet, per dozen	2 0– 3 0	— Cos, each	0 2– ...
Brussels Sprouts, ½ sve.	2 6– 3 0	Mint, green, bunch	0 4– ...
Cabbages, per dozen	1 6– 2 0	Mushrooms, p. basket	1 0– 2 0
Carrots, per bunch	0 6– ...	Onions, per bushl.	2 6– 3 6
Cauliflowers, English, dozen	3 0– 4 0	Parsley, per bunch	0 6– ...
Celery, per bundle	1 6– 2 6	Radishes, per dozen	1 6– ...
Cucumbers, each	0 6– 0 8	Small salading, per punnet	0 4– ...
Endive, French, per dozen	2 6– 3 6	Spinach, per strike	2 0– ...
Garlic, per lb.	0 6– ...	Tomatos, per lb.	0 6– 1 0
Herbs, per bunch	0 2– 0 4	Turnips, bunch	0 6– ...

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0– 4 0	Lapageria, red, 12 blms.	1 0– 2 0
Azalea, 12 sprays	1 0– 1 6	Marguerites, 12 bun.	4 0– 9 0
Bourvardias, per bun.	0 9– 1 0	Pelargoniums, per 12 sprays	1 0– 1 6
Camellias, 12 blooms	2 0– 6 0	—scarlet, per 12 sprays	0 4– 0 9
Carnations, 12 blooms	1 0– 2 0	Pinks, various, 12 bunches	...– ...
Chrysanthemums, 12 bunches	2 0– 6 0	Primula, double bun.	1 0– 1 6
— large, 12 blooms	0 6– 2 0	Pyrethrum, 12 bun.	–
Eucharis, per dozen	4 0– 6 0	Roses, out-door, 12 bunches	9 0–12 0
Gardenias, 12 blms.	3 0– 6 0	Roses, indoors, p. doz.	2 0– 6 0
Gladiolus, various, 12 spikes	1 0– 3 0	Stephanotis, 12 spr.	6 0– 9 0
Heliotropes, 12 sp.	0 6– 1 0	Tuberoses, per dozen	1 0– 1 6
Lapageria, white, 12 blooms	2 0– 3 0	White Jasmine, bun.	0 6– 1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0–24 0	Ferns, in var., dozen	4 0–18 0
Begonias, per dozen	4 0–12 0	Ficus elastica, each	1 6– 7 0
Bouvardias, dozen	9 0–18 0	Foliage Plants, various, each	2 0–10 0
Chrysanth., dozen	4 0– 6 0	Lilium, various, p. doz.	–
Cockscombs, dozen	–	Marguerites, per doz.	–
Cyperus, per dozen	3 0– 9 0	Palms in variety, each	2 6–21 0
Dracæna term. doz.	30 0–60 0	Pelargoniums, scarlet per dozen	2 0– 6 0
— viridis, per dozen	12 0–24 0	Petunias, per dozen	–
Evergreens, in var., per dozen	6 0–24 0	Solanums, dozen	9 0–15 0

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TO ADVERTISERS.

ADVERTISERS are requested, in order to save time, to address all Letters relating to Advertisements to THE PUBLISHER; and Advertisements for the current week's issue must reach the Office not later than the first post on Thursday Morning. "Stop" Orders cannot be received after the same hour.

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Close to the Panorama in the grounds of the

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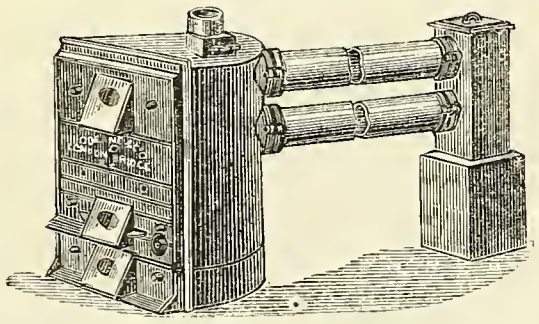

Price, as engraving, with Boiler, open feed syphon, 12 ft. of 4-inch hot-water pipe, and patent joints complete, £4 4s. Delivered free to any Station. Discount for cash.

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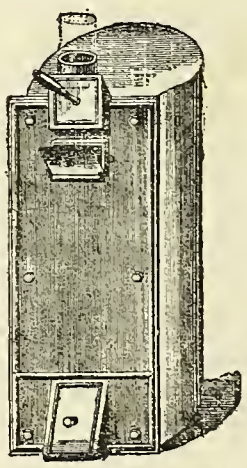

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Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex, Saturday, November 22nd, 1884.

THE GARDENING ILLUSTRATED WORLD

No. 13.—1884. SATURDAY, NOVEMBER 29TH. { Registered at the General Post-Office as a Newspaper. } ONE PENNY.

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Roses for Removal in November.

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Our selection of above Perpetuals.
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SALES BY AUCTION.

Bulbs.—Mondays, Wednesdays, and Saturdays.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, regularly three times a week, as above, large consignments of first-class Dutch flower roots lotted to suit both large and small buyers.

The Sales commence at half-past Twelve, finishing generally about Five o'clock.

On view mornings of Sale and Catalogues had.

Dutch Bulbs.

Great UNRESERVED SALES every MONDAY, WEDNESDAY and SATURDAY.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C. (next door but one to Bennett's Clock), every MONDAY, THURSDAY, and SATURDAY, at half-past 11 o'clock precisely each day, extensive consignments of the best named HYACINTHS, TULIPS, CROCUS, NARCISSUS, SNOWDROPS, and other ROOTS from Holland, in lots to suit the Trade and Private Buyers.

On view mornings of Sale. Catalogues of the Auctioneers, 67 and 68, Cheapside, E.C.

The Fallowfield Collection of Orchids.

MESSRS. PROTHEROE AND MORRIS beg to announce that they will SELL the remaining portion of the well-known Collection of ORCHIDS at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, December 2nd, at half-past twelve o'clock precisely.

Further particulars will appear next week.

Important Sale of Established Phalænopsis.

AMABILIS and SCHILLERIANA,
The Property of C. M. Satow, Esq., of Clapton.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY, December 2nd, about 50 PAHLÆNOPSIS AMABILIS and 50 P. SCHILLERIANA. The plants are in splendid health, and comprise specimen pieces with 4 to 6 leaves, some measuring 10 ins. to 12 ins. long by 4 ins. to 4½ ins. wide. The varieties are specially fine, having been selected from time to time when in flower from Messrs. Low & Co.'s immense stock. Nearly all the plants are showing flower.

To Orchid Fanciers and Cut Flower Growers.

UNRESERVED SALE of a Collection of ESTABLISHED ORCHIDS grown specially for Cut Flowers.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY, December 2nd, at half-past twelve o'clock precisely, a Collection of ESTABLISHED ORCHIDS, comprising altogether about 1,500 plants, including 100 Phalænopsis, 350 Odontoglossum Alexandræ, 60 Cœlogyne cristata, large quantities of Dendrobes and Odontoglots. in variety; Sophronites grandiflora, Lælias, Cattleyas, Cymbidium eburneum, Burlingtonias, Pilumna fragicans, &c.

On view morning of sale, and Catalogues had.

New Hampton, Middlesex.

ABOUT TEN MINUTES' WALK FROM HAMPTON RAILWAY STATION.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the Premises, The Tangley Park Nursery, New Hampton, on WEDNESDAY, December 3rd, at twelve o'clock precisely, by order of Mr. W. Lane, to clear the ground, a large quantity of well-grown NURSERY STOCK in good condition for removal, comprising an assortment of specimen Evergreens and Conifers, 1,500 Laurels, 3 to 5 ft., 1,300 Lilacs, 4 to 7 ft., Deciduous Shrubs, Fruit Trees, 1,000 Aucubas, 1 to 4 ft., 1,000 Rhododendrons, 1 to 5 ft., 12,000 Box, 1 to 3 ft., 700 Hollies, 6 to 14 ft., and other stock.

May now be viewed. Catalogues had on the premises and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Farms, Estates, Residences.

Any one desirous of Renting a Farm or Residence, or Purchasing an Estate, can have copies of the

MIDLAND COUNTIES HERALD supplied free for six weeks on stating the purpose for which the paper is required, forwarding name and address, and six halfpenny stamps for postage, addressed "*Midland Counties Herald* Office, Birmingham." The *Midland Counties Herald* always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

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THE BEST of all Boilers for Amateurs is WATSON'S GUINEA SUSPENSION BOILER, most Economical, Effective, Substantial, and easily managed, from 21*s.* each.—Apply for Prospectus, enclosing stamp, to J. WATSON, Patentee, The Nurseries, St. Albans.

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GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 oz. to the gallon of soft water, 4 to 16 oz. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*

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FORESTRY contains Illustrated Articles on Trees, Planting Operations, and other subjects connected with Timber growth, specially noting the introduction of new plants and shrubs.

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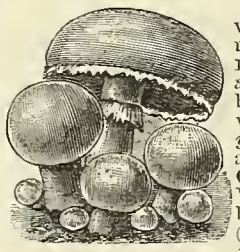

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EXTRA Strong Fruiting Canes, 9 to 10 feet, well ripened, price 6*s.* to 7*s.* 6*d.* each. Peaches and Nectarines in pots, splendid trees full of bloom buds, including Bellegarde, Sea Eagle, and Nectarine Peach (true to name), to 10*s.* 6*d.* each.

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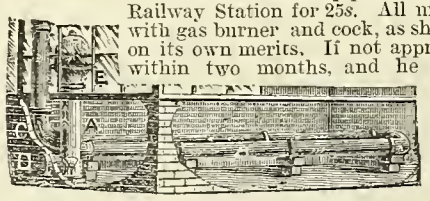

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Rooted plants do. do. 2*s.*, 3*s.*, „ 4*s.* „
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COCOA-NUT FIBRE REFUSE.

4*d.* per bushel; 100 for 25*s.*; truck (loose, about 2 tons), 40*s.*; 4-bushel bags, 4d. each.

LIGHT BROWN FIBROUS PEAT, 5*s.* 6*d.* per sack; 5 sacks for 25*s.*; sacks, 4*d.* each.

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COARSE SILVER SAND, 1*s.* 9*d.* per bushel; 15*s.* per half ton; 26*s.* per ton; in 2-bushel bags, 4*d.* each.

YELLOW FIBROUS LOAM, PEAT MOULD, and LEAF MOULD, 1*s.* per bushel. SPHAGNUM MOSS, 8*s.* 6*d.* per sack.

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LOVELY LILIES.—WM. GORDON has still the finest Collection of these. Buy of the Importer.

LILIUM ALBUM KRAETZERI.—Most lovely of all Lilies and very rare, pure white, with band of lovely pea-green up the centre of each petal, which contrasts finely with the chaste white.

LILIUM MELPOMENE.—The loveliest of all the Speciosum rubrum tribe, its dazzling brilliancy defies competition and the ordinary Speciosum sinks into insignificance.

LILIUM BROWNII.—The finest of the trumpet-shaped Lilies, creamy white, exterior purplish-brown, massive. The three for 5*s.* 6*d.*, six for 9*s.*, post free.

LILIUM AURATUM.—New arrival, 6*d.*, 9*d.*, 1*s.*, and 1*s.* 6*d.* each, finest possible bulbs.

WM. GORDON, Nurseries, Twickenham, Middlesex.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, NOVEMBER 29TH, 1884.

Orchard Tree-Pruning.—The leaves are now down, and in not a few cases gathered up for winter use. Work in all other departments owing to the wonderfully long continued drought is so well forward, and the soil remains so hard and dry, that it is now a most tempting labour to clamber into the tall orchard trees and thin them out. How fast the heads fill up! how soon they become thick and dense! so fast, indeed, that the work of thinning should always be done once in three years, and in any large orchard or market garden, at least one-third of the trees should be properly pruned each year, so that work and pruning are equalized. To a genuine lover of pruning, there is something very enticing in the labour of thinning out tree-heads that have become too dense. If the operator proceeds somewhat drastically and thins hard, he will find his reward in finer and more valuable fruit, and the more robust growth the trees will make in the summer. It is strange that whilst bush fruits are always well cared for and duly thinned, and even trees of bush or pyramid form get due attention; the tall standards too often are sadly neglected, we presume because somewhat out of reach. Too often, also, when the work is performed, it is when frosts are severe and north winds blow keenly. Then such work is neither pleasant or desirable, and is perhaps owing to the danger incidental to numbness of the hands through cold, somewhat dangerous. If such weather as now prevails however be taken advantage of for the performance of the labour, not only is it pleasant, but it may be accomplished so as to permit of ground operations being carried out in due course.

Winter Blooming Plants.—At a very pretty show held at Twickenham the other day there was to be seen a meritorious effort to introduce certain plants that will bloom well in winter, and yet are not commonly met with at autumn flower shows. Thus a class was published for six Bouvardias, and, although only two lots were sent in, of which one was indifferent, the best lot, which came from Mr. Munro, of Cambridge House Gardens, Twickenham, were fine plants some 3 ft. in height and full of bloom. Such plants were not only a pleasing feature in the show, but must have been of exceeding value at home for the production of flowers for cutting. It would be well if, in this respect, other shows were found having a similar class. Again, another novelty was seen in a class for six plants of Epiphyllum truncatum, and, though the plants placed in competition were too dwarf habited, they were in charming flower. Those too came from Mr. Munro. But much better than these were some eight plants sent by a market gardener at Plumstead, Kent, who evidently can turn out Epiphyllums in fine form. These were grafted plants about 12 ins. in height, having fairly large heads, beautifully bloomed. They were two years' worked plants. Then there was also a class for six scarlet Pelargoniums in pots not exceeding 6 ins. in diameter. Half a dozen of that grand scarlet Henry Jacoby, sent by Mr. Parsons, of Twickenham, were superbly flowered and equal to anything that could be seen in the summer from such small pots. Classes like these are worth copying.

The Popularity of the Tomato as a market subject is remarkable, having regard to the fact that but a few years ago the fruit was looked upon almost as a luxury, available only for the rich, and at the same time an article that needed a cultivated taste to enable it to be fully appreciated. Now matters are so far changed that not only do we find those having glass-houses discarding many plants that now seem to be unprofitable and utilizing the space for the culture of Tomatos, as being the more profitable, but we even hear of growers of Chrysanthemums for the production of cut flowers, this season lamenting that they have burthened themselves with things that afford no equivalent return, whilst in Tomatos there is a subject that always finds a ready and a profitable sale. Even now in almost the meanest of vegetable and fruit shops in our large towns we see foreign-grown Tomatos, always very tempting to be sure, but still on sale at exceedingly low prices, thus showing that a taste for this fruit has grown up amongst the poorer classes. Happily the Tomato is one of the most wholesome of all fruits, and once it is cooked with judgment, and served up tastefully, it is exceedingly pleasant and enjoyable. Some day, perhaps, when by persistent effort some additional piquancy has been given to the flavour of the fruit, we shall see it in universal consumption in a raw state. Even now those who like raw fruit find in them elements of enjoyment which those lacking appreciation for them can hardly understand or realize. There can be no doubt but that there is a great future open for the Tomato in this country, and that in a few years we shall see it almost as universally consumed as Potatos are. Happily, too, owing to our largely available heating force and ample glass space, Tomatos may be had nearly all the year round.

Wintering Garden Roots.—With a series of very open winters it is found a matter of no small difficulty to keep roots of all kinds, whether tuberous, tapering, or bulbous, from pushing growth long before the usual period of rest has expired. The result simply follows from the impossibility of providing conditions of temperature sufficiently low to ensure rest whilst in any close place, and in an atmosphere that is almost certain to become more or less loaded with moisture, growth is almost accelerated rather than retarded. Thus we find Potatos will push growth in a pit or store if the winter be open, very early; so early, in fact, as to present exceeding difficulty in keeping them sound, either for planting or eating. On the other hand, tubers left in the ground, of course not in bulk, but singly, as many are, will keep dormant and fresh, just because the temperature is even, and light is fully excluded. It is found, especially during an open winter, an excellent plan to lift tapering roots, such as Beet, Parsnips, and Carrots—roots that should always remain in the places where grown till December comes in at least—and to lay them in thickly in loose dry soil beneath the shelter of overhanging trees. Of course, where vermin is about, care must be taken to protect the roots from their depredations, but that should not be a matter of difficulty. It is an excellent plan in thus laying in roots, to make a selection of the best and place these together more thinly, of course, burying them well above the crowns, in rows some 12 ins. apart. The overhanging boughs give great shelter in ordinary frosty weather, and should it come very severe, some straw or fern will soon make all secure. If wintered thus these roots keep sound, fresh, and long; and are far more sweet and palatable than when stored in cellars in sand.

The Potato Disease.—The recent publication of the results of the trial of the Jensenian system of protective earthing of Potatos, for the prevention of disease, which took place at Chiswick during the past summer, makes the knowledge thus acquired common property. Certainly we are not much the wiser now, but still a really honest effort was made to test a system that has been credited with valuable results, and if the test has failed, it is rather due to the season than to lack of attention on the part of the observers. The real fact is, that seasons now are discounting the Potato Disease entirely, and in the presence of sunshine, warmth and comparative dryness, the fungus is almost harmless. We saw at Chiswick, which is very unhappily a spot in which the disease does run rampant, when seasons are favourable to its growth, numerous sorts new and old, though chiefly new, growing under ordinary conditions of culture, and only in a very few cases were there evidences of disease. The plants specially prepared for the members of the Scientific Committee of the Royal Horticultural Society, and earthed in various ways though chiefly protectively *à la Jensen*, gave about the same results; so that nothing is gained this season, and we are about as wise as to the value of protective moulding as before.

There is hope that the Committee will continue its observations next year, but that instead of selecting a hard and usually disease-resisting kind like Adirondack, such sorts as Woodstock Kidney, Grampian, and Regent, will be secured and planted, as these in disease years generally suffer badly, and if a system is to be tested, it can only be with kinds that are less disease-resisting than others. To protectively earth such kinds as Magnum Bonum, and many similar strong-growing sorts is a work of labour. It is the soft-fleshed and assumed thin-skinned kinds such as the Regent, which we want to save. Judged by appearances, protective earthing is a waste of labour in this country, because Potatos are so plentiful that only the simplest system of cultivation will prove profitable. At present protective earthing would add 20 per cent. to the cost of growing a crop of Potatos, and the only chance just now of securing a paying crop is to be able to obtain it at some 20 per cent. less, than is the average cost of culture. But we may ere long find a series of cold wet seasons prevalent, and then with the disease again rampant, the value of Potatos will soon rise to double, or more than what it is at the present time. Then protective earthing, if found really successful in preventing the operation of the disease, would pay. It is not a fair weather project, but rather one for foul seasons. It will be a comfort if we can trust to such a system to keep our Potato crops safe when we have gloomy times upon us.

It is more interesting than satisfactory to find how varied are the phases of knowledge respecting the action of the Potato Disease with which we are from time to time presented. Our difficulty is in knowing where we are. Even now the scientists have changed the common designation of the fungus from Peronospora, the nomenclature of the earlier fungologists, to Phytophthora infestans, but it seems still to mean the same thing. Then there is division of opinion as to whether the fungus operates to the destruction of the tubers most through the haulm and stems, entering the tubers through the sap vessels, or whether the spores carried by moisture into the soil operate upon the skin or epidermis of young

tubers, and entering there proceed to exist upon and destroy the flesh direct. This last is the basis of the Jensenian system of protective earthing; it is the very soul of its practice, for knock away this theoretical prop, and the whole system collapses. Curiously enough, however, since the theory was first propounded in this country, we have had seasons so generally favourable to the production of healthy Potato crops that no real test has been possible.

Even if it be demonstrated that tubers are diseased chiefly through the fungus operating in the soil, still we have not been able fully to test how far a crop may be protected from such sporadic action by the addition over the tubers of a thicker coating of soil. Most certainly further proof is hardly needed than is now possessed that the spores of the Phytophthora do permeate the soil, and from that is enabled to disease the Potatos. There remains, however, a moot point, and one not yet satisfactorily cleared up, as to how it is that whilst the spores will disease one kind freely, yet another growing under exactly similar conditions escapes. When first the famous Magnum Bonum was introduced, with its well-known disease-resisting powers, it was reasoned in accordance with our then existing lights that the plant stems were of a hard, woody nature, and that the fungus spores were thus unable to penetrate through these stems from the foliage into the tubers below. The reasoning was crude, it is true, but still it does not seem to have been shown to be incorrect. It would be absurd to say that the skin, or epidermis, of tubers of Magnum Bonum or even the flesh is materially harder or more resisting than either the skins or flesh of Regent or Victoria Potatos, yet the two latter kinds will, in bad seasons, disease frightfully.

The theory of the attack of the tubers in the soil affords no tangible explanation of the reason why one kind fails to suffer from disease, and another, though very like in all other respects, yet suffers exceedingly; and it is not at all certain that even in the old theory of the descent of the spores from the leafage through the stems into the tubers, a satisfactory explanation can be found either. Really we are very much in the dark about the eccentricites of the disease, if we may term those actions eccentricites which we yet fail to understand. Whatever may ultimately grow out of the trials of the system of protective earthing of Potatos which we have referred to, at least the introduction of the operation of the system into this country by M. Jensen has very materially quickened inquiry, and our scientists are no longer content to rest upon old lines which time may prove to be fallacies. Let the protective system do what it may for the tubers, at least it is certain that it can never be made instrumental in saving the tops, and upon the health and growth of these rest all our hopes of a crop.

That the fungoid spores with the terribly technical name, do enter into and exist upon foliage and stems all know too well, and a patent argument in favour of the old theory as to the operation of the spores through the stems, and so into the tubers below is found in the common experience that the spores are always more destructive when rainless, but still foggy or a moisture-laden atmosphere prevails. Then the spores permeate the leafage and stems fearfully, and apparently healthy plants are often half killed in a single night. That such sporadic attacks also affect the tubers we know too well, and it is to be doubted whether any form of protective earthing could save a crop under such conditions. If it can, then the spores must pass from the leafage through the soil into the tubers. If it cannot, then the old theory of the passing of the deadly spores through the plant stems to the tubers is fully substantiated.

Gardening Miscellany.

Mr. William Priest, on his recently leaving Newbattle Abbey Gardens, of which he had charge for about nine years, was entertained to dinner at Dalkeith, and presented by his friends with a gold watch and chain, and a brooch and bracelet for Mrs. Priest.

Mr. R. Irwin Lynch, Curator of the Cambridge Botanic Gardens, is reported to be about to publish a translation of M. Correvon's new book on Alpine plants.

The German Imperial Government have issued a notice to the effect that the importation of living plants into Germany from a country which does not belong to the International Phylloxera Convention is prohibited.

The death is announced of Mr. Parker Hammond, of Pampisford Hall, Cambridge, an enthusiastic collecter and planter of Conifers, and the owner of one of the most complete collections of these trees in the kingdom.

Mr. J. S. Bockett, the well-known solicitor of Stamford Hill, died on the 19th inst. Until within a few months ago, Mr. Bockett's name was a familiar one in the Orchid world, his collection being known to contain many gems.

Mr. Robert Oubridge, of the Church Walk Nursery, Stoke Newington, died on the 13th inst., aged fifty-seven years. Mr. Oubridge, who was formerly gardener to Mr. Foster of Stamford Hill, had for some years been in business as a market grower, and was much respected by a wide circle of friends.

Mr. W. E. Bennett, of Condover, Shrewsbury, has favoured us with a specimen of a Safety Ligature which he has introduced to prevent trees from being damaged by rubbing against stakes or otherwise, and which consists of short sliding lengths of thick gutta-percha tubing put on copper wire. The part between the tree and the stake and the wire that surrounds the tree stem is thus covered, so that no abrasion of the bark can take place.

Mr. Lewis Castle, formerly of the Royal Gardens, Kew, is preparing for early publication a little work on *Cactaceous Plants*, which will contain "the history and culture of a family of plants remarkable for the singularity of their forms and the beauty of their flowers." It will be published at *The Journal of Horticulture* office.

On Saturday, the 15th inst., Mr. Mackellar, Abney Hall, Cheadle, read two excellent papers on "The Tuberose" and "Eucharis amazonica," before the members of the Preston and Fulwood Horticultural Society, and which we shall publish in our next number.

Mr. Calver, nurseryman, Ludlow, recently brought an action against the Ludlow Brick, Tile, and Pipe Company, to recover damages for injury done to his nursery stock, and which at the last Salop Assizes was referred to arbitration. The hearing of the reference took place at Ludlow in October, and the arbitrator has now made his award, the purport of which is that the defendants are to pay the sum of £31 13*s.* 4*d*, as damages, to erect a tall chimney before the 1st of May, and to conduct the burning of bricks hereafter in such a manner as to give off the least possible smoke or fume. The defendants to pay all costs.

CHRYSANTHEMUMS.

November, 1884.

Their tender blossoms greet our eye,
Beneath the grey November sky,
Like snow-wreaths in the valleys piled,
Like summer clouds or fairy child,
Their fragile beauty strews our way,
As moonlit night turns into day
The darkest hour, on this fair earth
Their blossoms smile in time of dearth.

O'er garden wall, or trellised stair,
They fling their branches, sweet and fair,
Or clust'ring on the window bright
Reflect the glow of sunset's light;
As in old age our cherished friend
Grows dearer as we reach the end;
So we would greet this lovely flower,
That crowns the year's fast dying hour.

Minnie M'Kean *in The Scotsman.*

ASPLENIUM HORRIDUM.

This distinct and handsome evergreen stove fern which Mr. B. S. Williams, of Holloway, sent out last spring, has so much struck us several times during the summer, as being a plant worthy of wide cultivation, that we venture to bring it under the notice of our readers. Mr. Williams, to whom we are indebted for our illustration, describes the plant as follows:—The fronds are large, 3 ft. or more in length, and a foot in breadth, produced on stout stipes which are bristling with dark brown fibrillose scales. The fronds are leathery in texture, opaque, of an ovate-lanceolate form, pinnated, the pinnæ numerous, spreading 5 to 6 ins. long, broadly linear-lanceolate, that is, with an unequally wedge-shaped base, from which they narrow gradually to an acuminate point; they are divided half-way to the rachis in obovate or rhomboidal lobes, which are truncate with an entire or slightly toothed apex. The sori are linear-oblong, and are disposed in two parallel lines alongside the midrib and rachis, a few also being placed in the opposite direction on the larger lobes. The shaggy lurid ferruginous hair-scales, which are abundant also on the stipes and primary and secondary rachides, give the plant a peculiar rugged and weird aspect, which, together with the bold hard character of the fronds, render the plants very striking and effective. It is a native of the Sandwich Islands, and has been for a year or two under cultivation, during which time its peculiarities have been thoroughly tested.

MORE WORDS ABOUT PEAS.

It may seem strange to some readers, on a first thought, that any one should elect to write about Peas now, seeing that they are over and done for, for this season. After reflection will, however, show that really now is the time of the year, the very time of all the year, when they should be written about, and for this reason above others, that, in a measure, the performances—good, bad, or indifferent (if there are these degrees of comparison in their cultivation of the year)—of the different varieties is fresh in the mind of the gardener, and also because very soon he will be ordering his seed, for the early sowing at least, even if he is not about doing it now. There are it must be known to the uninitiated those who sow their earliest Peas in November, and the subject is therefore one of great importance to them. These November sowers of early Peas, though, are men who understand Pea-growing thoroughly, and have all the necessary appliances to protect them through the rigours of winter and spring, and those who have not these appliances, and good sheltered positions on which to put their early crops, had better defer sowing until the new year. At least that is the advice I should give them, because it is the course I pursue myself.

It may be urged by those who desire very early Peas and have not the best of positions, or plenty of protecting agents, that November may be the best month to sow in, even for them, because of the chances there might be of an open winter and a genial spring; and that therefore it is best always to sow in November. I do not care to argue the question. Let every man do as he thinks best. If November sowing suits you and is profitable to you, my friend, by all means sow in November. "Let every man be fully persuaded in his own mind." The reason I do not sow in November is that I lie cold and bleak, my garden looking to the North-East, and from a practice of many years now, I know that I can get the best results—table results—from sowing in January, than I can from sowing in the old year, and I am free from the anxiety of the effects of three of the coldest months of the year. I am also free from the misery of seeing my early rows of Peas cut off or laid flat on the ground, when three or four inches high, in March or April, because of their fast growth through a mild February, and as I can get a dish of early Peas in the first or second week in June from sowing in January I am quite satisfied. I would have every one to study well his requirements and his means, and then work accordingly. Try sowing in November, and if that practice succeeds keep it up, if not, try sowing in January, and that practice is bound to succeed. We are told that "nothing succeeds

like success," and it is true in Pea-growing as in everything else.

The Cultivation of Peas.—Peas like good land, well and deeply dug, and well manured all through, but especially so at the bottom. For the main and late crops it is even a necessity on light land, and in a droughty season, to make every line of Peas like making a Celery trench; throw out the soil to the depth of 12 ins. or 18 ins. and put in good manure to the depth of 6 ins. or 9 ins., and then putting on 6 ins. or 9 ins. of soil. It is the poverty of the land low down where the roots are feeding by the time the plants are cropping, and when they most need support, that causes them to mildew and shrivel up and prematurely ripen. Set it down as quite settled that labour and muck both pay, and pay well, in Pea-growing, and that poor land and shallow cultivation is the road to annoyance and loss.

"What sorts do you grow?" is a question often asked of every gardener. Well, there is none better for the earliest sowing than William the First, and I like Sutton's Ringleader or Carter's First Crop. For a dwarf Pea none is better than American Wonder. Day's Early Sunrise is a good early Pea, and a brother gardener, who grows very good early Peas, thinks there is none to beat Taber's Perfection. Try a new one each year, and when you have got that sort that does best with you, stick to it. That is the best advice I can give. For the main crop few are better than that old sort, Champion of England, though Telephone and Stratagem are newer ones of the marrow type. Laxton's Fillbasket is a good market Pea. For late crop none can beat Ne Plus Ultra, though I prefer for some positions its dwarf other self, another of Laxton's, called Omega; this is a 3 ft. 6 ins. or 4 ft. Ne Plus Ultra. McLean's Best of All is an excellent late Pea, and Berkshire Hero comes in very useful with its gatherings as late as October. Any of these are good and will satisfy the generality of growers. Every one must study their position and ground and stakes, even in the choice of Peas; for it does not do to sow 6 ft. Peas and put 4 ft. rods to them. Judgment and adaptation as well as labour is required in the growing of Peas, as indeed in all things that concern the garden.—*P.*

THE LILY OF THE VALLEY.

Convallaria majalis, or the Lily of the Valley, is a universal favourite, and there are probably few gardens of any pretensions in which a bed or a border of it may not be found; but unfortunately how few are the gardens in which the plant receives any special attention as to cultivation. In far too many cases we find the plants at the foot of a wall, under a border of shrubs, or in some neglected spot where little attention is given them, except occasional weeding and in the season gathering the small starved flower sprays as they appear. Where these delicious flowers are wanted early in the new year, no time should be lost in getting them potted up, and to those who have not an extra good stock to deal with, I would say purchase some roots of the nurseryman who advertises such things in the pages of this paper. The majority of nurserymen and seedsmen keep them in stock at this season, and those sold either as single forcing crowns, or in clumps, are equally adapted to our purpose.

In forcing these plants different cultivators have different methods, several of which I have practised myself; but the plan that I prefer above all others is to force them on a hot-bed. Assuming that we have taken either the single crowns or clumps and potted them up into suitable-sized pots, or placed them in boxes, carefully working some fine soil among the single crowns, we then place them in a cold frame, and give them a good watering to settle the soil about their roots. We next take into consideration the making of the hot-bed, and for this we use the litter which has been rejected at the time of preparing the manure for Mushrooms, to which we add about two-thirds of leaves as they are swept off the lawns and walks in the pleasure-ground, well mixing the whole together. These should now be made up into a bed, in the same manner as we would make one for propagating purposes.

A single light frame of ordinary size is large enough for most gardens, and when this has been set on the bed, some cocoa-fibre refuse or leaf-soil should be put on the manure to keep back the strong heat. Place the pots of Lilies in the frame, but do not plunge them into the manure, and over the crowns sprinkle a few inches of cocoa-fibre or leaf-soil. Place a thermometer in the frame by the side of the plants. Put on the light, and over the same a mat to keep the frame dark. If the heat does not rise satisfactorily, place some good heating materials around the bed and sides of the box, and some litter over the top of the frame. In this way the heat will generally rise, but care must be taken that it does not get too hot, in which case some of the lining material must be removed, and the heat be so regulated between 65 degs. and 80 degs.; it may sometimes be necessary to open the light a little at the top, to allow the strong heat to escape.

In this humid situation the Crocus will start readily, and when they have pushed a few inches and are showing their flowers, they should be removed to a warm house or pit, and here great care must be taken to gradually enure them to the light and air, either of which would injure them while in this delicate state. The plan which I have found to answer best, is to place them under a hand-light in a shady place, either in a Cucumber pit or plant stove and keep them close for a few days, after which air must be admitted by degrees until the light may be entirely removed, and later on giving them a better position to improve the texture of their flowers and foliage; this at first sight may appear to give a lot of trouble, but such is not the case, as the same appliances will answer for several batches, and keep up the succession until such conveniences may be wholly dispensed with. A vinery at work is a capital place for the plants after giving them a start in the frame, as the humid atmosphere suits them during the dark days of winter, and, later on, they will come on in the greenhouses and cold frames; and, lastly, with a good plantation out-of-doors and a frame placed over a portion of the same, the supply may be kept up till the flowers may be gathered out-of-doors; and here it is wise to grow some on south, east or west and north aspects, to prolong the season of flowering to the utmost.

ASPLENIUM HORRIDUM.

When there are several old-established beds at command, I think it a far better plan to lift one-third or one-fourth of the stock every season, and to sort out the flowering-crowns and pot them up for forcing, then to cut clumps out of the bed, and after forcing them either in pots or boxes, to place them back where taken from. When one has a good batch of these plants, it is always best to adopt a regular course of lifting, sorting, and potting the plump crowns for forcing, and planting the weaker ones out again in lines six inches apart and an inch or two asunder between the crowns. They should be planted in moderately rich soil, and be mulched with leaf-soil and manure. Those used for forcing may also subsequently be planted out, but not till severe weather is past, up to which time they should have the shelter of glass and be protected from frost.

For very early forcing it is a good plan to keep over in pots the latest flowering batch or those that have not had their constitution impaired by hard forcing, but have been brought on under the influence of sun and light. After flowering, place them in the open-air, and attend to them as to watering. They will go to rest comparatively early with plump crowns to all appearance little the worse for being in pots, and owing to their early ripening and to their roots being established in the pots, they will be found in the best possible condition for flowering early another year.—*Charles Warden, Clarendon Park Gardens, Salisbury.*

PRUNING AND NAILING.

This important operation should be pushed on with despatch as soon as the trees have shed their leaves. Mild or sunny days should, however, be selected for doing the work, because the men can do so much more and better work than when their fingers are so benumbed with cold that they can scarcely hold nail or hammer. Happily for the present generation of young gardeners, the "stick-to-nailing-all-weathers" system has almost become a thing of the past, for the majority of gardeners nowadays regulate their work with more common-sense than they used to do. Hence it is that on cold and frosty mornings manure has to be wheeled on to vacant pieces of ground, to be subsequently dug or trenched into it, or it may be between fruit-trees, or as a mulching between the rows of Raspberries and Strawberries; and later in the day, when the sun shines forth, the work of pruning and nailing is proceeded with, shifting from one wall to another as the sun moves round towards the west, so as to be working under its genial influence as long as possible, thereby rendering the work one of pleasure and pride instead of hardship.

As a rule, we commence pruning and nailing operations with the Morello Cherries, because, on account of the great number of shoots which have to be manipulated, they require, like the Peach, more time and skill to train them properly than either the Plum or Pear, and, moreover, they shed their leaves first. Like the Peach, the Morello only requires the shoots to be thinned out a little, leaving, of course, as many young growths as are necessary, and cutting back the old ones to their base, and also any fore-right shoots that may have formed during the summer to one wood-bud. Strong leading shoots should also be cut out where it can be done, in order to insure a proper balance of growth in the tree—that is, an equal distribution of the shoots over the space prescribed to each tree on the wall, and the shoots, about three to four inches apart, radiating at the same angle from the centre on either side.

In pruning trees of the Pear, Plum, and Apricot, the shoots should be spurred back to the wood-bud nearest to their bases, and the old spurs, where too close together on the individual branches should be thinned out a little, as anything approaching over-crowding of the spurs and shoots, whether on trees, under glass, or out-of-doors, should be looked upon as a great evil in fruit culture, and therefore to be avoided. Prior to nailing any trees that are infested with brown scale or thrip, which if not destroyed will themselves destroy the trees in a few years, should be taken from the wall by removing therefrom the nails and shreds to enable every particle of the branches so infested to be thoroughly painted with a mixture of soft-soap and petroleum, at the rate of 4 ozs. of the former dissolved in a gallon of water to two wineglass-fuls of the latter, to which sufficient clay and a handful of fresh soot should be added to give it the consistency of paint. It must be applied to the trees with a paint-brush, taking care in doing so not to knock off the fruit-buds. This is certainly a tedious process, but I find it is more effectual than the solution of soft-soap and petroleum of the same strength as recommended above, applied to the infested trees with the syringe, inasmuch as the latter, in addition to its not adhering sufficiently long to the shoots to be effective, fails to reach all the insects on the wall side of the individual branches. Consequently there remains a sufficient number to establish a fresh colony the following year.—*H. W. Ward, Longford Castle Gardens.*

PLANTING TREES.

In proceeding further with this subject, we need scarcely refer to the importance of planting all standard trees quite upright; a tree in a leaning position is always an eye-sore, a tree perfectly perpendicular appears to display the line of beauty, and it is necessary that the planter should guard against the trees being blown out of an upright position before the roots are established in the soil. How is this best done? First, by placing a stake against it, driven firmly into the ground; or, secondly, by adopting a method employed by the late Mr. Charles Lee, of Hammersmith, of placing across the roots, immediately after they are covered with a little soil, two stout sticks cross-wise, so that though the wind may sway about the head of the tree, the roots are not loosened in the soil. This does not always secure a perfectly upright growth, but it does a great deal towards it. And it need scarcely be stated that in staking the tree, care should be taken that the trunk be so attached to it as that it shall not, by its contact, fray or wound the bark of the tree.

Despite the rain which has fallen of late, planters find the subsoil dry—much drier than many would imagine. Therefore it is necessary when planting in dry soils, to mulch at once with some suitable material. Some short dung and leaves is a very useful mixture for the purpose. And so long as is necessary, water must be given abundantly, enough to completely saturate the soil about the roots. It is a waste of time to merely water the surface. Anything short of thoroughly wetting the soil about and around the roots is useless. The muching will also be found of good service as a protection during winter. We have known trees planted in dry soil in autumn and allowed to go unwatered, the result being that the fibrous roots perished, and the spring development was unsatisfactory. If a good spell of rain sets in at the time of planting, leave Nature to do the work of moistening the dry soil.

Some persons are very fond of planting trees on raised banks or mounds. Many a tree suffered heavily during the past dry summer from this cause. We saw Horse Chestnuts of large size, growing on raised ground in a Western suburb of London, that by the middle of August had almost entirely lost their leaves through dryness at the roots. Trees should be raised above the surrounding level only in very exceptional cases, such as low, damp, swampy spots. Rain naturally runs down the sides of mounds, and does not penetrate to the heart of the soil, instead thereof it becomes wasted on the surrounding ground where the roots are not found. Plants thus deprived of their fair share of moisture never thrive well, and in dry summers, often die. Let anyone take up a tree thus circumstanced, and they will find the ground about the roots quite dry and parched. On the contrary, it is a commendable practice to scoop out a kind of shallow basin round young newly-planted trees, by slightly elevating the soil at a little distance round the stem, thus inclining it inwards towards the plant. In this way the rain, as it falls, is directed towards, instead of being conducted away from, the roots. It is sometimes necessary to plant raised mounds and banks, so as to secure a screen against biting and injurious winds. When this is done, the apex of the mound should not be made in the form of a ridge, but as broadly level at the top as possible; and after planting, be hollowed out inwards as far as possible, as just recommended. Some of the falling rain, at least, will thus be gathered for the roots. In all cases when such places are planted and dry weather follows, water must be freely given for a time, so that the newly-planted shrubs may be induced to put forth roots and establish themselves in the soil.

THE BANANA.

Where variety in the dessert is appreciated, and accommodation can be afforded, we would advise those who do not already cultivate the Banana, to procure one or more plants of Musa Cavendishii as may suit their convenience, and give it a trial. When its fruit is dished and placed on a table with other kinds, it has a very novel and attractive appearance, and although its peculiar sweet-meat flavour, which is perfectly distinct to that of any other fruit, may not be relished by every one when first tasted, nevertheless a liking for it is readily and generally acquired. The individual fruits, or "fingers," as they are sometimes termed, are fit for use as soon as they are ready to be gathered, and that is when they are quite coloured. Another indication of the time for gathering is invariably shown by the splitting of the rhind, after the manner of Figs, and they will fall soon after this takes place, if gathering is neglected. They do not keep in good condition for any length of time after they are ripe, approaching decay being visible by discolouration.

The cultivation of the Musa is extremely simple, as with regard to soil it does not appear to be particular, for it thrives in that of almost any description commonly used for fruits, providing it is porous and sweet. A bed, however, into which its thong-like roots can freely ramify is preferable to pots, for it is a gross feeder, and delights in copious supplies of liquid manure when it is making its growth and swelling its fruit. Moreover it luxuriates in the high moist temperature favourable to other moisture-loving stove subjects, and enjoys daily syringing, from which its blossoms should be guarded, so that perfect fertilization may not be endangered. The fruits are produced in large clusters, but do not ripen simultaneously, but in a manner that is more serviceable, by yielding a continual supply extending over several weeks, more or less, according to the size of the clusters; and the time from when they show until the first "fingers" are ripe, averages about five months.—*C.*

SPRING GARDENING.

Those of your readers who really love the art of gardening will, I feel sure, agree with me when I say that nothing is more enjoyable, interesting, and, I may add, edifying than a good arrangement of spring flowering plants. The bursting of the first buds of the Snowdrop, in company with the sheen of golden-yellow to be found only in the winter Aconite (Eranthis hyemalis), come as welcome as the spring itself, and from that time the number of flowering plants daily increases. Many there are who know little or nothing of spring gardening beyond the planting of such things as a few Daisies, Crocuses, Snowdrops, Tulips, and the like, which, of course, are all very well in their way and most acceptable, still they are as nothing compared with the great multitude of spring flowering plants which we possess, herbaceous, bulbous, Alpine, &c., all of which are equally eligible and effective in the spring garden, provided they are properly utilized. It is in this latter particular, however, the proper utilization and arrangement of the plants, that the secret of success in spring gardening is to be found, for without some knowledge of the plants, as to their time of flowering and general habit, their partiality or otherwise for sun, shade, or moisture, and so on, they not unfrequently fail to give anything like an adequate idea of their value and effectiveness.

Spring gardening once fairly mastered will ever after create desires for new designs and combinations, fresh longings for extension and improvement, which latter is far more easily attained where summer bedding is not too eagerly sought after. Gorgeous though the summer flowering plants are, they fail to equal, much less surpass, the sumptuous arrays of floral wealth which it is possible to produce with common and, I may add, almost every-day plants, for it should always be remembered that no costly, rare, or choice plants are necessary for the

purpose. On the contrary, a garden—aye, even a small plot of but a few yards of ground—may be beautified by employing commonplace plants, which may be numbered amongst the oldest inhabitants of our gardens, and which are perfectly hardy, easily reproduced from seed, and easily increased by means of division or otherwise.

One of the primary objects to be kept in view should be to carefully avoid all formality of arrangement, such as having straight lines, and the surfaces of the beds too flat, either of which are as much out of place as an undulating surface would be in a geometrical design. The easy curve is the true line of beauty, and should always be adopted if possible when designing beds or planting them.

The next point of importance to be observed is the selecting of such plants only as are calculated to meet the requirements of individual cases. Happily among hardy plants we have a vast number, admirably adapted for spring gardening, whose culture is of the easiest possible character, and it is with such as these that the best results are to be obtained.

First to claim our attention is that old favourite the Christmas Rose, than which nothing is more welcome in mid-winter, so fine is its white rose-tinted flowers; and from mid-winter till the end of March some members of the genus will produce flowers. I need hardly refer to the Snowdrop, since the merest child knows it and welcomes its arrival. The golden yellow winter Aconite is due next in order to flower, and while this still remains in bloom, the earliest Crocuses will be unfolding their cups of white, purple, and gold. These are highly attractive, and where ingeniously employed produce an almost unique effect. Then we have a rich family of spring flowering plants in the Wind-Flowers or Anemones, the earliest to bloom of which is Anemone blanda, which forms a lovely patch of blue in the waning days of February and onwards into the month of March. Soon other and fresh beauties of this family make their appearance, and are very telling. Most conspicuous indeed is the scarlet Wind-Flower, A. fulgens, which is possessed of remarkable vividness, and a few plants dotted here and there will produce a most telling effect. Then we have the Crown Wind-Flower, A. coronaria, a native of the sub-humid pastures of Southern Europe, but which has been among the most popular of our garden plants from remote times. Of this fine plant there are now numbers of varieties, single and double, and no plants that I am acquainted with are more ornamental in the spring garden. They may be planted at intervals from October to February, thereby securing a continuity of its gorgeous blossoms, but the best results are realized from autumn planting. The varieties in this section are so readily increased by seed or division, are so diversified in colour, and possess such vigorous constitutions, that they stand almost unique among spring flowering plants. Anemone apennina comes into flower some three weeks later than A. blanda, making a good successional plant; A. ranunculoides may briefly be said to be an apennine or wood anemone done in gold, its glorious sheen of golden flowers defying description. One cannot either overlook the various ways in which the wood anemone, A. nemorosa, and its varieties may with advantage be employed either in the spring garden or for quiet shady nooks in the wild garden; while the last of the genus to which I shall draw attention is the Snowdrop anemone, A. sylvestris, so called from its drooping cups of silvery whiteness which are borne so profusely during the spring months.

Flowering in company with Anemones, we find the various species of Primula, and though many a rare alpine gem may now be found in English gardens, few if any are more welcome than our own common Primrose, P. vulgaris, from which have sprung many forms of yellow, red, rose, lilac, purple, and white varieties, and which being so easily reproduced from seed, may readily be obtained in quantity. They are indeed so cheap and plentiful that there is no excuse whatever for borders and beds being so often found bare. Then we get another well-known group in the Daffodils, single and double, a few clumps of which are always welcome. Next come Wallflowers, with their fragrant spikes of bloom. The best dark Wallflower is Harbinger, and the best yellow Belvoir Castle Improved. Violas must by no means be omitted, but as a good list of these appeared in a recent issue, I will not here repeat it. Besides the plants already enumerated, there is an almost endless number of other good things, such as Aubretias, Arabis, Tritelias, Mossy Saxifrages, and Sedums, all of which may be made to play their part, but wherever employed the one great aim should be a pleasing combination of colour, rather than an overwhelming glare. Endeavour to follow the example set by nature of grouping the several subjects harmoniously together, and choose for the great mass of material the commoner and hardiest subjects, suitable for town and country gardens alike, and which will grow in any ordinary soil.—*E. J.*

NOTES ON GARDENS.

Mr. Henry Little's Garden.—Hillingdon Place, near Uxbridge, the home of a true amateur florist and plant-lover, is noted for the perfection to which all things there grown are brought, and for the many very fine improvements in florists' flowers which have resulted from Mr. Little's skill in hybridization or cross-breeding. His single Primulas are notable instances of what can be obtained by careful seeding, the substance and form of his strain being perfect, and the brilliance of their vermilion and crimson tints superb. In show and fancy Pelargoniums, too, his new varieties are very fine and distinct, that lovely variety named Dresden China, raised by the Rev. A. Rawson, and which is always so much admired at exhibitions, having now several companions which are worthy to rank with it.

The Orchids.—In this department the florists' views are well and consistently carried out, and with good effect, for handsome kinds only with perfect-shaped flowers are admitted, and consequently some very rare forms are here to be found. It is satisfactory to note that the whole of the collection under the care of Mr. Little's present gardener, Mr. F. Hill, is in a better condition than ever, and all signs of shakiness in the specimens have given way to the frequent handling and constant attention they have received at his hands. The Cattleya-house is full of stout specimens. The specimens of C. Mendelli being specially selected plants, are very distinct in bulb and leaf, and those of them which have flowered have proved to be very gorgeous varieties. One was certificated at the Royal Botanic Society last summer, and another, with Lælia-like bulbs and strange-looking dark purple leaves, has pure white flowers, with purplish-crimson lip, and yellow throat, each petal being nearly 4 ins. in length and 3 ins. in breadth. The stout bulbed plants are well furnished with flower-sheaths, one fine piece of C. Trianæ having as many as sixteen of them, and others ten or a dozen each, with the buds already showing up. A fine mass of the rare C. Eldorado Leeana, which has pure white flowers, with orange throat, and crimson edge to the labellum, is in a promising condition for bloom. In flower in the Cattleya-house are some very strong plants of Vanda cœrulea, some Odontoglossum vexillarum, which are wonderfully fine, many of them being furnished with four flower-spikes to a bulb. Odontoglossum Roezlii also does well here, and is always in bloom. Calanthes Pilumnas, Lælia Perrinii, and various Cypripediums also brighten up the house just now.

The East India house contains a most pleasing object in a grand mass of such a fine form of Saccolabium Blumei magus as deserves to become a pedigree plant. It has eleven long spikes of very brightly and distinctly marked wax-like flowers. Cypripedium Spiceriannum, too, is profusely in flower (two being twin-flowered), and a perfectly-formed Phalænopsis amabilis and some brightly-flowered Calanthe Veitchii are also very effective. In one of the vineries the Lælias, some of the Cattleyas, some wonderful masses of Dendrobium densiflorum, D. thyrsiflorum, and other resting plants are being kept quiet, and very contented they look.

The Odontoglossum-house is a pleasure to behold with its stout sleek plants bristling with flower-spikes, many of them heavily branched. Some of the spotted varieties here are unique, and those in flower proclaim the general strain to be good. The plants are in a very cold, moist, but airy house, and chiefly in deep pans or half-pots, which they seem to like very well; certainly the air of vigour and solidity about leaves no room for doubting that they are on the right road. The house even at this season is bright with plenty of Odontoglossum Alexandræ, some grand forms of O. Pescatorei, O. grande, Sophronitis grandiflora, Epidendrum vitellinum magus, Mesospinidium vulcanicum, a beautiful form of Oncidium macranthum hastiferum, Masdevallia Tovarensis, and others.

The Cyclamens, for the culture of which Hillingdon Place is noted, are now in grand order, their foliage as beautiful as the Begonia, and their crowns covered with buds, many of the plants having over one hundred of them visible, and that loveliest of all bright carmine varieties, Mrs. Henry Little, already has a stray flower or two up. Certainly the perfection to which these grand specimen Cyclamens in 16-size and 24 and 32-size pots are brought is marvellous. The whole front of a long lean-to house is filled with them. The show Pelargoniums, too, are in a very sound condition and certain to give a good account of themselves at the next summer shows.

The Zonal Pelargoniums are all aglow with bloom, and they receive simple but special treatment at Hillingdon, which might be imitated elsewhere with advantage. At bedding-out time the plants are plunged out in beds, there to bloom until the end of July or the beginning of August when they are lifted. Later in August they are shaken out and re-potted, and in September are put in the greenhouse, where they are now in bloom, and where they will continue to bloom all the winter, and as there is a fine named collection they will make a great and interesting show. When the plants are lifted the spare cuttings are taken off and struck and these are now in 48-sized pots to come in for spring and early summer blooming after the older ones are over.

The Chrysanthemums fill to overflowing the large curvilinear lean-to conservatory by the house, and present a most delightful picture, arranged as they are for effect as regards the colours, a matter too often neglected. Many simple combinations are made in the arrangement at Hillingdon, one of the prettiest perhaps being the mingling of the flowers of the bronzy-crimson Julia Lagravere and the snow-white ones of Madame Domage. Both are old varieties, and as Mr. Little remarks, it is a noteworthy fact that especially among the perfectly-shaped and incurved varieties, the old ones are the best, and those early varieties of Salter, and even such as the old Chinese Yellow which Fortune introduced, are not yet surpassed in their classes. Mr. Little does not grow new ones only, but retains all the good old sorts and tolerates even the untidiest of Japanese, if they are distinct, the ladies being so fond of them for cutting. Taking an unbiassed view of the really fine collection in flower, without regard to newness or oldness of the variety, the following, as seen at Hillingdon, are of the first merit:—Source d'Or, a lovely yellow and bronze Japanese; James Salter, pink with plaited petals; Striata perfecta, rose and white tinged and striped and beautifully reflexed; Madame d'Andignier, rose; Isabella Bott, a grand white incurved; Eve, pale primrose incurved; Arlequin, buff-tipped crimson; Emily Dale, pale yellow incurved; R. Ballantine, purplish-crimson; Pink Perfection; Beauté de Toulouse, rose; Julia Lagravere, bronzy-crimson; Madame Domage, pure white; La Frisure, a pink Japanese; and need it be said, the lovely Mrs. George Rundle, and the yellow sport from it named George Glenny. The pompon Sœur Melaine is much grown, and as managed at Hillingdon, it is the purest white and one of the most lovely and prolific kinds for cutting imaginable.

The Amaryllis, and the many other things for the good culture of which Mr. Little is noted, are in as good order as ever, and the garden, which is kept more as a pleasure-ground than a flower-garden, is neat and trim; the shrubbery walk, which extends for three-quarters of a mile, looking now as inviting for a stroll as ever.

Vriesia xiphostachys. — This plant has the usual habit of the Bromeliaceæ; the narrow grass-like entire leaves are much recurved; the flattened flower-spike overtops the leaves; the bracts are keeled, and compactly arranged in two imbricating rows, green or bright red towards the base of the spike; the flowers are 3 ins. long, purplish-blue, with narrow convolute sepals. It is figured in the last number of *The Gartenflora*.

The Amateurs' Garden.

Propagating Chrysanthemums. — Some of your readers may think I must have been hard up for a subject to want to give instructions on so simple a matter as Propagating Chrysanthemums; but such is really not the case, for it is my firm opinion that many failures are caused by the treatment the cuttings are subjected to during propagation, that are frequently attributed to their after treatment. We have all often read the reports of the fine shows of Chrysanthemums annually held in Mr. Turner's nursery at Slough, and the man who had charge of these for a long time, once told me the great secret of Chrysanthemum culture was never to let the plants or cuttings feel a bit of heat. By this it is not meant that the flowers should not be brought forward a little in heat if flowers are particularly required for any special purpose, but was advanced against the evil of placing the cuttings in heat to strike the quicker.

The Chrysanthemum above all flowers should be a favourite with the amateur, for what is there that better adapts itself to his convenience? This is the time to commence the culture of the plant, and all that is required is a cool frame or a box in which Cucumbers may have been grown in the summer months, some loam and leaf soil in equal parts, with sufficient sand to keep the whole porous. Then take some thumb pots that have been previously prepared by placing one crock and a few small ones over it in the bottom, next a sprinkling of leaf-soil that has failed to pass through the sieve, and fill up with compost, pressing it moderately firm and on the top putting a sprinkling of sand, when all will be ready for the cutting.

This should be taken off with an old knife, cutting them off some depth below the surface of the soil, where they come up like suckers, this is best done before the cuttiugs get too large. Great care should be taken to get them properly labelled, and by taking the cutting now, one has a double advantage, as we have the flower to guide us. The cuttings will now be ready to be gone over, and cut with a sharp knife at a joint, and inserted singly in the centre of small pots previously prepared, placing a label to each, after which they should receive a good watering to settle them in and be placed in the cold frame previously mentioned, when they should be kept rather close, carefully removing any mouldy or decaying leaves as they appear. They will not require any further attention, except it be to cover the frame with some protecting material to protect them from severe frost. If any are found to die, one has simply to get another cutting of the same variety and insert it in the same pot, and the same label and soil answers for it. I am certain, from experience, that to take cuttings and treat them in this way, and also take others a month later and place them severally in small pots in heat, at flowering-time, the former will have an immense advantage over the latter by their robust habit and fine flowers.—*C. W. C.*

THE FRUIT-ROOM.

This is usually located at the back of the hot-houses in company with the tool and potting sheds, and beyond the shelves for the fruit its structural arrangements differ but little from them in many instances. Like all other erections against the walls of hot-houses, the fruit-room will be more or less affected by the heat and moisture maintained in the houses. If the wall on the inside of the house is covered with climbing-plants which are kept constantly syringed and the temperature of a stove is kept up, we have conditions about us unfavourable to the preservation of the fruit as it is possible to conceive.

These defects in fruit-rooms are not confined to those erected years ago, but are associated with some of modern construction. I looked into one recently which had not been completed more than two years, yet its interior lead one to suppose that it had been in existence for an age. The back wall was bluish-black, and mouldy-looking, the effects of damp arising from syringing the fruit-trees on the opposite side, combined with that rising from below in consequence of the heavy waterings applied to the borders which were higher than the floor of the room. The frame-work supporting the shelves was varnished pitch-pine, but the damp had rendered it unrecognizable, so that altogether the aspect of the whole interior was most repelling. The builder must have entirely overlooked the conditions requisite for the preservation of fruit, in this instance, if he had ever made himself acquainted with them at all. Some gentlemen are so readily inveigled by the novelty and apparent cheapness of the contemptible articles which some builders choose to dangle before them, that they accept them without consulting their gardeners, who should know a little about such matters. I would advise all gentlemen about to build such an important structure as a fruit-room, not only to consult their gardeners, but to demand from the builder some proof of his capacity by reference to similar buildings of his construction elsewhere, and, if possible, have them duly inspected.

Damp and ill-constructed fruit-rooms may be improved by lining the interior walls with grooved and tongued-boards fixed an inch or two from the wall. The air-space thus provided will be the means of maintaining a more uniform temperature as well as providing a cure for damp; and the plan might also be advantageously adopted in the erection of new rooms. To prevent damp rising from the ground, I would suggest that the first layer of bricks above the ground-line should be well covered with pitch in a boiling state. The best fruit-room I have seen is the one at Crewe Hall, Cheshire. It is not a very large one, and is, I believe, devoted only to the choice late kinds (a larger one being used for the commoner sorts). It is constructed inside another thick-walled building, which was once from base to summit a pigeon-house of such dimensions that the lower part has been converted into a stable and coach-house, above which is the fruit-room in question. I had constructed a very useful one before seeing this, by boarding off a portion of a hay-loft, at one end of which there was a small window. This was also over a coach-house.

One fact should be mentioned in connection with the wooden fruit-room I have alluded to. The roof of the coach-house had a good ceiling, so that no frost could get through the floor. Where this is not the case, a separate floor for the fruit-room should be made, and the space between it and the loft floor be filled with sawdust.

Stages or Shelves are, so far as I am aware of, made only of two materials—wood and slate. The usual method of employing the first is in the form of battens, about 2 ins. wide, with a space left between each when nailing them down, which practice, it is alleged, is necessary to admit air round the fruit. I have had experience of this kind of stage, and also with slabs of Welsh slates, which, it is contended, maintain the fruit cool and do not rob it of its juices, and so hasten shrivelling. I have not perceived any difference in that respect between fruit stored on these and that on the wooden floor of the room; but I have one great objection to slate, for I have found that if a decayed fruit is not detected at once, the moisture, owing to the slates being non-absorbent, will spread under several more, with results that I need not mention; whereas those on the boards when they decay the juice that exudes is confined to the space occupied by the fruit, and partially, if not wholly, is absorbed by the wood, and seldom gives any trouble.

The divisional wood-staging is frequently a source of mischief if the spaces are too wide, as in that case the fruit sinks in, and rests on the edges of the two pieces of wood, and if more than one layer is placed on them the pressure will be sufficient to impress the fruit. I had to deal once with a stage of this kind, and got over the difficulty by cutting clean wheat straw of sufficient length to reach across the stage, and by spreadiug only a very thin layer there was not sufficient straw to act adversely on the fruit, and it effectually prevented them entering these openings.

I am disposed to think that a boarded stage is as good as anything, and a trifle cheaper than the divisional stage, as well as being much more convenient to arrange the fruit upon. Some of the advocates of the open-stage may ask, What about air round the fruit? Well, I fear its importance has been over-rated, and its need is denied by the patrons of slate, as well as by those who wrap up their fruits in paper and store them away in drawers or boxes. Probably some of the practical readers of The Gardening World have made comparative trials with fruit-staging, and will give us the benefit of their experience.—*North.*

SOUVENIR DE LA MALMAISON CARNATION.

Mr. Leopold de Rothschild's clever gardener at Ascott, Mr. Jennings, grows these beautiful flowers to the greatest perfection, and in such quantity that a sight of them in the months of May or June, at Ascott, is not likely to be forgotten; a span-roofed house, nearly 50 ft. in length, being entirely filled with sturdy plants, covered with their large delicate pink flowers, and arranged with Maiden-hair Ferns. Not only is the house kept full for a considerable period, but Mr. Jennings has usually many plants to spare which are not wanted for that purpose, and these are used for decoration, and making groups out-of-doors. Our illustration will serve to give an idea of the beauty of this plant as grown at Ascott, and its usefulness for cutting is so well-known that we need not say more on that point.

Whilst on the subject, it will be advisable to give Mr. Jennings's method of treatment. In the first week in July, all the plants intended for propagation are plunged in their pots in a cold pit, on a mixture of loam, peat, and sand, and they are at once layered in it. The lights are left off the pit, but are not taken away, so that in case of very heavy and continued rains, they may be put on and tilted, as excess of moisture is detrimental to the free rooting of the layers. In the beginning of August, the layers are potted into large 60-size pots, and still left in the cold pit, the plants being potted on as they seem to require it until September, when the whole batch is shifted into large 32's 24's, and 16-size pots, each according to its strength, and in these they remain to flower.

The compost used in potting consists of two-thirds of good turfy yellow loam, and one-third of peat and sand, and a dash of soot is added to the whole, to check the wire-worm, which works such mischief on the plants. Great care is also taken to well crock the pots. At the end of the summer the lights are put over the plants, but they are left in the cold airy pits all the winter, and removed to the greenhouses in April, where they continue to bloom until July, when they are again taken in hand for propagation for the following year. Any plants which are not wanted for layering, however, are allowed to remain, and they often bloom on for a considerable time.

Mr. Jennings renews his stock every year, and we may mention that all the plants shown in our illustration, as well as those in the Carnation-house, are not a year old; this plan of annual renewal being in Mr. Jennings's opinion, the best, neatest, and safest. Those who wish it, however, may grow the same specimens for years, as he used to do, before he took to growing a large quantity, when the unevenness of the plants of various ages, and their liability to sudden death, suggested the plan to him, which he now pursues, and which he has good evidence of being a perfect success.

MOSS ROSES.

The origin of the first Moss Rose appears to be involved in some obscurity. By one authority it is said to have been introduced from Holland in 1596, and it is believed to have sported from the Provence Rose. By another it is said to have originated in Switzerland, and it is known botanically as Rosa centifolia muscosa; the distinguishing character of the Moss Rose being the result of hypertrophy of the calyx. Rosa centifolia is the Cabbage, or Provence Rose, which has large, unequal prickles, pendulous flowers and oblong fruit. It is said to be a native of the Caucasus, and is one of the types from which the Otto of Roses is obtained.

There is now quite a group of Moss Roses and their hybrids. They have no doubt been obtained from seed at one time and the other, and in all probability improved as time went on. The old or common Moss Rose is still largely grown, especially in some of the market gardens around London; so is the Crested Moss, with its beautiful bright-rose flowers; and the White Bath, with its large, full and beautiful paper-white blossoms. The following account given of the origin of several of the types of Moss Roses, is extracted from *The Gardener, Florist and Agriculturist*, and was contributed by Mr. Henry Shailer, of the Chapel Nursery, Battersea Fields:—

"On the first introduction of the old red Moss Rose, it was sent over with some plants of Orange trees from the Italian States to Mr. Wrench, then a nurseryman and gardener at Broomhouse, Fulham, the same land being now in the occupation of the descendants of that family, Messrs. Fitch, extensive market gardeners, &c., in or about the year 1735. It remained in that family nearly twenty years, without being much noticed or circulated, until a nurseryman by the name of Grey, of the Fulham Nursery, now Messrs. Osborn's, brought it into note. In speaking of the first production of the white Moss Rose which took place in the year 1788, the first birth was from a sucker or underground shoot. My father, Henry Shailer, nurseryman, of Little Chelsea, an extensive grower of Moss Roses, perceiving it to be a *lusus naturæ* from a stool of the Red Moss, cut it off and budded it on the White Provence, or Rose La Blanche Unique. The buds flowered the following season a pale blush; he budded them again in due time; it became much whiter, it was then figured in Andrew's *Rosery* under the name of Sadler's White Moss. He then sold it out, the first plants to Lord Kimbolton, to the then Marquis of Blandford, Lady de Clifford, the Duke of Gloucester, &c., at five guineas per plant. He continued to sell it at that price for three years; he then entered into a contract with those highly respectable and extensive nurserymen Messrs. Lee & Kennedy, of Hammersmith, they taking as many plants as he could grow for three years at twenty shillings per plant, binding him not to sell to anyone else under forty-two shillings per plant.

"After cutting down the shoots which produced the white moss, it threw up two weak shoots which he budded from, they flowered the second season from the buds; that was the birth of the striped Moss Rose, a most beautiful and delicate variety, but when grown very strong apt to go back to the original parent. The first production of the single red Moss Rose, 1807, was a sport of nature. My father sent some plants of Moss Roses down to a nurseryman of the name of Essex, at Colchester; on the receipt of a letter from that person I went with my father to see it when it was in bloom. I took some cuttings away with me to bud, and fetched the original plant away in the following autumn to our nursery at Little Chelsea. From these we sent the first plants out, at five shillings per plant. On the first production of the old scarlet Moss Rose, which is a semi-double, it flowered on a plant given by my father to his brother, F. Shailer, of Cook's Ground and Queen's Elm, Chelsea, 1808, nurseryman. The first production of the Moss De Meaux was from a sport of nature, from the old De Meaux, in the neighbourhood of Bristol, but brought into a high state of perfection by Messrs. Lee, of Hammersmith.

"In regard to the birth of the sage-leaf Moss Rose, that I must claim myself. It was also a sport of nature. I discovered it on a Sunday afternoon, in the month of June, 1813. I sold the whole stock to Messrs. Lee, of Hammersmith. It is of delicate, shell-like form, and a beautiful blush, now nearly extinct. On the first production of Rose La Blanche Unique, or White Provence, it was discovered by Mr. Daniel Grimwood, of Little Chelsea, nurseryman. He was on a journey of business in the county of Norfolk, in the month of July, 1775, when, riding very leisurely along the road, he perceived a Rose of great whiteness in a mill. He alighted, and, on close inspection, discovered it to be a Provence Rose. He then sought an interview with the inmate of the mill, who was an elderly female; he begged a flower, which was instantly given him, in return he gave her a guinea. In cutting off the flower he cut three buds; he went to the first inn, packed it up, and sent it direct to my father at his nursery, Little Chelsea, who was then his foreman, requesting him to bud it, which he did, and two of the buds grew. In the following autumn he went down to the same place, where for five guineas he brought the whole stock away. He then made an arrangement with my father to propagate it, allowing him five shillings per plant for three years; at the expiration of that time he sold it out at twenty-one shillings per plant, my father's share amounting to £300.

"Mr. Grimwood sent the old lady at the mill a superb silver tankard, &c., to the amount of £60. The birth of the Shailer's Provence, or Rosa gracilis, so named by Messrs. Lee, was on this wise, it was raised from the seeds of the Spineless or Virgin's Rose, sown by myself in 1799, and flowered in 1802. We raised numerous varieties from seed up to 1816. Generally sold them to Messrs. Lee, who sent them out under their own naming."

This is an extremely interesting account, and will, I hope, prove so to your readers. The best Moss Roses and their hybrids now in cultivation are Angelique Quertier, pale lilac-rose, double; Baron de Wassenaer, bright red, flowering in clusters, good form and full; Blanche Moreau, very large, pure white, well mossed, extra fine, a decided novelty; Celina, rich crimson, shaded with purple, superb; Comtesse Murinais, white, large and double; Gloire des Moussenses, blush, very large and full, one of the best; Julie de Mersant, rosy-pink, very beautiful; Lanei, rosy-crimson, tinted with purple, large and good; Nuits d'Young, blackish-crimson; and the common Moss, the Crested, White Bath, and Prolific. All these are deliciously fragrant, rendering them, apart from their beauty, highly valuable. They need close pruning, plenty of manure, and otherwise rich culture, and then they can hardly fail to succeed.—*D.*

SOUVENIR DE LA MALMAISON CARNATIONS IN MR. LEOPOLD DE ROTHSCHILD'S GARDEN.

FRUITS.

Gooseberries and Currants. — These are generally dotted about, here and there, all over the garden, which is not a good plan, as when in isolated positions it is an awkward matter to protect them and so save the fruit from birds, but when more together, this may be easily done, as a piece of fine meshed wire may be run round the plantation, and an old herring net strained over the top, by doing which all feathered marauders are kept at bay, and the tempting fruit they so crave rendered safe, as after looking round and finding they are not likely to effect an entry, they take themselves off to search for food elsewhere. One of the best arrangements I have seen for growing Gooseberries and Currants was a plantation alternately in lines so as to fill a square, which was boarded in, and the boards tarred, and against the fence so formed Morello Cherries were planted and trained, in which position they did remarkably well, and hung very late, as did also the Gooseberries, the the sort being the good old Warrington, which is by far the best of all the reds for keeping, as the fruit will remain on the bushes long after the others have fallen or are unfit for use.

Black Currants may be planted almost anywhere, as birds do not care for them, but the situation the bushes do best in is a half-shady one, where the ground is inclined to be wet, as they are fond of moisture, and when the roots have it, the plants bear very fine fruit. Not only are most people much bothered in preserving their Currants and Gooseberries, but they have quite as much trouble with the buds, especially near towns, villages and farms where there are many sparrows, which are very destructive, as during the winter they frequently clear the whole of the bushes and do away with all chance of a crop. To prevent their depredations, in the absence of netting, there is nothing so effectual as to syringe the trees with lime-wash, which if fresh slaked will keep on all winter, and not only will it stop the sparrows from interfering with the buds, but it will thoroughly cleanse the bushes from all moss and greatly add to their health.

Before applying the lime, the bushes should be pruned by being spurred, and leaving only the main branches, except where they are thin, when it will be necessary to allow a young shoot to remain to fill up the space. Currants require the same kind of treatment, and the main leader shortened to three or four buds, or the bushes soon get too high and become bare below. All that Black Currants require is thinning, which may be done by the removal of any branches that cross or crowd others.—*Alpha.*

Apple Culture in Oxfordshire. — Messrs. Jefferies & Co., in their remarks on the Apples exhibited by them at the Apple Congress, state that the varieties of Apples most extensively grown in the orchards of Oxfordshire are Blenheim Orange and Hanwell Souring; and that of the former variety there are many trees that have been obtained from kernels, and these produce fruit varying more or less from what is regarded as the typical sort. There are certain trees that have gained a local fame, on account of their producing uniformly juicy, rich, sugary-flavoured Apples, by which they are distinguished from fruit of the same kind from trees growing under precisely similar conditions, that do not partake of these qualities in a corresponding degree. The vigour manifested by many of the most aged trees serve to indicate, not only the situations eminently suitable for forming new orchards, but illustrate a successful method of planting, as understood generations back; and the trees cannot but be regarded as memorials of a spirit of enterprise that once existed among those who achieved something wherewith to benefit posterity. The acreage of the county is 470,095 acres and of this total, 1,570 acres only are devoted to orchards. With these figures in view, it cannot be doubted that a greatly extended cultivation of Apples would be attended with most satisfactory results. It cannot be too forcibly impressed on planters, that it is not sufficient to make a good selection of well-grown trees, to convey them carefully to their allotted places, then to plant them, and, after securing them to stakes, abandon them to the elements. In many instances the operation of planting Apple trees is performed by those insufficiently tutored to the task; due attention is not given to a proper disposition of the roots, or to the surface on which they are placed; and it too frequently happens that the process of planting would be more fitly described as that of unconscious burying; moreover, the attention afterwards bestowed on them is often occasioned by the necessity of remedying defects arising from neglect or mismanagement.

The Bijou Lemon is not (according to Sir J. D. Hooker, to whom I sent some fruit) a true Lemon, but a Lime. If not a Lemon it possesses a singularly Lemon-like and piquant aroma, far surpassing the Lemons in ordinary use. For its diminutive size it cannot, of course, be more than a luxury, as the cultivators of Lemons in Italy and Spain would scarcely care to accept its produce in exchange for the profuse harvests yielded from their Lemon-trees. It is, however, well worth the attention of English horticulturists on account of its ornamental qualities. The plant is hardy enough for an ordinary conservatory, very fertile in producing fruit, and very ornamental, as the bright golden-yellow fruit will remain on the tree for six months without changing; the tree is also a pretty evergreen. Side by side with the Bijou Lemon or Lime I have a variety under the name of Small Lime, identical in flower, size of fruit, leaves, and habit of growth, but bitter and very acid. I need not say that these two varieties have been kept very distinct from each other; indeed, I have not thought it necessary to cultivate the latter, but I have retained the sort from the interest which attaches to this singular variation of fruit, notwithstanding similarity in growth.—*T. Francis Rivers, in The Florist and Pomologist.*

Cordon Trained Apples.—I am greatly in favour of the cordon training principle. Here we have a small walled-in garden, 70 yards square, laid out in four squares, with three rows of trees round each, the first being 1 ft. from the walk and 1 ft. high; the second 2 ft. behind the front one and 18 ins. high; the third 2 ft. behind the middle one and 2 ft. from the ground, which gives the garden a very neat appearance, as may be imagined, when they are in full bloom as also when in fruit. They withstood the storm of Saturday, April 29th, 1882, remarkably well, and gave us a splendid crop; in fact, we gathered more fruit from them than there was in all the gardens for miles round Sherborne.—*W. G. Pragnell, Gardener, Sherborne Castle, Dorset, in "British Apples."*

What are "Gribbles?"—Had we been asked this question before reading Mr. Garland's remarks on the Devonshire Apples sent by him to the Apple Congress, we should have had to confess that we did not know. It seems, however, that "Gribbles" is the local name applied to the young stocks raised from the pips, chiefly by small market gardeners. "The strongest are first selected and planted back for a year or two, when they are usually bought by the tenant farmers, who plant them out about 3 ft. apart, where they remain for one or two years according to the strength and progress they may have made, when they are headed back and grafted. The same season they will make shoots 4 ft. or 5 ft. long. These are shortened in winter to the required height for standard trees, and have sufficient room allowed them to make fine healthy heads. Finally, they are transplanted into the orchard, or sold to other farmers or those who do not raise their own."

Dumelow's Seedling Apple.—This excellent Apple was raised by a person of the name of Dumeller (pronounced Dumelow), a farmer at Shakerstone, a village in Leicestershire, six miles from Ashby-de-la-Zouch, and is extensively cultivated in that and the adjoining counties under the name of Dumelow's Crab. It was first introduced to the neighbourhood of London by Mr. Richard Williams, of the Turnham Green Nursery, who received it from Gopsall Hall, the seat of Earl Howe, and presented specimens of the fruit to the Horticultural Society in 1820. It was with him that the name of the Wellington Apple originated, and by which it is now generally known in the London markets.—*Fruit Manual.*

FLOWERS.

Seasonable Work in the Plant-houses.—Bulbs for forcing will now require attention, and some of the earliest sorts of Hyacinths, Tulips, and Narcissus may be introduced into heat. In starting Hyacinths, care should be taken to select only those that are well-rooted; and it is best to keep them covered with small pots, until they have made from 2 ins. to 3 ins. of growth, after which they should be placed where they will get as much light as possible, and manure-water may then be used liberally. Tulips and Narcissus do best if covered with cocoa-nut refuse, until they have made a good start. Tulips will not always start regularly, and where this is the case, the pots may be made up, by putting the forward ones together. If this is done carefully so as not to damage the roots, they will not suffer. For the early kinds, it is a good plan to grow them in boxes or large seed-pans, and to pot them off after they have started into growth. If done in this way, Ferns can be introduced with them, and if nicely put together, they make very pretty objects for table decoration. The Lily of the Valley is also a useful plant for this purpose, and the single crowns are the best; these should be plunged where there is a good bottom heat, and covered with cocoa-nut refuse or moss, about 3 ins. thick, and this may remain until the crowns push through the top, but care must be taken that they do not become dry at the root. Spiræa japonica will also start more evenly if covered until the flower-spikes have made 3 ins. or 4 ins. of growth.

Iberis sempervirens flore-pleno.—This is a double-flowered form of the useful old perennial Candytuft, and it bears the same relation to it as the double Bouvardias do to the single. How it originated is not set forth, whether as a seedling or a sport; but it appears to be of German origin, being announced by Mr. J. C. Schmidt, Erfurt. Everyone knows how valuable the common white evergreen Candytuft is for edgings, beds, borders, rock-work, &c., and it is of particular value for clothing banks and walls in exposed places. If we may judge of the plant as illustrated by a woodcut, the trusses are singularly compact and handsome, and the flowers fully double. The double forms appear to flower as freely as the single variety, and as it does not produce seeds, it can be propagated by means of cuttings. No plants can be distributed until April 1st, 1885. No doubt we shall see something of this novelty in the course of next spring.—*Quo.*

Single-flowered Striped French Marigolds.—It is worthy of note that these seem destined to come into fashion, thus reversing, as in the case of the Dahlia, the work done with so much patience and perseverance by the florists for years past. We seem to be living at a time when a passion for single flowers is taking that for double flowers which was manifest a few years ago. We have Single Dahlias, Single Chrysanthemums, and now Single Marigolds. When I was visiting Mr. John Downie at Edinburgh, last September, I saw in his nursery some very fine forms of Single Striped French Marigolds that astonished me by the superb beauty of their marking. Mr. Downie said he had found the strain in the North of Scotland. The flowers were as perfect as one would well desire them to be. In reply to a question Mr. Downie stated that seed from these single forms produced double flowers of great beauty—that is, in the sense in which the florist terms them beautiful—large, full, symmetrical, with broad florets, the rich golden stripe in the middle being margined on either side with shining maroon. Those who grow French Marigolds know well that seed taken from the finest double flowers will produce single types, and from seed of purely single flowers there springs the finest double forms. Messrs. Hurst & Son, of 152, Houndsditch, announce a fine strain of Single Marigolds. If the cultivation of these become general, how will it affect the double strains? Will it reduce the number of double flowers one might expect to get from seed? At the Dundee Horticultural Show in September last, Double French

Marigolds were shown numerously and very finely, and it is not too much to say they were the admiration of all who saw them. Whether the single varieties, finely as they are marked, will ever be as much thought of, remains to be seen.—*R. D.*

Salvia Blue Beard.—This is one of the novelties in flower seeds of the present season. It is a free-growing and handsome hardy annual, having flowers of a bright purple-colour, with the lower lip white. It is, however, to the beautiful deep mauve-purple bracts with which it is furnished at the apex of the spikes, that it is mostly remarkable for as a decorative plant, and which gives the plant a most effective and unique appearance. But what species is it related to?—*E. W.*

Sibthorpia europæa variegata.—The variegated variety of this rare and local British plant is a charming little gem, producing a dense carpet of silvery-white. The leaves almost exactly resemble those of the variegated bedding Pelargoniums, except in size, which varies from a sixth to a third of an inch in diameter. There is a large pan of it in the Heath-house at Kew, where it grows very freely under a hand-glass. Though a British plant it does not do well outside in many places, indeed it only occurs in the south and south-west, and is more at home on the western coasts of Europe. As a companion plant to the charming Nertera depressa it has perhaps few equals.

The Euonymus as a wall and pillar plant.—The practice of clipping and stopping back the Euonymus so generally prevails, that many plant lovers have never seen how beautiful they are when allowed to run up pillars, trained to fill up open spaces on walls, or to run over rockeries. All the varieties readily lend themselves to such uses, but the common green one on account of its sturdy growth and bright green foliage is the best. A fine example of what the Euonymus may be made to do existed in front of a house in Belsize Park, where, planted in rustic boxes in front of all the windows and at the corners of the house and balustrade at the entrance, it was trained to cover the whole of the stonework of the bay windows, to screen the fronts and run up at the sides to the tops of the other windows, and to line out other salient points about the house. The effect was charming and unique all the year round, and the whole arrangement well worth imitating. Recently I went out of my way to take another look at it, but, alas! I found but the ruins, the house being either empty or left untended by reason of the owner's absence for a long period. Let us hope that the Euonymuses will live until they get a new master.—*J.*

Chrysanthemums in Private Gardens.—Two of the finest displays of Chrysanthemums that we have seen in private gardens this season were at Sundridge Park, near Bromley, and Mrs. Montefoire's, Worth Park, near Crawley. Mr. Lyon grows a considerable number of plants at Sundridge, and grows them well without doing much in the way of disbudding, and a handsome span-roofed house about 50 ft. long and 20 ft. wide, at the time of our visit, was a complete mass of blooms—a glorious show in every respect. The number of varieties grown is about one hundred, which includes all the best, so that we need not now stay to enumerate but two of them, which are special favourites on account of their value for cutting. They are both Pompons, and by reason of their stiff, wiry habit, and remarkably free-flowering qualities, are highly appreciated. The first is Grace Darling, a beautiful white, in size and shape closely resembling the flat-petalled double white Daisy; and Solomon, rosy-red, with a light centre. At Worth Park, Mr. Glen also grows a good collection, but goes strongly for quality of the flowers, and in the Japanese section especially had a superb lot of blooms, from which he could have made a selection that would have placed him high up in the prize-list at any Chrysanthemum Show.

Eremurus Bungei.—This is a showy bulbous plant from Persia, growing to the height of 18 ins.; with grass-like leaves, about a quarter of an inch wide; and producing racemes, 4 ins. to 6 ins. long, of yellow flowers with orange-coloured anthers. It is figured in the October number of *The Gartenflora*.

VEGETABLES.

Seakale, Rhubarb, and Asparagus.—Excepting French Beans, no vegetables are so highly prized during the winter as Seakale, Rhubarb, and Asparagus which, early in the season, are considered great luxuries and can only be enjoyed by the few, as to have either they must be forced, and although the first-named may be brought on almost anywhere, Asparagus can only be grown really well under glass, where it can have full light and plenty of sun. To get either in fit for use at Christmas, they must be started at once. The surest and easiest way of managing the Seakale and Rhubarb is to dig the roots up, after which they may be packed closely in fine soil in any large tub, when, after being watered, they should have another tub of the same size turned over them and then be buried in a heap of warm leaves, or carried and stood somewhere out of the way in any hot-house, in either of which places the Kale or Rhubarb will soon start, and quickly after be ready for cutting or pulling.

Where large quantities are required, it is a good plan to make use of a deep pit, and fill it with fresh dung and leaves that have been fermented and sweetened by being turned over, when the Rhubarb may be placed in the high part at the back, and the Kale laid in at the front. Managed in this way, they can both be forced well together, as the blanching necessary for the Seakale by keeping it dark improves the colour of the Rhubarb, which comes of a deep pink, and of a delicate flavour.

To exclude the light, the sashes should be put on and covered thickly with mats or straw, or shutters may be used and straw thrown over them, as it matters not what is used so long as darkness is secured and the air kept out, that the temperature inside may be regular from beginning to end. A Mushroom-house is also a good place for forcing these two esculents, as there all the conditions are favourable, and nothing is necessary but to pack the roots well round with soil and let the heads come gently on till ready for use. Later in the winter, both Rhubarb and Seakale may be forced where it stands, as there all that is needful is to turn pots over the crowns, and pile around them dung and leaves, which afford the requisite heat and excite the plants when, through not being disturbed, they push up fine crowns.

The best Seakale and Rhubarb I have ever had was from beds and roots simply covered with litter, the Rhubarb being protected first with long brushy sticks stuck round, and the Kale by spreading the straw a foot thick over the ground. Protected in that way both come on very strong and slowly, the Kale being so tender and crisp as to hardly bear the touching, and the Rhubarb the same. This plan of growing Kale will be found much better, and far more cleanly than burying it under heaps of earth or ashes, both of which stain the delicate leaves and injure its colour, besides which it is a difficult matter to get the grit out, as it drops down into the heart.

To have really good Asparagus at this early season, a hot-water pit is necessary, as besides having warmth below there must be heat above, or the heads assume a sickly hue, and are then of inferior flavour. To have the fermentation of the bed lasting, fresh leaves and dung should be got together and turned over, and after being well sweated, the pit may be filled and the bed trodden down regularly, to prevent future sinking, and as soon as this is done, the next thing is to put 6 ins. or so of rotten leaves over the top, when all will be ready to put on the plants. These ought to be at least four or five years old, and very strong, as it is useless to think of obtaining large Asparagus without, for if it is not there, packed away in the crowns, it cannot by any possibility be brought out, however good the management may be, or the care and attention bestowed on it.

In digging up the plants, it is important to secure all the roots that can be got, and, to do this, a fork should be employed to move the earth and work it out from among them, when the plants may be lifted entire, and at once carried off to the pit, where they should be placed as thickly as they can stand, and covered with fine soil, after which a heavy watering will be requisite to wash it amongst them. The pit may then have the lights put on and be kept close till the heads show, when air will be necessary to prevent them running up weak, and to give them full flavour. —*Alpha.*

New Varieties of Potatos.—Amongst the novelties to be put into commerce next season, we note the following half-dozen varieties of Potatos, which will be sent out by Mr. R. Dean:—London Hero, a white round, from Advance and London Kidney; Snowball, a white round from Woodstock Kidney and Magnum Bonum; Chairman, a white round, from Advance and Woodstock Kidney; President, another white round, from Woodstock Kidney and Magnum Bonum; Rufus, a coloured round, from Early Rose and Bountiful; and Rosebud, a coloured round, from Woodstock Kidney and Beauty of Hebron.

The Girtford Giant Scarlet Runner.—Mr. Gilbert, of Burghley, states in *The Gardeners' Chronicle*, that he finds none of the varieties of Scarlet Runner so abundant as Girtford Giant, which sets its fruit freely in the early part of the season, when many of the other varieties as a rule set so badly. On these grounds, Mr. Gilbert strongly recommends gardeners to give this Bean a trial, and remarks that it is, besides being a free-setter, large in size and excellent in flavour.

GARDEN RUBBISH.

Some maintain that there is no such thing as rubbish, and hold with the opinion expressed by Lord Palmerston as regards dirt, that it is only matter in the wrong place, and there really is much truth in the remark, for when so-called rubbish is collected and wheeled to some out-of-the-way place and made a heap of, it becomes, as described by the writer on "Home Manures for the Garden," at p. 183, one of the most valuable mixtures anyone can have in a garden, for what can be more beneficial to land than the various gatherings of vegetable refuse that are swept up or collected during the year? The thing in saving all such matter is to keep separate that which will rot from that which is of slow decay, as the latter may be dealt with by the action of fire so as to char or burn, as ashes are of great use for various purposes, such as scattering over young seedling plants, from which they keep the fly, and are very stimulating on account of the large amount of potash they contain, which is carried gradually to the roots by the rain.

Hedge trimmings, sticks, and leaves that fall, Pea and Bean haulm, prunings and rakings, may all be turned to account in the way referred to, as fire will soon reduce them; but if to be charred the process must be carried on slowly by smothering, and preventing the heap getting into a flame. Cabbage and Broccoli leaves and stumps, trimmings of Celery, and such like, besides weeds of all kinds when hoed and raked up, as well as the mowings from grass, should be shot together, as when decomposed they form very rich manure, and of a kind that can be taken up at once and assimilated by plants, which feed greedily on it and make a quick growth.

The best place to collect and rot all such material is a hole where the slops from the house may be thrown on it, and if there is any unpleasant smell after, all that is necessary is to throw some earth over, which at once acts as a deodorizer and keeps the scent down. Before using stores of this kind of matter, the heaps should be turned, and it is a good plan at the same time to salt and lime them, as the former will kill all slugs and insect eggs, and the lime acts as a sweetener and renders it more fit for the plants.—*A.*

Cattle Poisoned by Acorns.—In addition to a number of valuable beasts lost by Mr. Gadding, Brinslade, Marlborough, through their over-feeding on acorns in Savernake Forest, Mr. Maidment and Mr. Redman, two other farmers living near there, have experienced similar misfortune. Professor Robertson, of London, has visited the locality to investigate the matter, and has arrived at the conclusion that the ill effects were caused by blood-poisoning, produced by a surfeit either of acorns or beech-nuts.

THE

Orchid Growers' Calendar.

Treatment of Newly Imported Orchids.—Such large quantities of these are now constantly coming in, that buyers of all classes find the sales of imported Orchids very good sources from which to draw supplies, for keeping up and adding to their collections; indeed, some of the amateurs succeed so well with plants of this kind that they do not care to buy established plants, and certain it is that a healthy well-selected imported plant is a much better subject to work upon, than an old plant which has been subjected to you know not what treatment at the hands of different owners. All the year round, scarcely a week goes by, without one or other of our large importers receiving important consignments, summer and winter alike, nor does it appear that the season at which the plants arrive is of any consequence so long as they were gathered at the right time, and have not been touched by cold. If these two conditions have been favourably observed, I am convinced that winter is as good a time as spring or summer, in which to buy your plants.

It has been observed of late autumn and winter importations, that they are objectionable because of the length of time which must necessarily elapse before bright weather comes in. This is a valid objection, but inasmuch as an objection may also be raised to importations at any other season, it loses weight. For example, importations received here in spring, often have to pass through extreme cold, and those in summer may have been exposed to extreme heat in their close cases, which would injure them as much as cold. Putting, therefore, the one thing against the other, it does not matter at what season the buyer purchases, so long as he uses good judgment, and treats his plants properly after he gets them.

Heat is the most ruthless slayer of the fresh importations, all of which get more or less shrivelled and thrown out of their proper state on the journey. To plants in such a condition, suddenly being placed in a high temperature, cannot fail to be fatal or very injurious, even although they may be natives of hot countries, and capable of growing in and even liking a hot-house when well established, growing and rooting. The reason is not difficult to find—the emaciated cells and tissues, on being suddenly exposed to heat, burst and decay, and the worse condition the plants are in when imported, the more certain is their rapid decline if placed in a high temperature.

It is best to make it a rule never to place any fresh imported Orchid, no matter how hot the country it comes from may be, in a higher temperature than 60 degs. to 65 degs. Fahrenheit, for a fortnight or so, except in summer, when so low a temperature cannot be had, and to place the Odontoglossums, Masdevallias, and all other Orchids which reason may suggest, in the coldest house available, carefully guarding the importations in all cases from sun, as it is very hurtful to them, and also taking care to place them where the direct heat from the hot-water pipes does not reach them, as on their first arrival they are very impatient of the too evident presence of artificial heat.

The chief reason why summer importations often thrive better than winter ones, I believe may be attributed to their being placed in houses in which there is no artificial heat.

On receiving fresh imported plants the best way is to go over them, cutting out only actually dead or decaying portions, and lightly brushing off any dirt which may have got on them, then at once carefully place each piece into the smallest pot it can be got, using broken crocks only, instead of peat, and, if necessary, firmly fasten the plant with a stick, which, if it is known to be wanted, should be "crocked up" with the plant. When ready they should be arranged in the cold or intermediate house, as near to the glass as convenient, there to remain until the plants plump up and show signs of rooting and growing, when they can be removed to the quarters known to be best for them to settle in. It is better to err in placing the fresh arrivals in too cool than in too hot a place, for the cooler they are kept in reason, the better, as less water will be required and in a cool house not a drop of water need be given to the top of the plant, but only frequent waterings with a spouted pot of the crocks in which it is placed, and water so applied cannot be too freely given after the first few days.

Crocking up, as described, either into pots, baskets, or pans, is the best plan, as it works well at all seasons and on all subjects, and every plant worthy of it should have a separate receptacle, but small pieces, such as are bought in bundles, may be crocked up half a dozen or so together until they break and root. Blocking, too, is a very good way of treating Cattleyas and other fresh imported Orchids, as they can thus be brought well up to the light, but care must be taken in fastening the plants on the blocks that the fastenings be not so placed that they will cut into the plant when it plumps up. The wires can generally be managed to pass over parts not likely to be so affected if care is taken. Some have notions of laying the fresh importations about under stages for a time before dealing with them, and very rough treatment they are often subjected to in this way. To all such growers I would say that the plants have had quite enough knocking about before getting here, and the sooner they get a little careful nursing the better for them and for their owner.

With Vandas, Aerides, and other plants of a similar habit of growth, where a position cannot be made sure of for them out of the reach of drips, if they were crocked up at once, it is a good plan to suspend them head downwards for a fortnight until they get acclimatized before putting them into pots; indeed, such treatment is not bad for most Orchids, though as a rule, however, it is not to be recommended, as the plants are often left too long upside down when the practice is resorted to, and the consequence is that the growths so made, drawing towards the light, go the wrong way, and, when taken down for potting, they are found among the roots.

In all cases and for all reasons crocking into pots is the best, and if for nothing else it is desirable as giving the whole plant an opportunity of acclimatizing fairly and passing off the sour sweat which always comes over them when first put under glass, and which generally turns to fungus and causes decay of the parts excluded from the air when the fresh imported plants are potted up immediately, particularly when they are received a long time before the season for starting into growth.—*James O'Brien.*

Wire injurious to Orchids.—In the fifth line of the last paragraph of the note on this subject, at p. 188, for "or pieces of cork" read "a piece of work," a slip that may puzzle an unpractised hand, but no one else.

FLORICULTURE.

A Selection of fine Incurved and Japanese Chrysanthemums. — Taking advantage of the Chrysanthemum Exhibitions lately held, I am able to make a selection of the following varieties, which is worthy attention by any one desirous of forming a collection:—

Incurved Varieties.—Alfred Salter, bright pink, large and very fine; Angelina, amber and orange, a flower of fine shape when well grown; Baron Beust, reddish chestnut, tipped with gold; Cherub, golden amber, fine shape; Emily Dale, a pale golden sport from Queen of England; Empress of India, large pure white, extra fine; Empress Eugénie, a charming pale lilac variety; George Glenny, pale primrose, golden; Empress of India and Empress Imperial, it is difficult to separate these two, as they appear to come very close together, but I have seen them shown in the same stand; Hero of Stoke Newington, rosy-pink, very handsome, and of the finest form, a sport from Princess Teck; Jardin des Plants, rich deep golden yellow; John Salter, orange-red, very fine; Lady Hardinge, delicate rose, good shape; Lady Slade, clear pink; Mr. Bunn, rich gold, extra fine; Mr. Corbay, a distinct purple-maroon sport from Prince of Wales; Mrs. George Rundle, pure white; Mrs. Dixon, rich golden yellow; Mrs. Heale, a beautiful white or very delicate blush sport from Princess of Wales; Nil Desperandum, orange red; Prince Alfred, rosy-carmine, perhaps the very finest of all the deep coloured varieties; Prince of Wales, wine-purple; Princess of Wales, delicate flesh, a lovely flower; Princess Teck, pure white; Princess Beatrice, rosy-lilac, extra fine; Queen of England, blush, a good and useful old flower; Refulgence, bright purple-maroon, a variety that requires high cultivation, but when really good not to be surpassed; Venus, peach, very pretty; and White Venus, the most delicate blush colour, bleaching to pure white. This lot includes all the very finest exhibition varieties.

Japanese Varieties.—And in reference to exhibition varieties of the Japanese section, two types of flower come prominently to the front. One is the large, full, incurved varieties, like Comte de Germiny and Thunberg; the other is the full, finely-developed reflexed varieties, like Comtesse d'Audiguier, La Pureté, and Simon Delaux. Some of the very best will be found in Baronne du Prailly, rosy-blush, very large and fine; Bend d'Or, bright sulphur-yellow, extra fine; Bouquet Fait, bright rosy-pink; Comte de Germiny, an immense incurved form, bright nankeen-yellow; Comtesse de Beauregard, dark rose, very fine; Criterion, amber, large and fine; Dr. Macary, rose, tinted with white; Duchess of Albany, delicate pale lilac, extra fine; Elaine, pure white, a very early and fine variety; Fair Maid of Guernsey, pure white; Fanny Boucharlat, white, tinted with rose, a charming variety; Francois Delaux, velvety-crimson and brown, the reverse gold, very fine; Garnet, blood-red, rich in colour; Hiver Fleur, cream, striped with pale rose; Japon Fleuri, very dark, shining black-crimson, extra fine; La Pureté, pure white, very large and fine; Madame Clemence Audiguier, beautiful pale mauve, large and very fine, as this variety grows very tall it is recommended that the plants be cut back almost to the bottom in May; Mons. Ardene, rich rosy-lilac, large and fine; Mons. Delaux, reddish-crimson with yellowish centre, fine and showy; Mons. Desbrieux, deep chestnut-red, very large and fine; Mons. Tarin, silvery violet-rose, very fine; Perle Delaux, deep, bright velvety-crimson, very striking; Peter the Great, a large yellow, incurved variety; Roseum pictum, deep plum colour, large and full; Soleil Levant, pale yellow; Simon Delaux, deep crimson, dashed with yellow; Sultan, large rosy-purple; Thunberg, clear pale yellow, finely incurved; and Triomphe du Nord, fine crimson-maroon.

Cultivation.—Most exhibitors take cuttings in autumn as soon as they can, in order to get a good start with their plants; the earlier this can be done the better, so as to ensure their being rooted before Christmas. Some do not bother about this until the end of February or early in March; they are then placed singly in small pots, in a cold frame, kept close until they have rooted, and then they have plenty of air, so as to encourage a robust healthy growth. I can scarcely do better than refer to the simple manner in which Mr. E. Sanderson treats his plants as set forth in your columns at p. 169 Successful culture is so much a question of attention. Any one contemplating growing for exhibition cannot do better than seek instruction from an old exhibitor. Of Mr. Sanderson I may say that he seems to perfectly understand every variety he grows; and as he says with much truth, it is impossible to reduce these matters to writing. Experience is an excellent preceptor, and the teaching thereby gained is of a most valuable character. A successful florist must first graduate in the science of cultivation, then go on to take honours, and finally attain to distinction.—*R. D.*

CONSERVATORY CLIMBERS.

Nothing adds so much to the embellishment of greenhouses and conservatories as suitable Climbers, for, however well either structure may be furnished below, there must be a bareness in the roof without such plants as are adapted for training there, of which there are many, especially for lofty houses, as there the Passifloras and Tacsonias come in, and, if allowed to suspend in their own natural way, produce a most pleasing effect. One of the best of the Tacsonias is T. Van Volxemii, which is a most floriferous variety, having rich scarlet blooms, that hang from the end of long string-like stems and last a long time in perfection. T. mollissima is an old favourite, and a very strong grower, producing delicate pink-coloured blooms that have long green tubes and short

stems, and though not so showy as the one above-named, is a very desirable kind to have up a rafter. T. exoniensis is a hybrid, raised from a cross between the two, and a remarkably fine thing it is, as it partakes in an equal degree of the high qualities of both of its parents, and is very fine and distinct. T. ignea was thought a good deal of at one time, but it is too shy and tender, and has been quite superseded by the first-mentioned, and is now rarely seen. T. manicata that used to be much grown has also disappeared, and with such a trio as those referred to these two latter can well be left out in the cold.

Among the Passifloras, none are better than the old P. racemosa cærulea, which not only flowers with remarkable freedom, but has bright, shining green leaves, and a light, graceful habit. P. racemosa rubra is of similar growth and appearance, but bears red flowers, and therefore forms a good contrast. The next deserving of notice is P. Comte Nesselrode, P. edulis, and P. Imperatrice Eugénie, the latter of which has large pale blossoms and very fine foliage, Passifloras are not at all particular about soil, and will grow and flourish in any ordinary border, after the plants get a good start; but to do the Tacsonias well they require equal parts of fresh peat and loam, which should be chopped up roughly, and, after being mixed with a little sharp sand, laid in on plenty of drainage, when all will be ready for turning out the plants. These should have their roots disentangled and spread out, as when left coiling round the ball, after being turned out of the pots, they are apt to strangle each other, and thus spoil the growth. To get the heads quickly up into the roof, the way to manage them is to nip out all side shoots as they show and only leave the leader, which should be carefully tied and trained straight till it has reached the desired place, when the end may be stopped, which will force out the laterals, and these will need thinning and regulating from time to time, but the less tying they have the better they look, as both Tacsonias and Passifloras ought to hang from the main stems just as they grow.

Another plant well adapted for the roofs of conservatories is the Mandevilla suaveolens, which produces long racemes of lovely, pure white, sweet-scented blossoms, the size and shape of those of some of the Dipladenias, which they greatly resemble, and when used with then, in glasses or epergnes, associate well. Bignonias must not be forgotten, as they are very showy, the best being B. chirere, B. capreolata, B. grandiflora, and B. venusta, the latter requiring a little more heat than the others. Although the Lapagerias are not quite suitable for exposed sunny roofs, they are grand where they can have shade, and look beautiful when grown together, the red with the white, as they blend and show each other off to the greatest advantage. Where the Lapagerias do best is on strained wires against a cool, damp wall, as there the atmosphere just suits them, and when so favoured they maintain their foliage in the most healthy condition by keeping free from thrip and other insects that so often assail them. In starting with Lapagerias, free drainage is of the first importance, for requiring, as they do, plenty of water, it is essential that it passes through the soil without making it stagnant or sour, in which latter condition the roots would not long remain healthy or live. What the plants do best in is very rough fibry peat and loam in about equal parts, and if they can have that mixture, together with some sharp sand, their growth will be rapid. The proper depth for the border is from 2 ft. to 2 ft. 6 ins., and the width corresponding according to the accommodation there is in the house. The most suitable time to plant is just when the young shoots are showing, which they do early in the year, and at the same season the roots are becoming active and quickly get hold of the soil.

For training to furnish panels or pillars, few things are equal to Habrothamnus elegans, which is rarely out of bloom, as every shoot shows at the end, where clusters of tube-shaped flowers are formed, which are very bright and showy and of great value for cutting. Rhynchospermum (or as now called Trachelospermum) jasminoides does remarkably well as a pillar plant, as does also Cantua dependens if it can have a high sunny position to ripen up the young wood, without which it is rather shy blooming. Another plant, now too rarely seen, is the Clianthus puniceus, which has very large Pea-shaped flowers of a brilliant red, that come in long racemes and produce a most striking effect. Plumbago capensis is likewise a valuable thing, and affords a shade of colour that few other plants yield. I had almost forgotten Cobæa scandens variegata, which is particularly telling on a roof, where, if necessary, it may be made to fill a large space.—*S. W.*

NURSERY JOTTINGS.

Messrs. G. Cooling & Son's, Bathealston, Bath.—Owing to the prominent position which this Firm has occupied in the list of awards at the leading Rose Shows during the last few years, Bath has almost become as well-known for the excellence of its Roses as it has so long been celebrated for the virtues of its waters. But a visit to the nurseries, which are situated in the suburbs of the city, show that young fruit-trees, which are remarkably fine and well-trained, are equally as well done in this establishment as the Roses, and that the soil and situation are both congenial to their requirements. The same remark also applies to the ornamental trees, shrubs, and evergreens.

In the frame ground I noticed recently a grand batch of Tea Roses in pots, some of them being like well-grown pot Vines, and designed for training against pillars, &c., but the majority of the plants were in 6-in. pots for forcing and supplying cut blooms from Christmas till they can be cut out-of-doors next season. These included such sterling varieties as Niphetos, Souvenir D'Elise, Marie Van Houtte, Monsieur Furtado, Isabella Sprunt, William Allen Richardson, &c. One good-sized span-roofed house is filled with a few permanent trees of Maréchal Niel, having stems 16 ins. or 18 ins. in circumference, and these, trained under the roof, supply thousands of grand blooms during the season. The shoots are simply thinned out and shortened back a little at pruning time; the finest results being secured from young well-ripened shoots of the previous year's growth.

Several houses are filled with Azaleas in 48's and 32's for forcing, and well-flowered plants of Erica hyemalis, Camellias, and stove and other greenhouse plants in variety, together with a large stock of Chrysanthemums of the leading varieties. The condition of the plants grown under glass as well as the trees, &c., cultivated out-of-doors, point to a well-managed nursery business.—*H. W. W.*

FORTHCOMING NEW ANNUALS.

Phacelia campanularia.—Foremost among the novelties must be placed the pretty new, blue, Phacelia campanularia, now in course of distribution by Mr. William Thompson, Tavern Street, Ipswich. It is botanically related to the well-known Whitlavia grandiflora (which is now placed by botanists in the genus Phacelia), and which will be remembered for its upright growth, free flowering character, and rich deep blue flowers. There are in cultivation two forms of Phacelia, viz., congesta and tanacetifolia; the former has a crowded raceme of flowers (hence its name, congesta); and was introduced from Texas in 1835; it grows to the height of one foot or so, and has pale purple-blue blossoms. P. tanacetifolia (the tansy-leaved Phacelia) is a well-known blue-flowered annual, growing to the height of 18 ins., and it came from California in 1832. Both are valuable for bees. The new form under notice has a much more spreading and bushy habit of growth, and is therefore more floriferous; an average plant will cover nearly a foot of ground. Then it is considerably dwarfer than either of the preceding, being from 6 ins. to 8 ins. in height, and it branches freely. It bears large and numerous flowers of the finest deep gentian satiny-blue, of a shade rivalling that of Salvia patens, produced in terminal racemes of from twelve to twenty blossoms, which are developed in succession. It is a Californian species.

Acroclinium album flore-pleno is a new double white form of Acroclinium. The double rose-flowered variety came out three years or so ago, and proved a valuable novelty. The white form is a seedling from this, and is equally double and valuable. The habit of the plant is more vigorous and branching, and the pure white flowers larger than those of the single variety. Both the foregoing have received First-Class Certificates from the Royal Horticultural Society. We may say of the Acrocliniums that they are among the most valuable of summer-flowering annuals, and if the seed be sown early in April, in light ground, they will germinate freely, and fine full-blooming plants will result. The Acrocliniums are sun-loving plants, and an open spot suits them best.—*Quo.*

NOTES BY THE WAY.

Berkhamstead.—The quaintly picturesque little town of Berkhamstead, twenty-eight miles from Easton, is situated on the western side of the valley intersected by the North-Western Railway and the Grand Junction Canal. There is an old world air of rest and contentment about it. The clean wide High Street, dotted here and there along its margin with venerable Pollard Elms, its comfortable-looking bay-windowed houses, its venerable church and grammar school, bespeak a quiet homely prosperity, for which one may look in vain in crowded and bustling manufacturing towns. It has a history, too, this Berkhamstead, which reaches back to stirring times. For did not Edward the IIIrd's son, the famous Black Prince, make the castle his home? But our business is not with historical Berkhamstead, however interesting that may be.

The name is associated in the minds of the gardening fraternity with the firm of Messrs. H. Lane & Son, whose extensive nurseries are situated at the north end of the town, and on the Common, two miles east of it. Just a glance, however, at the place must now suffice. On another occasion, perhaps, we may say more. The principal feature of interest in the home nursery is the great span-roof vinery, in which grew the magnificent bunches of Muscat of Alexandria, Black Hamburgh, Alicante, Golden Champion, and other Grapes, that have from time to time carried off the blue ribbon at our great shows. The house itself is a plain unpretending structure, some 120 ft. by 22 ft. A curious fact with regard to the Vine border is that quite close to the lower end of the house—it is built on sloping ground—is a small but perennial spring, which must have the effect of keeping the Vine roots perpetually moist. A fortnight ago there were still hanging some splendid bunches of Alicante. Fruit-tree propagation is carried on extensively both at the home nurseries and the large grounds on the Common, and also Roses, both on the Briar and the Manetti. Enormous quantities of Conifers, Deciduous trees and shrubs, Rhododendrons and Evergreens are grown on the extensive nurseries on the Common.

Our visit to the neighbourhood was for the purpose of taking a leisurely survey of the allotment gardens. There are several groups of these conveniently situated in different parts of the parish, and, on the whole, with the exception of those at Minehead, North Somerset, they are the best cultivated plots we have seen. They number altogether about 300, and each plot is either 10 poles or 20 poles in area. The rent is 4*d.* per pole, or £2 13*s.* 4*d.* per acre. Farm land lets at from 20*s.* to 30*s.* an acre, 4*d.* per pole, therefore, for land so conveniently situated is a very moderate rentcharge, and, as a consequence, the plots are in great demand. Prizes to the extent of £40 a year are awarded at the annual Cottagers' Show, when the competition is very close.

Those of our readers who take an interest in the question of allotments, one of the most urgent and important as regards the agricultural labourer, are familiar, no doubt, with the forlorn and uninviting aspect of allotment-grounds in the winter. After the crop of Potatos has been lifted the ground is frequently left untouched until the following spring. Sour and sodden as the soil must be, one need scarcely be surprised that the next year's crop is deficient in both quantity and quality, and more liable to the attacks of the disease. Now the Berkhamstead plots are producing a splendid second crop of various useful vegetables in response to thorough cultivation and dressings of manure. No sooner are the Spring Cabbages disposed of and cleared off—the tenants can't afford to grow Cabbage-stumps—than the ground is thoroughly dug and manured, and planted with second early Potatos, the earliest being succeeded by Turnips, perhaps, or Celery. Some of the best worked plots had splendid patches of Veitch's Autumn Giant Cauliflower, the inner

leaves folding over to protect the flower, as is usual with this fine sort. Brussels Sprouts too, never a profitable crop unless well grown, were in great force. One might see at a glance the result of liberal dressings of manure. On inquiry of one of the oldest tenants we were told that at the least 1*s*. per pole was spent yearly in manure. This would average, perhaps, three loads to each 20-pole plot.

The usual difficulty arose when endeavouring to ascertain the profit on an allotment. On this point our informant was, perhaps, unnecessarily reticent. Few to whom we have spoken, however, admit any margin of profit when taking account of the labour bestowed. The point, however, is, to a certain extent, immaterial. The benefit of an allotment-ground to a workman is, that when properly worked it will give a fair return for the labour he invests. It affords, in fact. the opportunity of working overtime whenever he cares to do so, and offers also employment when he is out of work. In either case the time employed must have been lost without the plot of ground, from the circumstance that nothing else could be found to employ the time profitably. My informant, however, when further interrogated, admitted that the crops did pay for labour, and he laid great stress upon the fact that he could come and gather fresh vegetables, as much as he required, whenever he wished to do so.

Another allotment tenant, to whom the question of profit was put, a very hard-working, steady carpenter, with a family of big lads, "reckoned" that his allotment, 15 poles, was worth £7 a year to him. It would cost them, he said, 3*s*. a week in vegetables, and these his land produced. Probably in his case it was worth more, as he had not taken into account the considerable quantity of refuse garden-stuff consumed by two well-fed pigs. But then this tenant trenched his ground, which was a heavy loam with subsoil of clay, two spits deep every winter, and gave it plenty of manure, besides an occasional dressing of gas-lime or burnt clay. It occurs to me, with regard to the Berkhamstead allotments, that in all probability the influence of the great nursery is felt; several of the tenants are employed there, and bring to the work greater intelligence and skill; and their example would have its effect upon others. Before leaving we strolled up to the Common, on the further side of which are the larger portions of the famous nurseries.

There are probably a thousand acres of land on which parishioners of the parish of Berkhamstead have Common rights. Our readers may remember a noteworthy incident with regard to the Common which occurred some eighteen years ago. Adjoining are the estates of Earl Brownlow of Ashridge, and his Lordship, without consulting the Commoners, enclosed a few hundred acres with iron fencing. Mr. Augustus Smith, whose charming gardens at Tresco, in the Scilly Islands, have been frequently described in the horticultural press, also owned estates in the neighbourhood, and he championed the Commoners in a most practical and effective way. A special train left Euston late one evening with an apparently indiscriminate mob of roughs. Their destination was Berkhamstead Common, and their business to remove the new fencing. The men were provided with necessary tools for the purpose, and ere morning broke every vestige of the fence was removed, rolled up, and set neatly aside. A law suit followed, and the case was carried to the House of Lords, but His Majesty of Tresco, the amateur gardener, prevailed, and his Lordship was mulcted in enormously heavy costs. Would there were more Augustus Smiths, there might then be more allotment gardens!

The day of my visit was one of the most beautiful of all the many days of this exceptionally fine autumn. There was a blue sky flecked with soft white cloudlets, the gentlest of breezes, and enough sunshine to give life and movement to the picture. The hedges were all aglow with rich autumnal tints, the coral and orange-scarlet of holly-berries and heps sparkling like points of fire. Oaks, Beeches, and Elms had thrown down their leafy crowns of sienna and gold on the green turf beneath, and the elegant tracery of their branches was mapped out clearly on the pearly-greys and blues of the autumn sky. All that was wanted to complete the picture, some would say, was the gay cavalcade of scarlet-coated horsemen and the famous pack of the O. B. sweeping athwart the breezy hills, waking the echoes of the woods with the eager music of the chase.—*Rover.*

HORTICULTURAL SOCIETIES.

Manchester Horticultural Improvement.—The fortnightly meeting of this Society was held on the 20th inst., Mr. Bruce Findlay (the President) in the Chair. The paper for the evening was by Mr. A. Stansfield, on "Some Practical Hints on Planting," and attracted a large attendance.

The Chairman said those present knew that the planting of trees is a scientific operation, and therefore not so easily performed as some persons imagine. But science alone would not ensure successful planting, and on that account it was satisfactory to know that Mr. Stansfield combines theoretical knowledge with practical experience. The popular notion about planting is that if a hole is made in the ground and the roots of the tree are stuck into it, nothing more is necessary. He thought, however, that it is most desirable that every gardener should be able to give a reason why a particular kind of tree is planted in a certain situation and at a particular part of the year.

Mr. Stansfield said that his remarks were intended to apply specially to the difficulties attending the cultivation of plants in the vitiated climate of a great manufacturing district like Manchester. Before dealing with that subject he ventured to express the opinion that people in these northern parts of England are liable to be mislead on horticultural questions by taking their instructions from articles written by men in the south who know nothing or very little about the climatic conditions of these northern towns. Coming now to the subject of his paper, he first dealt with evergreens, and said the best time to plant them is either late in summer or early in autumn. He would not draw any hard or fast line, but say a little sooner or a little later than the end of September, and always while the ground is yet warm. One strong reason for this is the uncertain kind of weather in the early spring, often being more like a second winter. The common Holly intended for hedge-fencing should be planted in ground that is well drained, and should never be clipped with shears, but tenderly pruned with the knife.

For the pitched-up banks so common in crowded towns the Aucuba is a very suitable shrub, especially where there is too much smoke, as the impurities therefrom are easily washed off the leaves. It is a mistake to suppose that the Rhododendron will flourish under the same conditions as the Holly; it requires exactly the opposite, for it must have a damp soil, but by no means a marshy one. They must be planted low down rather than high up, and should have some peat or turf about them, but it should be peat that has lain in the open-air for some time. After a brief reference to the Privet (a most useful shrub for fencing), the Laurels, and the Yews, he said he would leave the deciduous shrubs and trees for a future paper.

Mr. M'Kellar (gardener at Abney Hall, Cheadle) said he understood Mr. Stansfield to condemn the Yew, but his experience was that the Golden Yew is the best shrub grown for lawns. Of course if it were frequently covered with smoke it might not grow so well, but out at Cheadle he had grown it so as to look very beautiful for two months in the year; indeed he considered it was better than the Holly.

Mr. Stansfield explained that his remarks about the Yew were only intended to apply to smoky towns; he did not object to its cultivation in such places as Cheadle.

Mr. Swan (the Secretary of the Society) said he was glad that Mr. Stansfield had dealt with his subject from a local standpoint, because gardeners were apt to make mistakes when they attempt to apply the knowledge gained in one district to the work they had to do in another district which presented very different conditions.

Mr. W. Plant (gardener at Woodheys Hall, Ashton-on-Mersey) considered that early autumn was the best time for planting either evergreens or deciduous plants. Adverting to Mr. Stansfield's complaint that the articles in the horticultural journals are written from a southern point of view, and therefore often inapplicable to gardening in the North of England, he said that some of those articles were written by northern men, and the only fault he had to find with the writers was that they don't indicate the places where the produce of which they write is grown.

The Chairman said spring had always been recognized as the best time for planting Hollies.

Mr. B. S. Williams (of Holloway) said there was no doubt that Ivy was one of our best town plants. Aucubas do better just about London than any other plants. Deep planting is very bad for any kind of trees. A great deal depends also on the situation and the seasons. He believed that early planting was the best, but if there be a moist season they could plant at almost any time of it.

On the motion of Mr. R. Tait, a vote of thanks was accorded to Mr. Stansfield for his paper, and the meeting terminated.

CHRYSANTHEMUM SHOWS.

Yeovil.—Until this year, there has been no local incentive to the growth of the Chrysanthemum in the neighbourhood of Yeovil, but initiative steps to establish a Show having been taken by Mr. C. Tite, of Fairview, he received the cordial and unanimous support of the whole of the gardeners and Chrysanthemum growers over a large district of which Yeovil is the centre, and the outcome of these efforts largely exceeded the most sanguine expectations. Being the first Show, the schedule issued was of a very modest character, and plenty of room was left for future development. Notwithstanding this, however, and notwithstanding that the Taunton, Bristol, and Devizes Chrysanthemum Shows are held on days closely approximate to the day fixed for the Yeovil Show, the 18th inst., the entries came in in almost overwhelming numbers. It was originally thought that the Town Hall would be large enough to receive the whole of the exhibits, but the fallacy of this idea was soon apparent, and the spacious Corn Exchange as well as the Council Chamber and the Justice Room had to be engaged, and even with all this increased space, the accommodation was scarcely equal to the emergency, every available spot being filled. The exhibition, however, was not confined to Chrysanthemums alone—prizes being offered for table plants, Grapes, Pears, Apples, Tomatos, Mushrooms, and Salad. The display in the floral department was also largely augmented by plants kindly sent for exhibition and not for competition by various local cultivators.

A very interesting feature in the Show, which tended to illustrate the adaptability of the Chrysanthemum for table ornament and other similar purposes, consisted of a number of small plants sent by Major Gooden, of Compton House. Scarcely 6 ins. in height; they were covered with masses of beautiful bloom, and formed a striking contrast to the tall plants of the Japanese kinds. Groups of plants for decorating the entrances to the staircases, landing, &c., of the Hall and Corn Exchange were lent by Mrs. Harbin, Mr. T. W. Dampier-Bide, Mr. Brutton, and Mr. J. E. Whitby (of Hollands). These were admirably arranged by Mr. Quick (gardener to Mrs. Harbin), Mr. Applebee (gardener to Mr. Bide), Mr. Crossman (gardener to Mr. Brutton), and Mr. Hanham (gardener to Mr. Whitby).

Mr. R. Davis, Yeovil, also sent a variety of plants for decorating the tables, mantelpieces, and odd corners of the buildings, and Messrs. Scott & Co. lent valuable assistance in the same direction. Mr. Dampier-Bide and Mr. J. E. Whitby also sent a variety of plants for exhibition, and a contribution of specialities—including bunches of cut Violets in show trays, and several pots of the exquisitely-perfumed "Marie Louise" variety, admirably grown, and some Gloxinias, sent by Mr. Henry B. Batten, as well as a group of plants and a box of mixed Chrysanthemums. Window plants, plates of fruit, &c., were sent by Mrs. Greenham, of Hendford; and Mr. W. G. Pragnell, of Sherborne, sent splendid collections of Vegetables and Apples. A large stage in the Council Chamber was occupied by specimens of about 225 different sorts of Apples and Pears sent for exhibition by Messrs. Scott & Co. Two splendid trays of Chrysanthemum Blooms—one of incurved and the other of the Japanese varieties—were kindly contributed by Mr. J. Wright, of the

Middle Temple Gardens, whose fame as a Chrysanthemum grower is well known. Mr. H. Little, of Huish, a working shoemaker, who takes a great delight in gardening, sent by way of novelty for this time of the year, a tray of beautiful Pansies.

Among the specialities shown was a new seedling-crested Pteris, raised by Mr. C. Pocock, nurseryman, of Wincanton, and which has peculiarities distinct from any other form of that useful fern already in cultivation. To distinguish it from others, it is named "Pteris serrulata var. Pocockii," and it forms an elegant evergreen fern for greenhouse decoration. Mr. H. Hiscott, of Mary Street, Yeovil, sent a vase of Roses and a plate of Green Peas gathered in his garden on the morning of the Show. Mr. Stickland, gardener to General Parke, of Thornhill, Stalbridge, sent large trays of Dahlias and Chrysanthemums, not for competition, and Mrs. Nicholson, of West Coker, a collection of Gloxinias.

The general arrangements of the exhibition were of a very perfect character. The Town Hall was devoted to the display of cut flowers, table plants, and fruit, the specimens being arranged on two side tables and double central tables running the whole length of the hall. In the Corn Exchange were grouped the very large number of entries for the prizes offered for Chrysanthemums in pots, and on entering the building a perfect blaze of floral beauty met the eye, creating an impression which will not soon be forgotten by those who saw it. A central table was occupied by the exhibits in the Salad class, Tomatos, and Mushrooms, &c., while at the end of the building was shown a remarkable collection of vegetables exhibited by Mr. W. G. Pragnell, of the Castle Gardens, Sherborne, consisting of Parsnips, Celery, Onions, Brussels Sprouts, Leeks, Carrots, Salsify, Potatos, Cabbage, Chirk Castle Black Stone Turnips, &c. The Council Chamber was occupied by the extraordinary collection of 225 different sorts of Apples sent by Messrs. Scott & Co., and the various novelties previously alluded to. In this room was also exhibited a special contribution in the shape of some White Ischia Figs, sent by Mr. Hooper, of Thorne.

The competition in the various classes was of a very gratifying character, the total number of entries reaching about 350. There were eleven entries for the best group of twelve plants in pots, arranged for effect, and the first honours fell to Mr. Brutton, of Yeovil, whose plants were very prolific of bloom—the group being arranged so as to entirely fill one corner of the building. Among the specimens he exhibited were White Globe, the popular pure white Fair Maid of Guernsey, the velvety maroon Julia Lagravère, Astrea, lilac-blush, and Canary. Mr. H. B. Batten, also of Yeovil, was second in this class, the blooms on the plants being of a very perfect character—his exhibits including Mrs. Dixon, Golden Christine, Countess of Glanville (fine white), and Mount Etna (deep red).

The collection sent by Mrs. Nicholson, of West Coker, was also much admired, and it included the large white Empress of India, the rich yellow Jardin des Plantes, and the ivory white Princess of Teck. For the best three plants (distinct varieties) the Rev. A. D. Wilkins, of Cattistock, came first, but was closely pressed by Mr. Brutton. In Pompons the competition was not so strong as in the other classes, there being three entries only. Mr. J. E. Whitby, of Hollands, took the first prize with a good selection of six Japanese plants. There were eleven competitors in the class for the best specimen Chrysanthemum of any style or variety, and the first honours fell to Mr. R. Phelps, of Yeovil, with a splendid plant of Fair Maid of Guernsey, Major Aldworth coming next with the much-admired Dr. Masters.

In the cut flower classes the competition was extraordinarily strong, and flowers of great size and variety were shown, the quality being pronounced by the judges to be very high, especially of the incurved and Japanese sorts. In the class for the best twelve blooms (six incurved and six reflexed), a special prize was given to Mr. Wilfrid Marshall, of Taunton, whose blooms were the theme of universal admiration. They included Rubra Striata, a very large flower, with light gold markings, flamed with violet and crimson red, Guernsey Nuggett, Fair Maid of Guernsey, Comte de Germiny, Peter the Great (a fine large flower of a lemon-yellow colour), Bronze Jardin des Plantes, Queen of England, Madame C. Audiguier (rose pink, of immense proportions), and Mr. Howe (a rich orange amber).

For the best six incurved flowers Mr. Marshall was also successful, taking the first prize with magnificent blooms of the following varieties:—Miss Mary Morgan, Bendigo, Jardin des Plantes, Snowball, Prince of Wales, and Guernsey Nuggett, Mr. Marshall also proved himself unapproachable in the class for the best six Japanese flowers.

There was very strong competition in the classes for floral ornaments, and some splendid hand bouquets and vases of flowers were designed, and Miss J. Cannell, of Sherborne, was very successful. In fruit classes, also, the entries were very large, and fine collections of Apples and Pears were shown. The chief feature, however, was undoubtedly the competition in Grapes; the bunch of Black Alicante shown by General C. B. Henning, and which secured first prize, being of great size. The competition for the prizes offered for table plants was also strong, especially in the Primula class. Twelve splendid plants were exhibited by Mr. G. Troyte-Bullock, and although they did not receive a prize they were greatly admired.—*Western Gazette.*

GARDENERS' BENEVOLENT AUGMENTATION FUND.

Fourth List of Subscriptions.

	£	s.	d.
The Editor, The Gardening World ...	2	2	0
Colonel Money Kyrle, Dymock, Ledbury ...	0	5	0
Mrs. F. W. Holland, Old Colwall, Ledbury	0	10	0
Mr. H. Barnwell, Worthing	0	5	0
Mr. H. Ward, Oulton Park, Tarporley ...	0	10	0
Subscriptions previously inserted	45	12	6
	£49	4	6

William Coleman, Eastnor Castle, Ledbury.

ANSWERS TO CORRESPONDENTS.

Bouvardias.—*Hants.*—As your Bouvardias go out of bloom let them stand in a warm greenhouse until spring, when shake out and re-pot them into smaller pots. Afterwards you can either plant them out or pot them on.

Chrysanthemums.—*Beginner.*—The cuttings at the base of your Chrysanthemums are the ones to take for next year's plants. See a letter on this subject at p. 200.

Eucharis.—*E. H.*—Your hottest house will be best for the Eucharis amazonica. As you find a difficulty in flowering it you should try E. Sanderi, which will do well in less heat.

Fruit Manual.—*S. J.*—Many thanks for your remarks on "The Fruit Manual." We mentioned the subject you touch upon in our number for November 15th, but we were also fair enough to give the better side of the question.

Garden Ground.—*A. A. V.*—The only way to get a piece of ground of the size you want, is to look out in your own neighbourhood for any land that may be to let and to secure it on a yearly tenancy. It is impossible to say what you ought to pay for it, as that can only be judged by the value of the land in the district. If you should succeed in getting what you want, and the ground is already under cultivation, find out in what condition it is. If poor, manure it well and double dig it as soon as you can, leaving the surface rough, and if you want to plant any fruit-trees do so as soon as you can. If you should get a piece in grass, give it a dressing of soot and lime, and have it dug; and next year plant it with Potatos as a cleaning crop.

Marking Tools.—*Janus.*—Put a thin coating of melted wax on that part of the tool you wish to write your name on, and, when the wax is cool, take a fine steel point and write the name, taking care that the wax is penetrated through, then run a little nitric acid or aquafortis into the scratches, and, after a few moments, wash off the acid with water, and subsequently remove the wax by warming it and rubbing it off with a soft cloth.

Names of Plants.—*F. T.*—Both varieties of Oncidium aurosum; the Odontoglossum is O. odoratum.—*Mac.*—1. Mesospinidum vulcanicum; 2. Odontoglossum crispum guttatum; 3. Oncidium Forbesii; 4. O. prætextum.—*Jason.*—Carnation, "Mary Morris," which will, no doubt, prove with others, as with you, a good winter bloomer. The fine yellow is like "Pride of Penshurst."

Communications received.—E. J.—R. A.—T. C.—T. W.—J. Mc. J.—C. B. P.—H. O.—J. W. B.—W. C.—E. M.—R. G.—J. H.—M. T. (many thanks).—J. C.

Trade Catalogues Received.

R. Dean, Ranelagh Road, Ealing.—New and choice varieties of Potatos.

W. E. Boyce, 87, Yerbury Road, Upper Holloway, N.—Descriptive List of Chrysanthemums, with directions as to cultivation.

LONDON SEED TRADE.

November 26th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, report no business doing at to-day's market. English Red Clover continues in large supply, and holders accept lower prices. A few parcels of Red English White Clover have been sold, but prices are not established. Alsike and Trefoil unchanged in value. Blue Peas are dearer. Bird Seeds unchanged.

COVENT GARDEN MARKET.

November 27th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Kent Filberts and Cobbs, per 100 lb.	60 0-62 6
— Nova Scotian, per barrel	10 0-13 6	Pine-apples, Eng., lb.	4 0- 6 0
— Extra samples.....	20 0-	Pears, French, p. doz.	1 6- 3 6
Grapes, per lb.	0 9- 3 0		

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch ...	0 2- 0 4
Beans, French, lb. ...	0 4-	Horse Radish, bundle	3 0- 4 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	1 6-
Brussels Sprouts, ½ sve.	2 6- 3 0	— Cos, each	0 2-
Cabbages, per dozen	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch...	0 6-	Onions, per bushl. ...	2 6- 3 6
Cauliflowers, English, dozen	3 0- 4 0	Parsley, per bunch...	0 6-
Celery, per bundle ...	1 6- 2 6	Radishes, per dozen...	1 6-
Cucumbers, each ...	0 6- 0 8	Small salading, per punnet.....	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike...	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	0 6- 1 0
		Turnips, bunch	0 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Marguerites, 12 bun.	4 0- 9 0
Azalea, 12 sprays ...	1 0- 1 6	Pelargoniums, per 12 sprays	1 0- 2 0
Bouvardias, per bun.	0 9- 1 0	—scarlet, per 12 sprays	0 6- 1 0
Camellias, 12 blooms	2 0- 6 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 0- 2 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	2 0- 6 0	Pyrethrum, 12 bun.	-
— large, 12 blooms ...	0 6- 2 0	Roses, out-door, 12 bunches	9 0-12 0
Eucharis, per dozen	4 0- 6 0	Roses, indoors, p. doz.	2 0- 6 0
Gardenias, 12 blms.	9 0-18 0	Stephanotis, 12 spr.	-
Heliotropes, 12 sp. ...	0 6- 1 0	Tuberoses, per dozen	1 0- 1 6
Lapageria, white, 12 blooms.....	2 0- 3 0	White Jasmine, bun.	0 6- 1 0
Lapageria, red, 12 blms.	1 0- 2 0		

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ferns, in var., dozen	4 0-18 0
Begonias, per dozen	4 0-12 0	Ficus elastica, each...	1 6- 7 0
Bouvardias, dozen ...	9 0-18 0	Foliage Plants, various, each	2 0-10 0
Chrysanth., dozen ...	4 0- 6 0	Lilium, various, p. doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	-
Cyperus, per dozen	3 0- 9 0	Palms in variety, each	2 6-21 0
Dracæna term. doz.	30 0-60 0	Pelargoniums, scarlet per dozen	2 0- 6 0
— viridis, per dozen	12 0-24 0	Petunias, per dozen	-
Evergreens, in var., per dozen	6 0-24 0	Solanums, dozen	9 0-15 0

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TO ADVERTISERS.

Advertisers are requested, in order to save time, to address all Letters relating to Advertisements to The Publisher; and Advertisements for the current week's issue must reach the Office not later than the first post on Thursday Morning. "Stop" Orders cannot be received after the same hour.

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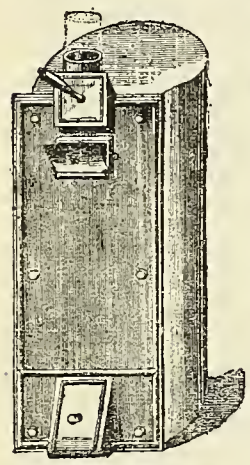

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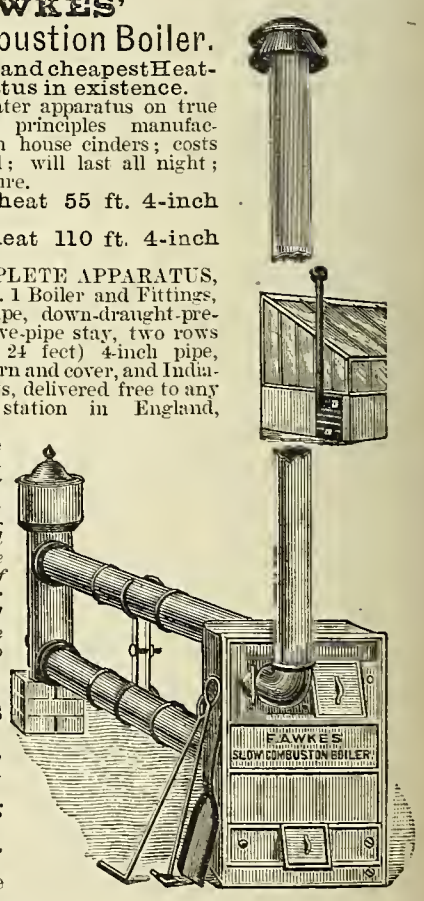

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THE GARDENING ILLUSTRATED WORLD

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,, Schlimi
,, ignea militaris
,, Armeni
Vanda insignis, Ainsworth's variety
Odontoglossum præstans
,, coronarium
,, aspersum
,, Neva dense
Lælia purpuracea

Also an unusually grand lot of Odontoglossum Alexandræ from Mr. F. Sander, St. Albans.
On view morning of Sale. Catalogues of the Auctioneers, 67 and 68, Cheapside, E.C.

WEDNESDAY NEXT.
15,000 Lilium auratum.

MESSRS. PROTHEROE AND MORRIS will include in the SALE at their Central Auction Rooms, 67 and 68, Cheapside, E.C., on WEDNESDAY next, December 10th, at half-past twelve o'clock precisely, 15,000 Bulbs of LILIUM AURATUM and 2 Cases of Special LILIES, just received from Japan in unusually fine condition.
On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.
Lilies, Roses, and Plants.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on WEDNESDAY next, December 10th, at half-past twelve o'clock precisely, without reserve, 15,000 unusually fine bulbs of Lilium auratum and two cases of special Lilies just received from Japan, 300 Camellias, Azaleas and other plants from Belgium, 600 Standard and other Roses of the best sorts from an English Nursery. A collection of hardy English grown Lilies, including extra large bulbs of the finest varieties in cultivation. Lilly of the Valley. Spiræas and an assortment of hardy plants and bulbs.
On view morning of Sale, and Catalogues had.

FRIDAY NEXT.
Cattleya Aclandiæ, petals primrose, lip pure white. Cattleyas from United States of Columbia. Phalænopsis Sanderiana, highly coloured variety.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY next, December 12th, at half-past twelve o'clock precisely, by order of MESSRS. HUGH LOW & CO., a large quantity of choice imported ORCHIDS in the best possible condition, comprising CATTLEYAS FROM THE UNITED STATES OF COLUMBIA, which appear very distinct, C. ACLANDIÆ, C. AMETHYSTOGLOSSA, LÆLIA PURPURATA, MASDEVALLIA RACEMOSA CROSSI, ODONTOGLOSSUM ALEXANDRÆ, O. ROEZLI, PHALÆNOPSIS SANDERIANA, AND ALSO A VARIETY FROM A NEW LOCALITY, VANDA SANDERIANA, V. INSIGNIS, TRUE; ALSO AERIDES, ANGRÆCUMS, CYPRIPEDIUMS, and a plant found in flower by Mr. Boxall, of CATTLEYA ACLANDIÆ, WITH A PURE WHITE LIP, dried flowers of which will be on view.
On view morning of Sale, and Catalogues had.

ON FRIDAY NEXT.
Several Cases of Burmese Orchids received direct.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY next, December 12th.

PRELIMINARY NOTICE of an IMPORTANT SALE of the entire collection of Cool Established ORCHIDS formed by the late J. S. Bockett, Esq., of The Hall, Stamford Hill.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from the Administratrix to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY and WEDNESDAY, December 16th and 17th, at half-past twelve o'clock precisely, each day, the whole of the far-famed collection of cool established ORCHIDS, probably the grandest lot, both in regard to varieties and to superior cultivation, that have ever been submitted to public competition.
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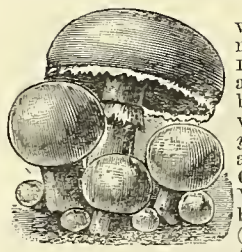

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The Gardening World.

SATURDAY, DECEMBER 6TH, 1884.

AUTUMN *versus* SPRING EXHIBITIONS.—There is no doubt but that Autumn Exhibitions find much more favour among lovers of flowers than Spring Shows. Anyone who has attended the leading Exhibitions of Chrysanthemums held in and around London during the past three weeks could not but be struck with the large numbers of persons attending them; and taking, to all appearance, a great interest in the popular autumn flower. In the provinces, as in London, crowds have been drawn to see the Chrysanthemums, and Chrysanthemum Societies have had, on the whole, a very good time of it. Now one would suppose that by the time we had reached the end of September, the flower-loving public would have somewhat tired of soft and brilliant blossoms, and would be inclined to say, Hold, Enough! The reverse appears to hold good, and especially so when there has been an unbroken continuity in the flowers of the garden from the Crocuses and Wallflowers of March right on to Dahlias and Chrysanthemums in November. Is it because the lover of flowers looks with something akin to abhorrence to the probability of the arrival of the time when the hostile influences of autumn weather—snow, frost, wind and rain—will destroy what remains of floral beauty, and they cleave to it with obstinate regard? On the other hand we have seen Flower Shows held in March, aglow with vernal beauty, full of uncommon representatives of spring flowers, but yet, for some reason, sparsely attended. One would imagine that at the termination of the long parentheses of comparative inaction coming between the autumn and winter, when there is an almost entire absence of any indication of floral life in wood, field, or road-side, those who love flowers for their own sakes would gladly welcome some opportunity of looking upon the fair flowers of the earth, and giving them a hearty welcome on their re-appearance once more. But it is not so, and it will be noticed that there are very few Spring Shows, as compared with Autumn Exhibitions. We have attended not a few, and have in most cases to deplore a paucity of visitors. It may be there is something like a fashionable rage for the Chrysanthemum just now. We have no spring flower to compare with it as a speciality. A collection of good varieties can be obtained at a comparatively small cost, and it is within the compass of almost any gardener to grow them successfully. We have no spring flower we can compare with it in these respects; and probably this is a main reason why Autumn Shows of Chrysanthemums are preferred to Spring Exhibitions of hardy and forced flowers.

APPLE, KING OF THE PIPPINS.—It is exceedingly amusing to find this popular dessert Apple placed at the very top of the selected kinds throughout the kingdom as shown in Mr. Barron's Apple Congress Report, whilst we read in a contemporary a contemptuous allusion to the Apple, and to those who have thus given it their suffrages. It might have been thought that when a kind which had been so widely admitted to be so good was thus honoured, it may well have been saved from contemptuous reference by some one who could hardly be an Apple cultivator. The universal admission of the merits of King of the Pippins shows that it must have many good points, and although it is not in the front rank in all soils for quality, yet it is excellent when well-grown, as is testified by its popularity in the London market. But the King is a very free and regular cropper. It produces a handsome even sample, which always sells well. Then it is a good keeper also. The tree is never coarse in growth, and is probably of all dessert kinds the most fruitful. These are points which no doubt have been duly considered by those who have given it their votes, and thus placed it in a position of such proud eminence. The chief defect of the kind is found in the occasional tendency of the roots to suffer from severe frosts; but that is a very occasional result and chiefly follows when the preceding summer has been cold and wet.

ORCHARD CONVERSION.—A striking instance of the diverse value set upon land in market garden districts and in purely agricultural districts has just come under our notice. In the latter districts we know too well just now that once a piece of land becomes foul, or goes to the bad, it is hardly thought worthy of recovery, whilst plenty of clean land may be had almost for the asking. In a market garden district, however, there is always much anxiety to obtain any orchards or fields that may become tenantless, even though the soil be foul, and for years may have been grossly neglected. In the particular instance to which we refer, what was once a good market orchard got literally into Chancery, and very soon into a terrible condition of neglect and decay. The soil became foul with Convolvulus, Couch-grass, and other weeds; the trees stunted and wretched; the bushes starved and worthless. Yet the moment legal matters are so far arranged that at length the rightful owner takes possession, a neighbouring market gardener becomes the tenant of the neglected orchard for a term of years, he sets a large number of men to work grubbing out the bushes, he prunes the trees, and finally trenches the whole of the soil, several acres in extent; burying the grass and weeds well below the surface, and adding presently a coating of manure, will plant Wall Flowers and other things, the which will admit of the hoe being kept freely employed on the surface all through the summer. After that the ground will be clean and fit for any purpose. Thus employed for market garden purposes, this neglected land will return a rental of from £4 to £5 per acre. In a farm district the land would probably remain a desert till doomsday.

HORTICULTURAL BUILDINGS.—It is a vicious practice to associate architectural fancies with erections intended for the growth of plants. It is always found that just as designers depart from the one great need in plant-houses, the securing of the greatest possible amount of glass surface with a minimum of opaque obstruction to light, just so will these houses prove unfit for the growth of plants or fruits. Any kind of erection that is intended to combine a maximum of architectural designing with a minimum of transparency, will inevitably prove for its special purpose a failure. Curiously enough, too, architects' greenhouses or conservatories are seldom elegant. They are mostly laboured or heavy in form and almost invariably displeasing. The simplest plant structures, even if erected by the crudest builders, seldom shock our tastes, simply because glass-houses must ever possess an element of lightness and almost of grace to which other buildings composed of heavy and opaque materials cannot aspire. We find in all our market plant growing establishments, and indeed most plant nurseries, where plants are grown and produced in vast quantities, and in singular perfection, that the houses in which they are grown are severely simple and light. As much glass as possible, and as little wood, with an entire absence of external decorative effect. It matters not indeed whether the structures be required for the production of Grapes, Peaches, or other fruits, of Palms, Ferns, Orchids, or any kind of flowering stuff in common use, the experience still is the same, that simple light houses are the best. Architectural houses look well from the designer's point of view, on paper; but from a cultural point of view they are assuredly failures.

LOOK TO THE FIRES.—One of the most important things requiring attention in connection with plant-houses at this season of the year is the stoking. So much, indeed, depends upon the management of the fires that all young gardeners should endeavour to make themselves thoroughly acquainted with everything in connection with the heating apparatus. We are much afraid that this is not generally the case, for it is very difficult to find young men who have any idea of stoking with economy and efficiency. To make the most of the heating power of any boiler the flues must be kept thoroughly clean, be cleaned out, in fact, at least once a week. The next thing is to see that the ash-pit is cleaned out every morning, not merely in front, but from end to end, for, if not properly cleaned out at the extreme end, the fire will become choked where it is most difficult to bring the stoking-iron into effect, and will prevent the stoker from ever getting a really clear fire. It is a great mistake also to be constantly stirring a fire up and putting on small quantities of fuel. According to our experience it is much better, when the clinkers have been removed, to well fill the furnace with fuel and to leave full draught on until the fire has burned up quite bright, when the ash-pit door should be quite closed and the damper be pushed in. This will confine the heat and prevent rapid combustion.

SHRUB PLANTING.—Mr. Temple writes from Carron House, Falkirk:—It is surprising how well certain plants will grow under, apparently, the most unfavourable circumstances. While extensively engaged in planting shrubs last season, we had a variety of positions, and a still greater variety of soils to deal with, but one site in particular seemed to be a very unlikely spot to get shrubs to grow on. Formerly this was a large hole which had been filled with brick-bats, ashes, and plaster rubbish, and to break up this solid bottom seemed almost impossible, and we thought conifers in variety, and deciduous trees and shrubs most unlikely subjects to thrive in such a position. The surface was, however, well broken up, a thin layer of road-scrapings and other soil was placed on the top, and on this the plants were set. The roots were well covered with good soil, over which was laid a good mulching of rotted manure, and then a surfacing of soil from roadsides. One watering was given, but a good one, after which we had nearly two months' (May and June) without rain. The result was that there were no deaths, but instead an unusually vigorous growth. When lately removing some Hollies from this space, we found the roots matted upwards in the manure.

RED-SPOTTED POTATOS.—On examining the Potatos earthed upon the Jensenian plan at Chiswick, many tubers were found to be spotted internally with reddish brown, no symptom of the

disease being visible on the surface. A large proportion of certain crops both in Yorkshire and Norfolk, have this autumn been found to be unsaleable from this cause. The scientific committee of the Royal Horticultural Society would be glad of any information on the subject, especially (1) as to the amount of crops thus diseased, (2) the character of the soil, (3) nature and quantity of the manure used, (4) whether early or late varieties are most attacked, (5) name of the varieties most affected. The disease appears to be quite distinct from the ordinary Potato disease. Communications are requested to be sent to the Rev. G. Henslow, Drayton House, Ealing.

The Drought.—"North Hants" writes:—It is not often that gardeners have to water shrubs outside at the end of November, but we are obliged to do so here, the ground about 3 ins. below the surface being as dry as dust. The amount of rain that fell during the summer and autumn was not sufficient to reach the roots, and, having a large number of shrubs to move, the labour of watering them has been very heavy. We were even obliged to water freshly planted Rose beds before giving them a mulching of manure.

An Enormous Puff-ball.—In a recent number of *The American Naturalist* is an account of a most remarkable Puff-ball, said by Mr. C. E. Bessey to belong to the species known as the Giant Puff-ball (Lycoperdon giganteus), and to be by far the largest of any of which he has been able to find measurements. It was discovered by Professor R. E. Call in Herkimer County, New York, in 1877, and, as it was impossible to preserve it, careful measurements were made and photographs of it were taken. It was irregularly oval in outline and much flattened, instead of approaching the spherical form so commonly seen. Its largest diameter was 5 ft. 4 ins., and its smallest 4 ft. 6 ins., whilst its height was but 9½ ins. Professor Call described it as "much larger than the largest wash-tub we had at home." This species is delicious if gathered when quite young and fresh and fried in butter, so that the specimen in question might have sufficed for a large dinner-party.

Utilization of Water from Eucalyptus Roots.—In many parts of Australia, where water is scarce, the natives formerly procured it from the roots of the Eucalyptus and a few other trees. The tree most preferred throws out numerous lateral roots, which lie at a depth of from 6 ins. to 12 ins. below the surface. The native having ascertained, by means of prodding with a pointed stick or spear, the position of the root, removes the superincumbent soil with his wooden shovel for 20 ft. or 30 ft., then, removing the root from the trench, he cuts it up into lengths of about 18 ins. or 2 ft., knocks off the bark, and stands the several portions on end in some receptacle to contain the water. The water which trickles from the root is, according to a writer in *The Proceedings of the Linnean Society of New South Wales*, beautifully clear, cool, and free from any unpleasant taste or smell.

Severe Weather.—Mr. Boothby, writing from Louth, states that up to the end of November the weather had been remarkably mild and open in that part of North Lincolnshire. On the 29th ult. there were Peas in the garden fit for gathering; Raspberries (Carters' Prolific) were hanging in bunches in a ripening condition; Strawberries were setting their fruits; and Primroses, Carnations, Violets, Pelargoniums, and Roses were in bloom in the open-air; but the collapse came short and sharp with a severe frost on the morning of the 30th, and a fall of snow, 6 ins. deep, on the following day.

Gardening Miscellany.

The Royal Botanical Society of Manchester's exhibitions next year, will be held on the following dates:—Floral Meetings in the Town Hall, on March 17th and 18th, and April 28th; the Grand National Horticultural Exhibition, at Old Trafford, will commence on May 22nd; the Rose Show will be held on July 11th; and the Chrysanthemum Show on November 17th and 18th.

The Kingston and Surbiton Chrysanthemum Society will hold its eighth annual exhibition on November the 10th and 11th, 1885.

The Botanical Society of Edinburgh is endeavouring to get the Government to purchase the late Mr. Anderson-Henry's botanical library, for the Botanic Garden in that city.

Mr. C. F. Prangnell, lately gardener at the Kensington and Chelsea District Schools, at Banstead, Surrey, has been appointed to a similar position at the Holloway Sanatorium, St. Ann's Heath, Virginia Water.

Mr. Owen Thomas, of Chatsworth, and Mr. Swaine, cashier to the Duke of Devonshire, have collected £40 19*s.* 6*d.* for the Pension Augmentation Fund of the Gardeners' Royal Benevolent Institution. Mr. Coleman's fifth list of donations to the Fund includes the following:—Mr. Haycock, Barham Court, Maidstone, 10*s.*; Mr. Bateman, foreman, and young men in the gardens at Eastnor, 10*s.*; Mr. J. Manning, Ledbury, 5*s.*; C. A., Lincoln, 5*s.*; and T. Gambier Parry, Esq., Highnam Court, Gloucester, 20*s.* Mr. Coleman's list now amounts to £51 14*s.* 6*d.*

A general meeting of the National Auricula and National Carnation and Picotee Societies (Southern Section) will be held on Tuesday next in the Conservatory of the Royal Horticultural Society, South Kensington, at 1.30 p.m. The principal business will be the consideration of the Report of the Sub-Committee appointed by resolution of October 14th for the preparation of Rules for the government of the Societies, and the arrangements of the Schedules for the Exhibitions for 1885.

On Tuesday next the last of the Royal Horticultural Society's committee meetings for the year will be held at South Kensington.

Mr. Alfred Holloway, lately gardener at Oak Lodge, Kensington, has been engaged as gardener and bailiff to A. J. Goddard, Esq., The Lawn, Swindon, Wilts.

We hear that the recent Chrysanthemum Show at Hull was a great success, both financially and as regards the quality of the flowers shown, and the fact of there being a considerable balance in hand, after clearing off all liabilities, augurs well for next year's exhibition.

We are pleased to note, too, that the Havant Chrysanthemum and Fruit Show exceeded the expectations of its promoters, and active steps are being taken to extend the list of prizes, and to issue such a schedule as it is hoped will make the next show one of the best in the South of England.

At a meeting of the Scottish Horticultural Association held on Tuesday night, papers communicated by Mr. Browning, Dupplin Castle, on the Gardenia, and by Mr. James Mitchell, Newmains, on the Croton, were read by the Chairman, Mr. John Methven. A fine collection of Chrysanthemums was exhibited at the meeting.

At a meeting of the Council of the Royal Caledonian Horticultural Society, held on Thursday, it was resolved on the proposition of Mr. Downie, that a Chrysanthemum Show be held in Edinburgh, next November.

Destroying Weeds in Frosty Weather.—Our correspondent (Mr. Warden) strongly recommends the practice of destroying weeds on walks, where the gravel is not too loose, in the paved yards, or between stone or brick edgings in frosty weather. His plan is to look up some hard-worn, scrubby brooms, and the first convenient frosty morning, when the ground is hard, the men set to work and scrub backwards and forwards until but few of the weeds are left on the surface. After the whole has been gone over in this way, thoroughly sweep up and clear away the weeds, and, as the weather permits, repeat the operation in a week or a fortnight, when, if all the weeds are not got rid of, they will be left in such a plight that they will give but little trouble for some time to come.

THE DOUBLE-FLOWERED LILAC.

Of the usefulness of the common Lilac for forcing purposes, it would be almost superfluous to write, so well are the merits of the plant understood, as well as the methods employed to force them into bloom and also to produce the white flowers that all so much appreciate in early spring. The white, red and violet-coloured varieties, as well as Dr. Lindley and Charles X., are well-known to growers, but M. Lemoine's new double-flowered variety, here illustrated by the favour of Mr. Bull, has not yet become widely known. It produces large pyramidal branched spikes of double rosette-like flowers, which are rose coloured in the bud, and a soft shade of Lilac when fully developed under natural conditions. When forced the flowers come white, and it is in this as much as anything that its value lays as a useful plant for forcing.

THE TUBEROSE.*

The cultivation of the Tuberose (Polianthes tuberosa) would appear to be not generally well understood, if we may judge from the indifferent examples too often seen in gardens. When it is seen in good form, however, with handsome well-formed spikes of white flowers, it is no doubt highly ornamental, very choice, and useful. For a coat-flower nothing is neater than a single bloom of the Tuberose, with a bit of good scarlet Pelargonium and Fern; and for those who have a preference for sweet-smelling or fragrant flowers, nothing can surpass the Tuberose in the summer evening.

As in the cultivation of Dutch Bulbs, it is best to obtain a fresh lot of roots annually. Last year I received my consignment about Christmas, and at once had them all potted singly. As to the size of the pot, I would say that nothing less than 5 ins. in diameter should be used, and for all ordinary purposes nothing larger than a 6-in. pot is necessary. Anything smaller than a 5-in. pot can hardly be expected to produce strong spikes of blossoms, and possibly it is because they are sometimes grown in smaller pots that such poor results are produced, the plants being apt to get starved by suffering from the want of water, &c.

The soil in which I have grown the Tuberose is the same in character as that which I use for Hyacinths—a good friable, turfy loam, with a little rotten mushroom dung put through a coarse sieve and mixed with it. Sometimes I have had a little peat and sand added to the compost, but I have noticed little or no difference in the results. I have the soil pressed tolerably firm round the bulbs, and plant them also similarly to Hyacinths, so that all but the apex of the bulb is under the surface of the soil. When potting them I have about three dozen of the strongest roots selected, and taken at once to the plant stove. There they are set on the surface of the tan bed (in which there is some bottom heat), under some large specimen plants. These give us the first lot of flowers. The rest, when potted, are taken to an intermediate-house to grow on slowly. In the course of about a month, or when the first lot have grown a few inches high, I have them removed from under the stove plants to the early vinery, where they get plenty of light, with a temperature of not less than 60 degs. at night, and in this vinery they produce a crop of useful flowers in the end of March. As the next and larger batch of plants begin to grow, I have them also removed to the early vinery, and when the vines have made a good growth the Tuberoses are transferred to the second house, where they get more light with a similar temperature. This is done to make the most of the space at my command, but I can imagine no better place than a portion of a Cucumber-house in which to grow on a batch, as here they can have similar treatment as to heat and moisture, and not be subject to shading.

To obtain good strong spikes of flowers, it is first necessary to get a good bold growth, and the manner in which a batch of plants succeeded with me in 1883 to my complete satisfaction, led me to think that I had hit upon a method of growing the Tuberose successfully. The batch of plants in question which

* Paper read at a late meeting of the Preston and Fulwood Horticultural Society.

flowered about June, were grown, as already mentioned, at first in the vinery, and about May were taken to a pit, where they were set close to the glass. In this pit they were subjected to liberal treatment as regards heat and moisture. They were shut up early, and every afternoon syringed or watered; weak liquid manure, diluted drainings from the manure-yard, and guano being also given them. Under this treatment flower-spikes here and there soon began to shoot up close to the glass, when I had them taken out and removed to the Azalea-house, which was slightly warm also, and where the spikes had room to grow up. The Tuberose spikes should always be supported by stakes, as they are apt to be broken by their own weight at the collar.

The plants in many cases bore over forty flowers on a spike, and they were of splendid quality, the variety being the American Pearl. Later on in the season (July), when the spikes were shooting up in the pit before mentioned, I had them placed in the Peach-house to flower, where they also succeeded very well, having plenty of light. During the flowering period the Tuberose seems to do perfectly well in a light airy place, with a little warmth, and is quite at home in the conservatory amongst other plants in the summer. We hear of them doing quite well out-of-doors in summer near New York, so that with a little help there is no reason why they should not do fairly well under glass in England.

I have only had experience with American roots, not yet having tried those obtained from Africa; and I may say that I would rather continue to grow the American roots, unless I had to produce flowers exceptionally early, or in mid-winter, which would be accompanied with much risk, as the Tuberose seems very difficult to manage in the winter time, owing to the want of light and other conditions favourable to their growth, which it is impossible to afford them at that season. From too much humidity in the atmosphere when in bloom, or from the plants being allowed to get dry at the roots, the flowers are apt to become flaccid, from which they never recover; and in the winter, too, the plants in the stove are apt to drop their flowers, unless a particularly light and favourable place is provided for them. All through the season of growth I never allowed the pots to get dry, in this respect treating them more like ferns, by giving them plenty of water.

A particular point to be attended to in the culture of the Tuberose is to keep the plants perfectly free from insects. Green fly and thrip, I need scarcely say, must be destroyed by fumigation, or some other means, and red spider, if it makes its appearance, by a liberal use of the syringe.

Scale will also attack the plants, but by commencing with fresh bulbs, the liability to be infested with insects need not be dreaded.

It is preferable to grow a single bulb in a pot, because all the plants will not flower exactly at the same time; and it is always desirable to procure good bulbs, such as can easily be obtained from any respectable nurseryman, but I have no misgivings if I receive a few small ones amongst my selection, so long as they are of the best double sort; as there is more likelihood of my having a longer succession of bloom.—*Robert Mackellar, Abney Hall, Cheadle.*

M. LEMOINE'S DOUBLE-FLOWERED LILAC.

NOTES ON HARDY PLANTS.

"The Winter Heliotrope," Tusilago fragrans, is one of those common plants which seems to come in for more than a fair share of neglect. It is so common, indeed, that it is a great pest in many places where it grows in luxuriance, and for this reason it should never be planted among the better class of perennials. But while it cannot be trusted there, it should nevertheless find a home in many gardens, for it has greater claims upon our notice than appears at first sight. In any out of the way corner, whether the soil be light, stiff, or of a gravelly nature, it is sure to succeed, or under trees and shrubs, for naturalizing in the wild garden, or for a variety of

other purposes, it is also most suitably adapted, but best of all its uses is its adaptability for pot culture.

Why such a deliciously fragrant midwinter-flowering plant as this is not put to better account is somewhat of a mystery, especially when we consider for a moment that fragrant flowers at Christmastide are generally conspicuous by their absence, and the few there are generally command such prices as to place them out of the reach of a great number of the gardening community. The delicious, and, I may add, almost unique fragrance, of "The Winter Heliotrope" renders it a fitting associate of even the choicest plants and flowers, so much so that I venture to remark that its fragrant spikes of bloom would find a ready sale in Covent Garden and other markets, where fragrant flowers are always valued.

Those who have a cold frame, or unheated house, may flower this plant to perfection, all that is needful being protection from frost and wet, which disfigures the blooms so much as to make them quite unfit for use. As a cool conservatory plant it is simply charming. Some few years ago I employed a few pots of it among other plants for conservatory decoration, and at first my employer was somewhat amused with the idea, which was novel at least to him; he soon discovered, however, that it was an indispensable plant for winter flowering, and a few well-flowered specimens were sufficient to scent a large house. For vase decoration it is equally charming, indeed it is a welcome plant anywhere when in flower; and as the flower-spikes are now pushing forth it will be a simple matter to select the flowering crowns, placing from four to six in a pot according to the size of the latter, and putting them in a cold frame. One good watering at potting time will be ample for four or five days, and the water should be given in the earlier part of the day.

The Edelweiss is one of those plants which after the lapse of a few years has emerged from obscurity into the hey-day of fashion, and has consequently been eagerly sought after. Though of easy cultivation it is seldom grown to perfection in English gardens. Strictly speaking it is a true perennial, and quite hardy, though the best results are obtained when it is treated as a biennial, by adopting the following system:—Sow the seeds in shallow pans in fine soil, consisting of equal parts of very sandy loam and peat, to which may be added finely pounded brick, or mortar rubbish, or sandstone.

The seeds should be sown as soon as ripe, covering very lightly with fine sifted soil, a piece of glass thickly smeared with clay or paint will keep the soil of a uniform moisture. This is essential, seeing that frequent sprinklings while the seedlings are small often prove fatal to the whole; to have flowering plants next summer the seeds should be sown at once, and be grown on without any check as soon as they are large enough to handle. They prefer a fairly moist soil, and should be dotted in small groups or colonies to produce a good effect. Where plants already exist, they should be watched from time to time, and searches made for slugs, which have a great liking for it. Its other popular name is the Lion's Foot, and its botanical name, Leontopodium alpinum. —*E. J.*

ON SETTING PEACHES.

The time is drawing near when cultivators of this much-valued fruit will frequently examine the swelling flower-buds. For many years I have had no difficulty in setting Peaches in January and February, and when I have been appealed to for an opinion as to the cause of the buds dropping, I have never attributed the evil to absence of sun, to their being no bee-hives in the locality, or to the position or form of the structure, but to injudicious watering, not to applying too much—but to giving too little.

It often happens that after the crop is gathered in summer, the trees get sundry washings, and are then kept cool and airy—perhaps at this period they may have plenty of moisture at their roots, and the surface may be examined to some depth and all appear right, but during the hot drying weather, the border may have been left alone, the good drainage helping to dry up the mass of soil among the roots. At the usual time the pruning is done, the trees washed and otherwise attended to with care. The usual soaking of tepid water is given; the syringe is carefully applied; air and temperature indefatigably watched; all is done so well that a casual observer sees no reason to dread "bud dropping" and a "bad set." Yet such occurs as in former years, and a small crop is the reward of so much expenditure of skill and labour. I have never been deceived when I went to the roots, not merely at the surface or at the collars of the trees, but to the extreme points, and there I found they were languishing in a dry, cracked soil. The roots nearer home are equal to maintaining the tolerably healthy growth of a tree, the tug of war is lower down at the extreme points—the roots here being unable to draw up any nutriment to support the flowers; a kind of paralysis sets in, and the results are too well-known to require further comment.

At this time of the year, make certain that the roots are not suffering from, or are likely to suffer from, starvation at their extreme points. If the roots are outside and away from the cramped and "grandly made borders," they may get nature's supply of moisture, and be independent of man's help. On the other hand, we prefer the roots to be close at home, a mass of fibres in soil, firm as a rock, resting on good drainage, and all the requirements given, so that no portion of the roots will lack their requisite supply of moisture. Of the system of syringing Peach and other trees, when they are in flower, to aid setting, I have never disputed the merits, but having always got on well without the aid of the syringe—the practice so strongly advocated by some, has not been my practice. Once I saw very successful results from syringing a Peach-tree (newly lifted and transplanted) when in flower. The syringing was done to cause a vigorous growth of wood. The fruit set all over the old tree like clusters of filberts. I have known the syringing of Muscat Grapes to be done by cultivators as a matter of necessity, and this to my knowledge came down from father to son, the latter doing it because it was his father's practice.—*M. Temple, Carron House, Stirlingshire.*

MOSS ON ORCHARD TREES.

While some think it wise to recommend the extension of fruit culture in country districts, I think it would be quite as much to our credit if we were first to treat those trees we have already planted, in a more creditable manner. Doubtless but few except experienced gardeners are aware of the evil results of allowing the growth of lichens and moss on our Apple, Pear and other orchard fruit-trees, neither can the generality of orchard owners be aware of the simple and certain remedy that can be applied, or we should not see so many of them in such a sad condition. In the early part of last week we paid visits to some of our neighbours in this district, and which necessitated our making a circuit of about fifteen miles, and during the drive passed by many small orchards, not one of which could be said to be in a satisfactory condition, one and all of the trees, young and old, being literally coated with moss.

When trees do not produce satisfactory crops of fruit we are apt to persuade ourselves that the soil is not suitable, and that the roots want lifting, but I venture to say that in every case I saw that day the evil was above ground, and the only evil was the moss. At one time I used to think that the moss did but little or no harm, but I am far from holding that opinion now, having had conclusive proof to the contrary, and that without going from home in search of it. In one part of our grounds, we have an Apple orchard, about an acre in extent, which has been planted about fifteen years. The trees made good progress for a time, but eventually became infested with moss, and owing to the trees making but little growth, I determined first to destroy the moss on them, as if it did no harm, it could do no good. We first got some newly-slacked lime, then a large tub of water, into which we put a quantity of lime, and kept the whole well stirred with a birch broom, especially while it was being dipped from the tub to the garden engine, when it was again kept well stirred and applied in such a way as to put as much lime on the trees as possible; when dry the trees had the appearance of having been whitewashed. It is surprising what a lot of trees may be done in a few hours.

It so happened that we were unable to complete the dressing of these trees, and about one-fifth of the whole were left, and still remain undressed, serving to show side by side the trees with moss on them, and those with clean bark, and the difference in the general health of the dressed trees as compared with the others. The production of well-formed fruit and the abundant crops which the dressed trees yielded over those undressed would scarcely be credited, and I say, without hesitation, that many orchards I have seen lately could and would produce three times the crops they do, if they were but cleansed of moss.

Another very simple method of destroying moss is to get well up into the trees with a ladder, while the trees are a little damp, and having some lime convenient, to dust the branches with it. The fumes of sulphur, that is to say sulphur burned so that the fumes may pass amongst the branches will also destroy the moss, but it is not very pleasant for the operator if the wind shifts, and of all three methods I prefer the former.—*C. Warden, Clarendon, Wilts.*

HARDY FRUIT CULTIVATION.

Selection of Trees and Method of Planting.—Having given at p. 170 a list of the best and most profitable varieties of Apples to cultivate, I would now strongly advise those who contemplate planting, not to exercise false economy in what is perhaps the most important matter of all—the choice of trees. Let not those extremely cheap advertisements which too often deceive the unwary and inexperienced, influence anyone in their purchases. From such sources the veriest rubbish and the most spurious and worthless varieties are sometimes freely dispensed without any compunction or fear of detection, to the ultimate disappointment and disgust of the purchaser.

Having ascertained who are the best and most reliable fruit-tree nurserymen, visit their nursery and choose the trees yourself, selecting the very best you can lay hands on; feeling assured that the little extra charge made for this privilege will eventually prove a wise and safe investment. If the intention be to plant tall standards, such only should be chosen as have strong, clean, straight, even stems surmounted by well-formed, thoroughly ripened, uniform heads, and supported by a mass of healthy fibrous roots.

Planting.—Having already advocated the practice of allowing wide intervals between the trees so as to allow of the ground being cultivated, and small bush trees being grown between them, I would here say that a space of 24 ft. from each tree would be sufficient, except in naturally rich soils, where a space of 30 ft. would be preferable. At the former distance, seventy-five trees would be required to plant an acre, and at the latter distance, about fifty. Should the subsoil be porous, or the position and inclination of the ground such as will effectually prevent stagnation of water at the roots, no expensive preparation of drainage will be requisite, but where the subsoil is adhesive and very tenacious of moisture, not only should the land be thoroughly drained beforehand, but each tree should have a 12-in. layer of rubble, brickbats, gravel, or similar porous material, placed underneath them at a depth of 2-ft. from the surface. By returning the whole of the soil over this platform of rubble, the tree will be raised 12 ins. above the ordinary level and will be very beneficial in keeping the roots healthy in such positions.

Supposing the situation and soil to be such as not to require this preparation, it will only be necessary to form circular holes for each tree, 6 ft. in diameter and 1 ft. deep. The soil should be broken fine and left with a slight inclination from the centre to the outside of the holes. Unless the soil be poor it is better not to use any manure in planting them, but when found necessary it should be thoroughly decomposed and well incorporated with the soil. If the soil be strong and adhesive it will be greatly improved by the admixture of a portion of old mortar rubbish, lime scraps, burnt earth, or any similar materials, which will tend to keep it open. Care should be taken to make the soil sufficiently firm underneath the trees, so as to prevent after-sinkage, and, at the same time, allow only just sufficient depth of soil above the roots, so that when finished it will be about an inch above them at the junction with the stem. The injured roots should be carefully pruned and then

spread out straight, even, and nearly level, so as to keep them near the surface; a little fine soil should be spread over them and be well trodden. If dry, a soaking of water should then be given so as to thoroughly settle the soil around them. Two or three inches of half-decayed manure should then be spread over the surface to the full extent of the holes so as to protect the roots from frost and drought.

An upright stake should then be placed against each tree in such a manner as not to injure either roots or bark. To this the tree should be carefully tied so as to secure it from injury by storms, and the operation of planting is completed—an operation, although extremely simple to experienced cultivators, is often sadly misunderstood and erroneously or negligently performed by amateurs, who are now beginning to take a keener interest in fruit culture than they have hitherto shown. For these reasons I have endeavoured to describe the operation as minutely as possible, and also tried to urge the necessity and the great importance of its being performed in a skilful manner. Having selected the most suitable soil and situation, having chosen the best trees, and planted them skilfully, the greatest and most difficult work is accomplished, and success may reasonably be expected; but when these preliminaries are negligently and improperly performed, disappointment and failure are but reasonable results.—*Scribo.*

EUCHARIS AMAZONICA.*

The Amazon Lily needs no introduction from me, so well are its merits known and appreciated by all floriculturists; and it will be sufficient to say that amongst all the novelties that are introduced from time to time it still holds its own. For conservatory decoration when in bloom no plant is better adapted; for producing cut flowers it is quite a first-rate subject; and as an exhibition plant it is not by any means to be despised. It is, besides, according to my experience, one of the easiest plants to culture, yet I have frequently of late heard of cases in which gardeners fail to succeed with it, but from what cause I cannot say. One of the largest growers in the neighbourhood of Manchester told me recently that they would not do with him, and at the same time named other places where they fail now also; whether from disease or from having been grown too long in an unsuitable soil, I am unable to say, but the subject is certainly worthy of consideration.

The soil in which we grow them is a compost of about two parts of loam to one of peat, and during the last ten years our plants have not shown any signs of disease or debility. Ordinary stove-plant treatment as regards heat and moisture suits the Eucharis very well in the growing season. In an intermediate-house I have found that they make but little growth, and they must have a stove temperature, with plenty of water at the roots, and frequent syringing overhead, to induce a good development of foliage. While the plants are growing we occasionally give them weak manure water from the farmyard, and soot water judiciously applied will give a fine healthy green colour to the foliage. Cases, however, frequently occur, in which healthy and vigorous plants fail to flower but very sparingly, and when this happens a well-timed period of rest will produce the desired, or, at any rate, a much better result. In such a case, if the stove that they have been growing in is too moist and too close, they may be put in the summer in cold frames, and for a time have only sufficient water to keep them from flagging. In the resting time there is a danger of subjecting them to too hard an ordeal, by weakening the health and vigour of the bulbs, which should be avoided.

Although this plant will bear any amount of heat in the growing season, when the blooming period comes on, an intermediate temperature brings out the finest blooms, as when the heat is too great for them the flowers come small; and although they will open very well in the conservatory, they have not the purity of colour, with the fine green tint which they have in their natural quarters.

We usually have no difficulty in having a lot of Eucharis in bloom especially in August and September, which seems to be their natural season of flowering. To have them later we dry a few batches of plants longer in the vineries and cold frames. At the present time we have a nice lot in bloom, and expect to keep up a succession till after Christmas. All this lot made an early growth, that is, early in the year, and have been kept dry for the last two or three months, and nearly all of them might have been in flower in September had they not been timed otherwise. In resting I have observed that the Eucharis will not bear too much cold. A few years ago I had about this time of the year several pots in the Heath-house, where the frost got in, and though none of the Heaths were in the least injured, scarcely one of the plants of the Eucharis recovered.

It is a surprising fact to many that a single potful of Eucharis bulbs will throw up flowers more than once a year. Some years ago a specimen flowered with us three or four times in the twelve months, and during that period produced about one hundred spikes of flowers. No doubt the specimen was in very good condition, and several times when in flower it was taken from the stove to the conservatory, where the change of temperature afforded a few weeks' rest. This year a specimen which we exhibited at the Cheadle Flower Show bore about seventy spikes in August, and a month ago bore about a dozen more. But although such is frequently the case, I do not think that individual bulbs as a rule can be depended upon to flower oftener than once a year, nor do I think that anything more need be expected from them.

As to insects, the Eucharis is very easily managed, the only difficulty being experienced where mealy-bug exists; that, I need scarcely say, should be got rid of as soon as possible.—*Robert Mackellar.*

* A Paper read at a late meeting of the Preston and Fulwood Horticultural Society.

NOTES ON GARDENS.

Iwerne Minster.—The seat of Lord Wolverton is situated on the borders of Dorset and Wilts, a few miles from the old market town of Shaftesbury. Although comparatively speaking a new place, it is one of the leading private gardening establishments in the south of England, and well worth a visit from any enthusiastic horticulturist, who, if he does not derive a certain amount of pleasure and instruction thereby, must be singularly unfortunate in his powers of observations and conception of much that pertains to real merit and worth.

Having for some time past been acquainted with the high repute of the gardens and being within a measurable distance of the same, on a cold November day, the writer in company with a friend, resolved on gratifying an ardent desire to make a personal acquaintance with the place, as well as with the kind and courteous gardener in chief. To indulge in word painting over a written description of such a place as Iwerne, is quite unnecessary; I shall therefore content myself for the present by recording bare facts, and adding such other remarks as may be put to a practical test, concerning the treatment of one or two species of plants, the which we have not seen equalled elsewhere.

The Kitchen-garden is about 3 acres in extent, and under a thoroughly systematic course of cropping, which, with deep tilth and liberal dressings of manure, produce fruit and vegetables of more than average quality. From a gardening point of view, the only apparent drawback here is the small amount of wall space for fruit-growing, and for affording shelter to early and tender crops of vegetables. At the upper end of the garden is Mr. Davidson's residence—a model of what a gardener's house should be—and at the lower end are the plant and fruit-houses. Of these, owing to their being so many, and the limited space at our command, it will be advisable to deal with only in general terms, instead of entering into lengthy details.

The Collection of Stove and Greenhouse Plants is a varied and extensive one, many houses being devoted to their culture. Amongst the former, one of the first plants to come under our special notice was the sweet-scented Jasminum gracillimum, a plant of somewhat recent introduction, the character of which may be briefly stated thus: flowers pure white, borne in dense clusters, graceful habit, very floriferous, and invaluable for decorative work and for cutting. Euphorbia Jacquiniæflora is largely grown and particularly well done; as also are Poinsettias and Calanthes, of which, at the time of writing, there is a fine show, and being tastefully arranged amongst ferns and other subjects, render the houses, in which they are placed, very attractive. There are many fine specimens of Adiantum farleyense, quite up to exhibition standard, and the same remark is applicable to Eucharis amazonica; indeed, we can honestly say respecting the latter, that we had not previously seen their equal. One huge specimen we were informed, had at one time during the current year, no less than forty flowers open and opening. Palms, Ferns, and other ornamental foliaged plants, are too numerous to particularize.

We would briefly refer, however, to Plumbago capensis rosea, as successfully flowered and grown in pots; for to see it as we did here with a profusion of its beautifully rose-coloured flowers on plants in comparatively small pots, is rather the exception than the rule, and a concise statement respecting its treatment may not be unacceptable to some of your readers. Cuttings are put in in February, and as soon as rooted, are potted off in a compost consisting of good fibrous peat, loam and sand; their next shift is into 6-in. and 8-in. pots, with an addition this time of a little charcoal and half-rotten leaves to the compost. From the time the cuttings are struck till the plants are established in the larger-sized pots they are grown in a stove heat, and subsequently in an intermediate or cool house, which has the effect of hardening and thoroughly ripening the wood, and this last point is probably the nutshell in which the whole secret of success is contained. In the autumn the plants are again introduced into the stove, and commence to flower in October.

That old and much neglected plant Clivia nobilis is well grown, and made a speciality at Iwerne, and is much preferred to its popular congener Imatophyllum miniatum. Except in a young state the plants receive greenhouse treatment and are grown in a mixture of about equal parts of loam and peat, with a little sand and small pieces of charcoal added thereto, being watered when the pots are full of roots with liquid manure about twice a week. At the time of our visit we noted a good house or two of Tomatos and winter Cucumbers. Peach-houses and vineries are numerous, in one of the latter a few good bunches of Alicante and one or two late varieties were still hanging. Hamburghs and Muscats have made extremely good wood this season and will doubtless produce bunches of a high order next year.

The Pleasure Grounds.—Leaving the glass department and kitchen-garden a move is next made for the pleasure grounds, passing on the way through a well-made and tastefully laid out rootery. We were much interested in the latter, and the original idea respecting it must have been somewhat novel in its conception. No true and correctly written description of it, we fear, can be given here. Of old tree roots and stumps arranged into grotesque shapes and forms there must be a good many cart-loads; interstices, odd nooks and corners here and there are filled up with soil and planted with such shrubs and hardy ferns as Lastrea Filix-mas, Athyrium Filix-fœmina, Scolopendrium vulgare, Barbury, and Rhododendrons, the whole being shaded by overhanging branches of trees, which must render it a very pleasant and cool retreat in the hot summer months.

If the term is admissible, the pleasure grounds may be described as being of a high classical order, and are about 12 acres in extent, and more than ordinarily neat and well kept. The excellent walks, which are made *à la* Pulham and are, perhaps two or three miles long, deserve a passing word of comment. The material of which they are made and its preparation is probably a trade secret, but of its superiority over asphalt there cannot be much doubt. The hardened and smooth surface, which is of a slightly reddish tinge, has decidedly a more pleasing and warm appearance than asphalt, it is equally proof against weeds, and is not affected by either of the two extremes of heat or cold. Adjoining the mansion is a large and handsome conservatory and a fine broad terrace, the latter being a vantage point from which to obtain a beautiful view of the park and vale on the one side, and of the flower-garden and a wide expanse of the pleasure grounds on the other.

In conclusion, we may add that there is a choice collection of conifers, deciduous trees and shrubs, in the planting and disposal of which there is ample evidence that present and future effect has not been lost sight of.—*J. Horsefield, Heytesbury.*

The Amateurs' Garden.

Planting Roses.—When should an amateur plant Roses? is a question that was put to me the other day. My answer was at once, without delay, as soon as the plants can be got from the nursery. Then my inquirer said, Have you any instructions to give me in the matter of selecting plants for my purpose? And I said in reply, In making your selection, pay special regard to those points essential to constitute a good Rose—a hardy, sturdy character, a healthy and moderately robust habit of growth, for be the flowers of a variety ever so good, if the plant will not grow kindly, it does little else but cumber the ground. Then to have good showy garden Roses, varieties of free form, large size, full, good substance, fragrance, freshness of bloom, distinct, and good colour should be selected. As a matter of course the purchaser must be assisted in his selection by the advice of his nurseryman, and by what he knows of certain varieties. If he goes to the nursery himself to select his plants he can see if they are of vigorous growth.

It generally happens that the nurseryman will trim the plants for the buyer; but should he fail to do this, as soon as the plants are received the roots should be well examined, all decayed portions of these and the wood be cut away, and the long fibrous roots may be shortened with advantage. On no account should the roots be allowed to become dry; but the planting-ground should be got ready beforehand, and the plants be put into the ground as soon as received. If it is not convenient to plant at once, dig a hole in a piece of spare ground and lay the plants in "by the heels," as the nurserymen say, until such time as they can be permanently planted. The next question was as to soil. I said that Roses do well in a rather stiff, rich loam; but granted the proper quality of loam, it can soon be enriched with manure. Roses like a good, open, airy situation, but it should not be so exposed as to be liable to the action of high winds, or shaded by the nearness of high trees.

And then as to planting. All things being in readiness, a fine day should be chosen for the operation, so that the soil can be sufficiently but not too dry to enable the work to be done properly. Soil moist, without sticking to one's shoes or the spade, and then plant something in this fashion: Dig holes 18 ins. to 2 ft. wide and nearly as deep, and fill this to 4 ins. or 5 ins. above the surface with good fresh loam, three-fourths and one-fourth of rotten manure, either horse, cow, or pig-dung (the latter being the best), and the whole well mixed together. Then take a spadeful or two out from the middle, and in the hole thus made place the plant, taking care to spread out the roots and not to plant too deep. It is necessary to tread the soil firmly about the roots, holding the plant in one hand to prevent its sinking deeper into the soil, and put a stake to all standard Roses that have stems over 2 ft. in height, in order to prevent them from being moved about by the wind. In placing a stake against a standard Rose, do not, as some thoughtless gardeners do, have it sticking a few inches up in the head where it looks very unsightly and unbusiness-like, but allow it to come only just above the point where the Rose was budded. When Tea-scented and Noisette Roses are planted, a little leaf-soil and sand may be added with advantage. It is perhaps best not to plant these until the spring.

Here is a list of good vigorous growing Hybrid Perpetual Roses well adapted for garden decoration:—Anna Alexeiff, delicate rose colour, large and full; Glory of Waltham, crimson, large and double; Leon Renault, light bright crimson, large and showy; Lord Clyde, rich scarlet crimson, very hardy and vigorous; Madame Fanny Giron, rosy flesh, a good garden Rose; Madame Jules Grèvy, delicate salmon-pink, very pretty; Madame Pierre Margery, cherry rose, very free; Mrs. Harry Turner, dazzling crimson scarlet, the brightest of garden roses; Princess Louise, delicate flesh, almost white; and The Shah, pure red, very bright and effective, and remarkably fine. Any one requiring some good pillar Roses will do well to give the climbing forms of Captain Christy, Edward Morell, Jules Margottin, Bessie Johnson, Countess of Oxford, Victor Verdier; and of Teas and Noisettes: Celine Forestier, Devoniensis (climbing), Cheshunt Hybrid, Gloire de Dijon, and Perfection de Montplaisir.—*Quo.*

Floral Christmas and New Year Cards.—Looking over those beautiful pictorial cards which have now become such a great institution among us, I am pleased to see the much greater accord which now exists between the artist and the florist, than was the case only a very few years ago, when one had to puzzle a long time over the flowers represented, trying to make out what they were intended for, and then often to give it up because the artist himself had drawn on his imagination for the design. Often, too, in years gone by, when the flowers were correctly drawn, their colours were absurd, and such things as blue Lilies of the Valley, and scarlet Violets, were not uncommon.

By the aid of the cards I have preserved, I can trace rapid improvement in the flower pictures, and at last it seems to me that such perfection has been attained that it will be difficult to surpass it, the natural representations of Begonias, Cyclamens and every other kind of flower and fern being perfect, as well in colour and arrangement as in the minor botanical features. The grace with which the flowers are posed, too, seems to say that if the artists have been deeply indebted to the gardeners for the subjects, they can, in many cases, give them hints in arrangement, if they will but have them.

A group of Primroses on one card, some Narcissus on another, Cyclamen on a third, and an elegant arrangement of a spray of white Odontoglossum over purple velvet which I now have before me, give fine examples of effective arrangement. With respect to the last-named, it is at once a proof of the appreciated beauty and popularity of Orchids, that they should now so often be chosen by artists for their models. Year by year their likenesses become more familiar on the cards, and many of the shops contain very fine water-colour groups of them. The artificial florist too has taken them up, and I have lately seen good imitations of Odontoglossums, Cattleyas, Lælia anceps, &c., in the Oxford Street and Regent Street shops.

On high-class dinner services, too, the Orchids seem to have attained great favour, whole sets being painted almost exclusively of Orchids, a shop in Baker Street, and another in Queen Victoria Street, having some very beautiful examples of Orchid painting on china. Altogether the flower painter and designer, in every branch of the industry, seems to be doing his best to faithfully render those beautiful objects which the gardener rears, and often one comes across the picture of a very rare plant faithfully delineated, which some artist must have drawn by permission of a nurseryman or amateur. The moral appears to me to be that we may thank our love for flowers and our skilful gardeners in a great measure for the high place which true flower-painting and designing has attained with us.—*Madeline.*

MILDEW ON VINES.

When mildew enters a vinery in which there is a valuable crop of Grapes, and is not checked at once, a sad disaster takes place. It may attack healthy vines by contagion, and when it is least suspected, but the more vigorous the vines, and the better condition they are in, however, the more likely are they to be invulnerable. Diseases of the formidable character of mildew will attack any vines which it can reach, and the havoc we have seen done in a very short time almost makes one shudder. Though never a sufferer from the attacks of mildew, I have grieved at the sufferings of others. To refer to a case or two may be a better illustration of what we know of the enemy, and how to attack him than any systematic course we could advise any one to pursue.

I was once situated in a district where mildew had appeared more or less every season, mostly among amateurs and small growers who had not adequate means of applying artificial heat, and the vines had evidently in each case been "highly" fed, animal manure being liberally supplied, water at the roots being curtailed and not skilfully administered. I gave what advice I could, but only in a few cases was it applied as I desired. Without describing the ravages of the mildew on my neighbour's vines, I may state how I acted on the defensive myself, the disease being in such dangerously close proximity that I could hardly expect to escape. One Sunday morning it appeared, and seemed to spread so fast as almost to be perceptible to the naked eye, and this in a large house of promising fruit, just at the colouring period, was enough to cause grave anxiety. Every affected spot was dusted with flowers of sulphur, and a quantity of the latter was mixed with water to about the consistency of thin paint. The pipes were coated with this, and a strong fire kept going night and day, and a man kept a sharp look-out with dry sulphur, dusting every white spot as it appeared. The total loss of fruit was something less than a pound, and a fine crop was finished.

The strong leathery foliage withstood the sulphur fumes well (young lateral growths did not), and the Grapes, being at the colouring period, did not appear to suffer by rust from the ordeal. I could never have imagined that any disease could have in such a short time done so much mischief as it did to the crops of three friends in the locality, one a practical gardener and the others keen amateurs. Sulphur judiciously applied, I believe, will keep the enemy at bay. But if the constitution of the vines is impared, the case may be reckoned as hopeless.—*M. Temple, Carron House, Falkirk.*

GLOXINIAS.

The plant from which the accompanying illustration was prepared was a seedling in its second year, and at the time the photograph was taken bore twenty-eight flowers, though thirty-two were counted on it the previous day. All the plants in the same batch were raised from seeds of Messrs. Veitch's strain. Some of the growers in the neighbourhood of Manchester exhibited last Whitsuntide the best lot of Gloxinias that I have ever seen, but they all more or less bore symptoms of having been subjected to too much heat. Our plants have broad leaves of a leathery texture, which in many instances entirely hides the pots they are grown in from view, as well as those on which they have to be elevated; but such foliage is not produced in a high moist temperature, with the plants far from the glass, though ours were 5 ft. from the glass on the side stage of the stove they were grown in. It should be explained, however, that the side lights start from the level of the stage, and the squares of glass are a foot wide, the same as in the roof, so that the plants were exposed to as much light as if they had been in the open. Such a position, and a night temperature sometimes as low as 55 degs., are not likely to produce elongated foliage and flimsy flower-stems.

The plants at first stand upon a shallow bed of sand and ashes in which two or three sorts of Lycopodium and ferns grow freely, and ferns in pots are dotted amongst the Gloxinias to relieve their somewhat formal appearance. When the leaves approach the Lycopodium growing in the sand and ashes, the plants are stood on inverted pots, and the ferns so regulated that an odd Pteris or Adiantum peeps up here and there amongst them. We adopt this arrangement because we like to have the plants together, and separated from all others that are likely to have any thrip or red spider about them.

The Gloxinia is either raised from seeds or propagated by leaf cuttings, but the latter method I apprehend will soon become obsolete, so fine are the varieties now easily obtained from seeds of good strains.

Should it, however, be desirable to perpetuate a variety of more than ordinary merit, cuttings are the most certain method of attaining that end. If the matured leaves are selected, and the mid-rib partially severed in three or four places and laid on the surface of some soil or cocoa-nut fibre refuse, roots will soon be formed and finally a corm. We have frequently found accidentally rooted leaves amongst the plants on the stove stage, while those that were placed in pans rooted rather indifferently. As soon as the cuttings have made roots, they should be taken up and placed in small pots, or be pricked out in pans and be supplied with water till every bit of leaf has disappeared, when they may be allowed to rest in the usual way.

Seed Sowing.—Seeds may be sown from the middle of February to the end of May, according to the

convenience the cultivator has at his command to push his plants forward, and which may range from a well-constructed Cucumber-house to an ordinary hot-bed. The temperature and moisture required by the tenants of the Cucumber-house will suit the Gloxinias sown in February, till they have passed through their stages of pricking out and potting into thumb-pots. We sow our seeds in 6-in. pots prepared in the following manner:—half fill the pots with crocks and cover these with moss, or the rough portion of leaf-soil or loam, to prevent the finer soil from intermingling with the crocks and obstructing the free passage of water.

The compost we use is a mixture of loam, two parts to one part each of leaf-soil and sand, and the top half-inch is passed through a fine sieve. The seeds are extremely small, and to give us some idea as to how they are distributed, we cover the surface of the soil after it has been gently pressed and made even with a thin layer of sand, and after the seeds are sown the sand is covered with a thin layer of the finest of soil. Watering is done by immersing the pots three parts of their depth in water, or till it is seen that the surface is moistened. On no account must the water be allowed to cover the soil, as that would cause the seeds to float. Each pot is covered with a piece of glass to prevent rapid evaporation, and the consequent necessity of frequent waterings. It is seldom that they require water in the early part of the year more than three times before they are up, and none is given overhead till the plants are well advanced. As soon as there is a sign of germinating, the glass covering the pot should be raised by placing a stick across the pot, and in sunny weather they should be shaded by suspending a sheet of paper in front of them or in such a way as to break the sun's rays without obstructing the light. By moving the glasses at night and replacing them in the day, if sunny, but not in dull weather, the plants get well nursed without being coddled.

Pricking out may be done in pots or pans when the plants are large enough to handle, and the uppermost inch of soil should be similar to that used for sowing, but below it may consist of more loam. If watering and shading are attended to they will make rapid progress, and will soon be fit to be transferred to pots.

Compost.—The soil used for this and any additional shift that may be given should consist of four parts of loam to one of leaf-soil, one-sixth of sand, and one-eighth of partially fermented horse-dung, the latter passed through a quarter-inch sieve. The effect of the latter ingredient may be traced almost to a plant. The time for final potting will be regulated by the time they were sown and the progress they have made. We endeavour to attend to them when the foliage has well covered the surface of the pots they are in. As soon as a flower or two expands we move them into a cool span-roofed house. We say cool because the house is ventilated at the side and top without causing a perceptible current.

Plants in their second year are in flower early in May, which is as soon as we require them. As the plants get shabby they are moved into a pit or frame where a light can be placed over them to protect them from the rain. These early flowering plants readily go to rest, and if watered after it has been withheld for a time they will start to grow again even in a cold frame, which is most undesirable, as seedlings will be far more serviceable than they will prove to be if flowered the second time in the same year. From early sown and well grown plants good results are produced, and many will be as floriferous as plants in their second year, but they cannot be had in flower so early, as the latter can be had in very fair condition in March. We allow them to start in the pots they are growing in, and after about an inch of growth is made they are shaken out and potted into 3-in. pots. Very little water will be required except that which will be received from the syringe, with which they should be sprinkled overhead every afternoon, and if in making the last round at night the foliage and surroundings appear dry, they should have another dewing. I consider this dewing at night one of the best preventitives against thrip and red-spider, and it can be applied to other plants besides the Gloxinia. To syringe or wet the foliage of Gloxinias in the morning is rather a perilous proceeding, inasmuch as their woolly surface retain the moisture for hours after it has disappeared from the foliage of other plants, and if the sun should shine on them in that condition the result would be disastrous. The disfigured foliage which may be frequently seen on Gloxinias and Achimenes is entirely due to this wetting of the foliage in the morning, accompanied by bright sunshine.

When the leaves are three or four inches long the plants may be placed in their flowering-pots, and the only objection to putting them in at first is that the big pots look more unsightly and occupy more room, and if they get over-watered once or twice they come to a standstill. The Gloxinia is not a strong rooting plant, and considerable development of top takes place before any amount of roots are visible if an inspection is made. When they are forming their flower-buds, weak liquid manure will prove highly beneficial, and it may be applied alternately with clear water. When the plants are in flower they must be thoroughly shaded.

AN ERECT-FLOWERED GLOXINIA.

Exhibiting.—For this purpose I am not acquainted with a more tiresome plant to deal with. The flowers are so weighty and the stems so fragile that the motion of the conveyance will cause the flowers to break off entirely. Tying the flowers singly to sticks would only make matters worse, and packing them in cotton wool disfigures foliage and flowers by adhering to them, so as to reduce their chance at the exhibition table.

The best plan that I am acquainted with is to place a broad band of tissue paper round as many flowers of the erect ones as can be conveniently got together without drawing them from their upright position, and secure the corners of the paper to a stake. If the whole are grouped in this manner, without unduly pressing them, they will not have space to oscillate. The flowers of the drooping section are more easily secured by placing them in slings of tissue paper without drawing them from their natural position.—*W. P. Roberts, Cuerden Hall, Preston.*

FRUITS.

The Ecklinville Apple.—In the autumn of 1880 we planted two dozen standard Apple-trees, of distinct varieties, in a well-sheltered plot of old pasture ground, rather high, but having a gentle fall to the west. The land being poor, with a sandy subsoil, we made good-sized circular holes, throwing out the sand, and carted in some strong yellow loam from a distance for a layer below, and some fresh soil from an edge-row that was being knocked down, to plant the trees in. They were maiden trees, with shoots only about a foot in length, and were not cut in at all. The early summer months of 1881 being very dry, they made but little growth, but in the following year they did well, and in 1883 many of them bore a few fruits, enough to enable us to prove their correctness as to names. The Ecklinville produced nearly a peck of full-sized fruits, and the tree was quite a picture to look at. During the past season, too, the tree beat all the others in carrying a good crop of fruit, in spite of the terrible, dry, scorching weather. It is a good-sized, handsome, early culinary Apple, being fit for use in September and October, with the good qualities of being an early and a free bearer. The Golden Pippin is also an early-bearing Apple, much appreciated for the dessert. These young trees get more interesting every year. They are not cut in annually, but are left to themselves. The growths that produce the fruits are two years old, that is to say, the fruits produced this year are on the shoots made in 1882, and the extended growths of 1883 have now got plump buds that will produce blossoms next year, 1885, and prove again how unwise it is to cut in the growths of the current year annually.—*T. W., North Norfolk.*

A Remedy for Mealy-Bug in Vineries.—It has been my fortune, or should I not rather say my misfortune, to be placed in three different establishments where mealy-bug existed on the vines, and until within the last two years my efforts to eradicate it were, I am sorry to say, of but little avail. In the earlier part of my gardening career the only thing done for the destruction of the bug, or I should say, the only thing applied with that end in view was that unnatural and sometimes ruinous practice of scraping off all the old bark with a blunt knife, and painting with a mixture of cow manure, soot, soft soap, sulphur, and tobacco juice, with clay added sometimes to give body, and occasionally lime to make it a lighter colour. Sometimes Gishurst Compound was used in the place of soft soap, but in small quantities. I have seen this mixture modified by mixing size with it, with a view of sealing the insects in, so that they should not escape. All this, I am sorry to say, was done, but not with the good results that were anticipated, for when autumn came the pests were as numerous as before.

My next trial with this pest on vines was with paraffin and soft soap, applied with an engine or a syringe to the foliage before the leaves dropped. This plan I gave a fair trial, determined if possible to kill or cure, but neither result followed. Those who have had any experience with mealy-bug are aware that the Grapes keep badly when affected, and my case was no exception to the rule, so that about the latter part of September we cut all the Grapes that were then hanging and bottled them, and placed them in a room best calculated to keep them as long as possible. After getting in a supply of soft soap and paraffin, we set to work with each and all of the vineries by using 4 ozs. of soft soap and 2 ozs. of paraffin to each gallon of water. The whole of the water was taken from the expansion box of one of the boilers, and was as hot as one could bear one's hand in, and in each of these vineries, 24 ft. to 30 ft. long, we used sixty gallons of water, mixed as above described, and applied with all the force which two men could muster. This was repeated twice a week, and care was taken to throw plenty of straw on the inside borders. We next pealed off all the rough bark, the better to enable us to find the insects in their lurking places, and the washing was again repeated several times—some eight or nine times in all. After this ordeal, which I felt nothing in the shape of an insect could pass through, the next autumn the mealy-bug was almost as troublesome as ever.

That same autumn I was recommended by a friend to try gas tar and clay. I was told that it was a safe and certain remedy, and to apply it in the proportion of two parts of the latter to one of the former. I determined to give it a trial at once, and forthwith looked out a vine-rod or two that could well be spared, as also a pot vine or two. These we painted with the mixture as above recommended, the eyes, young wood, and every part of them. The whole of these vines broke but little the worse for their dressing, and I was satisfied that I could use the mixture more extensively. Well, as the paraffin and soft soap mixture proved a failure during the following summer and autumn, and as the gas tar and clay prescription had been brought still more to the front by Mr. Murray, the gardener at Culzean Castle, Maybole, I determined to give it a thorough trial, and as I had the previous spring and summer seen its effects I had no fear of any harm resulting from its use. The only question now at issue was, would it prove an effectual cure? There was no alternative but to try, and I am happy to say the result was all that we could wish—a perfect remedy without injury to the vines. The usual practice of removing the very roughest of the bark was followed, but no knife was used; the vines then received a good washing, as also the roof and stages, also the glass, the latter three with paraffin and soap very strong. The walls were then coloured, the pipes painted, and the tar and clay applied as recommended above. To those who have still this dreaded pest I would say, Lose no time in applying this remedy.—*Chas. Warden, Clarendon, Salisbury.*

The King of the Pippins Apple.—Your North Norfolk correspondent says if he could only grow one variety of Apple he would select the King of Pippins. Where this Apple comes to maturity it certainly is a most valuable kind,—but north of the Midlands it is not so valuable as a dessert fruit; though always useful because of its free-bearing habit, I never knew healthy trees fail in producing crops in quantity. In Essex, Suffolk, Worcester, Wilts, and Somerset, the King of the Pippins does grandly, growing to a useful size, and bright yellow in colour, with streaks of red on the side exposed to the sun. Once I had a row of trees which bore fruits of very second-rate quality, being green, cracked, and acid. The cold northerly position was against them, but the bottom roots being in inert soil were cut clean off, a firm bottom of plaster rubbish was placed under the trees, and a good coating of rotten manure liberally supplied to the surface, in which, in course of time, the roots became matted. The tree made short stiff growth, and the fruit always assumed a yellowish colour, with red streaks next the sun, and every year were loaded with Apples.—*M. Temple.*

Gooseberries for Exhibition.—I should be very much obliged if some of your readers would give me a few hints on the cultivation of Gooseberries for exhibition. I should like to be informed how many berries are usually shown on a plate? Which are the best sorts to grow? the best time to plant them? and how they should be subsequently treated.—*Constant Reader.*

The Irish Peach Apple.—We have a pyramid tree worked on one of the dwarfing stocks which bears a crop annually, being in a very sheltered place. The fruits are of medium size, nicely coloured on the sunny side, and of a juicy sweet flavour. It is very useful for the dessert in August, and is a variety that the wasps will find out, if very plentiful, and they are not bad judges.—*T. W., North Norfolk.*

Osmunda palustris.—This charming greenhouse fern is strangely enough seldom seen in private collections. Its habit is unique when grown in small pots for vase work, and it is so much hardier than Adiantums and other kinds, that it would be a most suitable variety to grow largely for vase work in winter. To have this and other ferns in proper condition for winter, they ought through the autumn to be kept on the cool side, and have more light and air than plants that are simply intended to ornament a glass structure.

FLOWERS.

Seasonable Work in the Plant-houses.—We are now in the last month of the year, and owing to the unusually fine weather we have had this autumn there may remain some work to be done which usually gets attention before this time. As the new year brings in so much work of importance, nothing should now be left that can be done in the way of cleansing plants and putting things in general order. The stock of bedding plants will require looking to, and in any case where the stock is short, they should have a little extra encouragement. Lobelias are much better grown from cuttings than seedlings, and where extra large plants for box-work, &c., are required a batch of cuttings should be put in at once. Verbenas, if a few good cuttings can be got now, and rooted, will make good plants to get stock from in the spring, and will give cleaner and better cuttings than older plants will provide. Alternantheras keep best through the winter, if they can be placed on a shelf in a warm house. A little attention to these now will often save a lot of trouble later on, especially where a large stock is required.

Tree Carnations.—Where these are required exclusively for giving a supply of cut-bloom during the winter months, it will be found better to rely on a few of the most distinct varieties rather than to grow a number of sorts. The following will be found to include all the most desirable colours, and all are remarkably floriferous;—Andalusia, pale yellow, flowers large, full, and beautifully fimbriated; Laura, this is similar to the above, except in colour, which is pale pink or flesh; Lucifer, very bright scarlet; L'Hermoine, pure white; Belle Rose, very pink, very free; La Zouave, soft pink; Miss Joliffe, pale flesh. Good plants of the above varieties cannot fail to give satisfaction.—*H.*

Pompon Chrysanthemum Val d'O.—From Messrs. John Laing & Co. we have received some cut blooms of this new variety, which were bright and fresh on the 2nd of December, when a good many of the other sorts were over. It is a dense compact little flower with imbricated petals; and citron-yellow in colour. It has good stout foliage, is a free bloomer, and seems to us to be well worth commending to the notice of growers.

Schizostylis coccinea.—It is only those who have grown this Iridaceous plant that can have any idea of its usefulness, as besides having brilliant Gladiolus-like flowers (which it bears on long spikes), it comes naturally into bloom during the winter, when a few pots of it do much to embellish a house, and are specially valuable for vase decoration, as the flowers dress well with others and stand long in water. What adds to its value is, that the plants are hardy, and they may therefore be grown by anyone, but though the blossoms open outdoors, they generally get damaged and pinched through being so late, and are only seen at their best under glass. The way to start with them is to get a packet of seed and sow it in heat early in the year, when it will soon germinate and show leaflets like grass, and as soon as the plants are large enough to handle, they should be singled out and potted triangularly three in a pot, and then plunged in a hot bed, or stood in any warm house or frame, to give them a fresh start and keep them steadily on. Towards the end of May or beginning of June, they will be ready for shifting again, and may then be placed in 7-in. pots, which will be quite large enough for them to remain in and bloom. The soil best adapted for them is loam and peat, or leaf-soil and the former, as they like it light and rich, and when so favoured, their roots can ramify freely and the plants make strong crowns that send up plenty of flowers. Instead of growing them in pots, some plant their Schizostylis out, and it is a good plan, as when so managed they require little attention during the summer, and in the autumn they lift readily with an abundance of roots, and may then be potted and placed in frames to be drawn from when wanted for

use. After flowering, the proper treatment is to rest the plants for a time by keeping them dry, and then they should be shaken out and pulled apart, and divided, and either be planted out or re-potted again. As soon as growth commences, it is necessary to water freely, and to continue the same all through the summer.—*Alpha.*

Cyclamens.—Your remarks on the fine condition of these at Hillingdon Place (p. 199), excites my envy, as I am bound to confess myself wholly beaten by them. Some seasons I succeed in getting a few flowers on my plants, but, generally speaking, my old bulbs seem to get so hard during the drying off that they produce even leaves sparingly. There are many gardens around here where the Cyclamens are as bad as mine, and not one place where they are done well. Mr. Little would, I am sure, confer a great boon on us all if he would kindly give in your columns a short note of his treatment throughout the year, and whether he grows from seed annually or old bulbs, and whether he rests his bulbs in sun or shade. Your remarks about his Zonal Pelargoniums have opened up a new and simple method of treatment which I shall certainly follow.—*A. C.*

Violets on North Borders.—Amongst the many useful purposes to which north borders may be put, may be included that of Violet culture, and especially if the ground is light and dry. Some few years ago wishing to lengthen the Violet season, we tried some plants at the foot of a north wall, close up to the fruit trees, as nothing else seemed to do well there. Before planting we dug in a good dressing of cow manure, and at the end of April, or in the beginning of May, dibbled in some good strong runners at about a foot apart. Beyond keeping them free from weeds, the plants received no other attention; but they commenced blooming in September and continued till severe frost set in. In spring, as the weather gets favourable, they commence flowering again and continue in bloom for some weeks after the plants in a warmer situation have done flowering. We take them up and re-plant them every year as soon as they have done blooming, and otherwise treat them as before. The variety we grow is Victoria Regina, which we find superior to The Czar. For the last six or seven weeks we have been able to gather as beautiful Violets as any one could desire to see, and to-day November 23rd, I have picked a fine bunch. We grow Violets in various positions, at the foot of walls, and in the open borders, as well as in pits, and by these means extend the flowering period over a lengthy season. In dry seasons like the past the plants get infested with red spider, but not those on the north borders, and we find the best plan of keeping the spider in check is to deluge the plants with liquid manure in the evening, but if the plants are in a hot dry place, however much you may water or syringe them, they cannot be kept quite clean. We get fine supplies from the plants grown on a west aspect in February, but the blooms from the north borders are always the finest. We grow the Marie Louise and Neapolitan mostly in frames, and the former blooms most freely in the autumn, while the latter gives the best returns in spring. Having tried several single kinds, we now grow the Victoria Regina principally, but have not quite given up the single Russian. It is very free flowering, and when well grown not to be despised. The double Russian is still one of the best double-flowered varieties for many purposes, and when strong and well grown it is longer in the stalk than others, and is very useful in March and April. When grown in patches on borders few things are more ornamental, the plants often being covered with their lovely blue and deliciously-scented blossoms. I am trying Comte Brazza's new double white, and hope it will prove as good as it is described to be; and alongside is also the Swanley White. Belle de Chantenay is very beautiful when it will grow, but we have not been able to get on with it at all.—*North Hants.*

Chamæcladum metallicum.—This charming little Aroid is figured and described for the first time in the November number of *The Illustration Horticole.* It forms a small dense tuft of richly-coloured metallic leaves, which latter are metallic green above, purple beneath, and average about 4 ins. long by nearly 3 ins. broad. It was introduced from Borneo by the Compagnie Continental d'Horticulture of Ghent.

VEGETABLES.

Seedling Potatos raised in Ireland.—Mr. Webb, of Dublin, who exhibited a fine collection of Seedling Potatos at the late Exhibition of the Royal Horticultural Society of Ireland, has communicated the following remarks on some of the best of his varieties to *The Irish Farm, Forest, and Garden* :—

The Premier: A handsome round Potato, strong bushy foliage, a great cropper, raised in 1880, pedigree unknown, no disease.

Ireland's Eye: A seedling from the White Rock, a good cropper, and free from disease, raised 1881, round.

Erin's Pride: From the White Rock, crossed with Magnum Bonum, flattish oval, rough skin, a good cropper, a fine boiling Potato, flesh white, mealy, and fine flavour, raised 1881.

Grand National: From the White Rock, crossed with Magnum Bonum, raised 1881. Shape various, kidney-like, and some tubers of flattish oval, a very strong growing variety, great cropper, and a fine mealy Potato, flesh white and of fine flavour. Unfortunately this variety has a tendency to disease.

Erin's Beauty: A very handsome Potato; shape, flattish oval with good eye, uniform habit of growth, a good and even cropper and quite free from disease, of excellent quality as a table Potato.

Leinster Prize: This variety likewise is a very handsome shape—more round than oval; it was raised in 1881, pedigree unknown, a good cropper and free from disease, flesh white, very mealy, of a very delicate flavour.

Swan's Egg: Raised 1880, pedigree unknown. This is a very early kind, a white egg-shaped Potato, a great cropper and free from disease, very distinct in growth, and more so when dug out, as there is a gloss on the skin, in fact quite shining.

Amongst the above, I consider Erin's Pride, Erin's Beauty, and Leinster Prize the best, and these three varieties I consider of great promise. I expect Ireland's Eye will improve, and the Premier is good, but not quite dry enough to rank A 1; it has something of the American flavour about it, yet it is a fine cropping Potato.

Mr. Webb adds:—My idea of raising Seedling Potatos is that no one can judge what they are, under five years' growth. Some will go back the second year, and others the third year; for instance, I discovered several last year, and two kinds this year, while amongst the lot the greatest improvement was noticed in Erin's Beauty, Erin's Pride, the Premier, Ireland's Eye, and Leinster Prize. In a conversation with Mr. Kerr, of Dumfries, at the late Dairy Show at Ball's Bridge, he quite agreed with my opinion. He said that he considered it would take from five to six years before you could thoroughly test a Potato; thus the reason of so many failures of new varieties after sending them out. You will therefore see that raising Potatos from seed is a tedious and not a very profitable job.

The Culture of Horse-radish.—It is an every day occurrence to report a success, but failures are seldom chronicled. It will be admitted that Horse-radish is a very important subject in the kitchen-garden, and truth to tell my practice for years past has been a perfect failure, so far as growing first-class roots is concerned. Our practice has been to select about five hundred straight pieces of root, 8 ins. long and about the thickness of one's little finger. Every one of these roots were carefully cleansed with a rough piece of sacking, and had every little rootlet rubbed off. The piece of land being well trenched for their reception, the plants were let into the soil by my favourite tool, the crow-bar. My last crop treated in this way grew vigorously, in fact, quite filled up the rows, 3 ft. apart, with their foliage, and I thought I had at last solved the problem. A few days ago, however, I ventured to try my luck, and sorry I am to relate that a failure was again the result. What I call a good stick of Horse-radish, is one about 12 to 15 ins. long, with no side rootlets. I almost blush to describe what mine are like, but the roots are thick with a mass of rootlets springing from the sides, in fact, anything but what they should be. I should feel much obliged by any practical and successful Horse-radish grower giving me a few hints on the subject. I may add that three rows in the quarter were planted with Horse-radish crowns, let into the land 12 ins., but the result is the same.—*R. Gilbert, Burghley.*

Lifting and forcing Seakale.—When I took charge of these gardens I found a very limited supply of Seakale, and after doubling the quantity grown for three successive years, I am certain that if we had as much again as we have now (nearly half an acre), we should not have too much, so highly is this delicious vegetable prized. At this season, just as the leaf is decaying, and before they are removed, we go over the plantations, and lift the whole, taking care that all the roots are lifted with the crowns. These are then gone over, and all the thong-like roots about the size of a cedar-pencil are cut into 4-in. lengths, and laid in perpendicularly in light soil, in a sheltered situation out-of-doors where they will not get trampled upon, and where they can be protected with a little litter if required. Here they remain till March, when they will have began to grow, and, when planted in the ordinary way, make far better plants than either the stools that have been forced or seedlings.

Some of the forcing crowns are then taken and placed thickly together in large flower-pots in rich soil; some are also planted under a stage in the Mushroom-house, and the remainder are laid in ready to draw from for future supplies. In this way we keep up a succession by forcing until the Seakale comes on naturally out-of-doors, and a batch being planted in a cool or northerly aspect, the season is extended as long as possible. Those which are potted up have an inverted flower-pot of the same size put over them, the hole in the bottom being stopped up with paper. These are in a very convenient form for bringing along a few dishes at a time, and may be put in many places out of the way, such as under the stage in the stove or greenhouse, in the Mushroom-house, or on a hot-bed. The latter may be prepared by simply building walls of fermenting material, leaving the middle of the bed open in which to place the pots, putting a hurdle on the top, that must be covered with litter, to exclude light and air. As the Seakale is cut the pots are emptied and re-filled, and about a dozen of them kept regularly going will keep up a supply for a large family.—*Charles Warden, Clarendon, Salisbury.*

THE MANETTI ROSE STOCK.

This Rose is still grown by its thousands and tens of thousands. It is a free-growing Rose of Italian origin, introduced into this country about forty years ago, and first brought into prominent notice as a stock by the late Mr. Thomas Rivers, of Sawbridgeworth, Herts. Being a most luxuriant grower and a free-rooter from cuttings, and buds and grafts alike taking upon it with exceptional freedom, and growing upon it with unexampled rapidity, it soon became a fashion, then a rage, almost a *furore.* It threatened to banish all other stocks for dwarfs out of the garden. For mere growth, and growing on light soils, perhaps, there is no stock to match the Manetti. It is still so good that no rosarian should be without it, as it has special merits of its own, already pointed out. Probably more dwarf Roses are on the Manetti at this moment than on any other stock, and hence a good batch of cuttings of it should be at once inserted. They may be made, planted and treated exactly as seedling briars, November being the best month to make and plant Manetti cuttings. Custom and the most successful practice have also agreed in budding the Manetti low. This gives the Rose at planting two strings to its bow; it may either use the roots of its foster-mother as permanent helps, or may starve them off so soon as it can form roots of its own. The Manetti stock is equally suitable for either method, or the modern one more generally adopted—that of running two sets of roots abreast, to the fuller feeding and more powerful stimulation of the Rose.—*Cassell's Popular Gardening.*

THE

Orchid Growers' Calendar.

Winter Management.—With winter upon us, every probable chance that can occur, likely to militate against the welfare of the plants, should be calculated on and arrangements made to meet them. For safety sake, therefore, the heating apparatus should be carefully examined to see that all is sound and in good working order, before the hard weather comes. Often where weak points in the boilers, in the firebars, or in the joints of the piping are known to exist, the repairs are deferred from time to time, until at last in very cold weather when the greatest pressure is put on, a disastrous break down is the result.

It is the lament of all those who carelessly put off the necessary examination and repairs of the heating apparatus, that the mishap always comes at the worst season. Of course they do, because in the coldest weather, everything connected with the boiler is tried to its utmost, in order to keep up the temperature in the houses. Let the boilers and piping be ever so good or new, time is never thrown away at the beginning of winter in thoroughly examining them, and letting out the fire on a warm day for the purpose of thoroughly cleaning the flues, &c.

Throughout the winter, comparatively small fires kept free from clinkers, and carefully tended, are much more efficient and economical than large dead ones, on which a large quantity of fuel is wasted; and the small active fires are not nearly so trying to the boilers, quite one-half of the accidents to which arise from bad stoking. Often in winter, by heaping one lot of fuel on the other a bright fire is made in the front, while that behind is dead and useless, and it is such fires as these that often cause injury to the boilers by the unequal expansion of their parts, and thus the poor boiler makers get into trouble without in many cases being able to assign a reason for it themselves.

The man in charge of the fires should be told that it is his place to get a bright fire in the back of the fire-way, and the front will take care of itself. Nothing secures good clear fires better than making it a rule once a week to let them burn low in the morning, and afterwards rake them out and start them afresh, and the same treatment is the only safe one with a sulky fire. The fires also burn much better when the ashes are kept clear below and the stoke-hole not allowed to harbour rubbish, which may interfere with the draught; indeed, all around the boiler should be kept as tidy as possible.

Where some of the houses have bleak ends and corners, canvas-covered frames should be got ready to fasten up on the approach of hard frost, or mats may be used for the purpose. These answer much better when they are so fixed that they stand a little off from the glass than they do when they are placed so as to touch it, as in the latter case they often let the frost through the glass in sharp weather. No harm happens in the cold-house if frost gets inside the glass so long as the thermometer is up to 45 degs., and it is the worst thing possible to do to try and clear it off by artificial heat.—*James O'Brien.*

Orchids at the Woodlands, Streatham.—Mr. R. H. Measures has so earnestly taken up the pleasant task of Orchid growing, and has so rapidly pushed on with his collection that already, although not much more than a year has elapsed since he first commenced, his houses begin to have the appearance of containing an old collection. Until recently the fine new houses at Woodlands were devoted to general plant culture, and great proficiency had been attained with many difficult subjects when the idea was conceived of adding Orchids, and so quickly acted upon that already five of the houses are filled with them, many of the rare things from the late Mr. R. Hanbury's and other good collections having found a home here.

Of course at present little can be said of the culture of many of the plants as they are new comers, but from the fact that even the best cultivated when received have either maintained their good condition or improved, and from the careful and zealous manner in which everything is done likely to produce a beneficial effect on the plants, it is evident that Mr. Measures' collection will in a very short time be worthy to rank with the best of our great private collections. That their culture is really taken up in earnest the new, well-built, and elaborately-fitted new range not yet filled bears witness. It is in six divisions, one of the middle ones being built with a view to placing the flowering Orchids in it, and thus provide a comfortable place in which their beauties may be displayed. The whole range is exceedingly well planned and built within and without, and is fitted with several new arrangements well worth imitating, for example, the glass sash forming the sliding cover over the perforated zinc-covered bottom ventilators, the ingenious grooving of the bars of the roof to prevent drip, and the clever use of iron and cement to form the watertight under-staging are all good improvements on the old methods.

The flowering plant-house in the old range, a square roomy house with ornamental fountain in the centre, contains at present one of the prettiest sights imaginable. No wonder that a sight of such a lovely and varied display at this dull season should be calculated to start fresh growers. From the floor to the roof a great and effective display is made by arranging the plants in bloom with considerable artistic skill, those on blocks and in baskets drooping over and mingling with the tall spikes of Vanda cœrulea, Calanthes, &c. Many of the showier kinds have many representatives in bloom, and single plants of some very rare things give both beauty and interest to the whole. In particular may be noted a plant of Lycaste plana with several flowers. It is a real gem with flowers in size and shape like those of L. Deppei; the sepals, too, are of a brownish olive, as in some of the varieties of that species; the petals are pure white and the lip white and bright blood red, the combination and blending of the colours being most charming.

The display of flowers in this Orchid show-house is made up of a good assortment of fine varieties of Odontoglossum Alexandræ, O. Pescatorei, O. Wallisii, O. Krameri, O. Rossii majus, O. grande, O. bictoniense splendens, O. Uro Skinneri, Masdevallia Chelsoni, M. Tovarense, M. Trochilus, M. Veitchii, Cypripedium Schlimii, C. Sedeni, C. Roezlii, C. insigne punctatum-violaceum, C. insigne Chantinii, and many other Cypripediums; many Calanthe Veitchii and C. vestita, Oncidium prætextum, O. Forbesii, O. varicosum, the rare O. cruciatum, O. cucullatum, many spiked plants of Lælia autumnalis atrorubens, and L. anceps; strong plants of Sophronitis grandiflora, one with three flowers on a spike; Maxillaria Gautierii, Dendrobium heterocarpum, large plants of Vanda cœrulea, Lycastes, &c., the fountain being tastefully arranged with slender-stemmed Oncidiums.

Showing in the warm-house are Vanda Lowii, many plants of Cypripedium Spicerianum, C. Dayanum, C. Haynaldianum, Galeandra Devoniana, Phalænopsis rosea, P. amabilis, P. violacea, Saccolabium Harrisonianum, which is very sweet, Dendrobium bigibbum, and D. Dearei. These look well arranged as they are among the handsome leaves and scarlet spathes of Anthurium Andreanum. The fine plants of Phalænopsis look particularly well, and Mr. Measures seems to enter on his Orchid-growing career with confidence and a certainty of success.

ORCHID NOTES.

Lycaste Skinneri is in every sense of the word an amateur's plant. Anyone possessing a greenhouse or a brick pit can scarcely fail to succeed with it, for as regards cultivation no plant is more easily grown. Clean pots and clean crocks, a nice sweet open compost, consisting of fibrous peat, sphagnum moss, cow manure baked on a flue previous to using it, with a sprinkling of charcoal, will suit them to perfection, and they must have plenty of water during growth. I remember when I was gardener at Timberhurst, Bury, Lancashire, my employer, Thomas Wrigley, Esq., bought two dozen plants of Lycaste Skinneri, at Stevens' Rooms, and having no Orchid-house proper, I was obliged to grow them in a Peach-house. Elevated on pots under the Peach trees, they soon started into growth, and by the end of the summer made fine fat bulbs. I removed them to a vinery, and during the winter was rewarded with numerous flowers from each newly-made bulb. I write this merely to show what really can be done without the aid of an Orchid-house. — *W. Driver, Longfords, Minchinhampton.*

Cypripedium Sedeni.—Whatever other qualifications this Orchid may possess, its free-blooming habit will always render it a valuable plant to grow for cut flowers. A number of plants have bloomed with us since last July, and are still giving supplies for cutting. Few plants stand better than Cypripediums in rooms, when their pots are crammed full of roots at the flowering period, and they are not allowed to suffer from stagnation or drought. They last a long time in flower. I have seen plants of the old C. insigne stand on the tables and mantelpieces of a drawing-room for six weeks at a time, season after season, and not show any visible signs of distress.—*M. T.*

Vanda lamellata Boxallii.—This by no means too common Orchid is now in flower wherever grown, or fast approaching that stage. It requires a position in the East Indian house, where it is sure to do well, and annually reward the cultivator for his trouble. As far as my experience goes, I find it equally as floriferous as the older, V. lamellata, which was never thought much of on account of its rather dingy-looking flowers; that cannot, however, be said concerning the subject of this note. Its free-growing disposition (though not by any means so robust as V. suavis and its allied varieties), coupled with its free-flowering propensities, is much to recommend it to most growers of the heat-loving section of Orchids. It does well grown in pots with crocks, and surfaced with living Sphagnum. I have a plant in a 6-in. pot, bearing two spikes, one having eighteen and the other nineteen flowers, and the plant is only about a foot in height. The sepals and petals are nearly white, with the exception of the lower half of the bottom petals, which is brown, and the lip is purple. The white portion, however, changes with age to a creamy colour, and the flower is pleasantly fragrant. The flowers last six or eight weeks in good condition, which is an additional feature in its favour, and are rather loosely set on the spike, to which they are connected by a foot stalk of from two to three inches in length, which renders them useful for button-hole flowers, for which purpose they are here much appreciated.—*E. Dumper, Summerville, Limerick.*

Spiders in Orchid-houses.—I should be very much obliged if any of your correspondents could tell me of some effectual means of destroying the common spider. My Orchid-houses are overrun by these pests, and hitherto they have successfully baffled our efforts to exterminate them; indeed, the smell of tobacco smoke seems especially to agree with their constitution, and it is hopeless to attempt their destruction by the simple but tedious process of killing them singly. —*Vanda.*

THE DADDY LONGLEGS.

Loss from Daddy Longlegs grub ranks amongst the four or five most important kinds of injuries to farm crops, as it occurs more or less every year. The grubs feed for several months just below the surface of the ground on almost all of the common field crops, although they are especially prevalent amongst such as have been put in after broken-up pasture or cloverley.

The large, tawny, exceedingly long-legged Daddy Longlegs fly, Tipula oleracea, is the kind best known; but there is a smaller sort, of a yellow colour spotted with black (the Tipula maculosa or spotted Daddy Longlegs), of which the grubs are quite as destructive, and several other kinds are also injurious.

The grubs of the two above-mentioned are much alike both in habits and appearance; they are wormlike in shape, that is, footless and cylindrical, but when extended are truncate at the tail and bluntly pointed at the head, which is furnished with small jaws, and can be drawn back into the body.

The greatest length is about an inch or a little

more, the colour variable from pale-earthy to deep slaty-grey, and I have seen specimens from peaty soils which were almost black.

Towards June and July (or when full grown) the grubs cease eating and turn to chrysalids, standing upright half out of the ground.

The eggs are small and black, like grains of gunpowder, and very numerous—up to as many as three hundred in one female; and it is towards autumn that the chief egg-laying takes place. Then, more or less, the flies swarm about damp shelters, such as rough grass, hedge-sides, marshy meadows, or the like; but they spread also over pasture or clover-ley, where there is suitable shelter for the eggs and food for the young grubs, and where, consequently (after seasons favourable to them), the grubs are to be found in the ground in thousands, and are ready in mild winters to begin their ravages in January or February.

Where young corn is infested, probably the best that can be done is to keep up its strength by the application of some fertilizer which will act well, *at once* in pushing on a good growth, and at the same time make the ground obnoxious to the grubs, and also difficult for them to pass through.

For these joint purposes a *mixture* of salt is good, for to a certain extent salt "firms" the surface; but it is not good alone, for it does not push on growth fast enough; therefore guano or other fertilizers are useful with it, and the following mixtures have answered in bringing crops well through bad attack:—Guano and salt mixed at about the rate of 4 cwt. per acre; also guano 1½ cwt., salt 2 cwt., kainit and superphosphate each 1 cwt. per acre.

Nitrate of soda would be likely to do good as being a rapid fertilizer, and so obnoxious to the grub. A mixture of nitrate of soda and salt has proved useful (after rolling with a Cambridge roller and harrowing) at the rate of 2 tons of salt and ½ ton of nitrate of soda to about 12 acres—that is, a little more than 3 cwt. of salt and a little less than 1 cwt. of the nitrate per acre. But in whatever form it may be applied, a good fertilizer, *if the weather will allow it to act*, is sure to be of some use.

Chemicals of a *simply destructive* sort, such as dilute carbolic acid, vitriol (sulphate of copper), &c., have been found quite to fail in killing the grub in the field, as their effect is weakened in passing through the earth.

Hand-picking has answered in very bad attacks, especially where field Cabbages are grown, or amongst Potatos. The worker stirs the grubs out with one hand by means of any convenient implement and throws them into some vessel carried in the other, and is paid so much the quart. Where the grubs lie in large numbers along drills they may easily be seen, and, though the work is tedious, it makes a sure clearance.

But what is really most wanted about Daddy Longlegs attack is prevention applied well beforehand. Where attack is regularly present, of course the well-known measures of draining damp meadows and rough mowing, &c., are useful; but as one of the head-quarters of serious attack is shown year by year to be from grubs in broken-up pasture and clover-ley, this point especially needs attention.

The female fly chooses spots where there will be shelter for the egg and food for the grub, and therefore brush-harrowing or feeding sheep on the land, or any treatment to stir up the surface or poison it for egg-laying, is useful before breaking up.

Any of the common chemical agricultural dressings to the land before breaking up which have been found to be of use against wireworm attack would probably serve as well in the present case. Such are—lime fresh from the kiln, applied hot; gas-lime at the rate of 2 cwt. per acre if fresh, or a larger amount if about six months from the works; salt at the rate of from 5 cwt. to 12 cwt. per acre; and also lime and salt mixed.

Salt applied to the lea ground before ploughing is found highly serviceable.

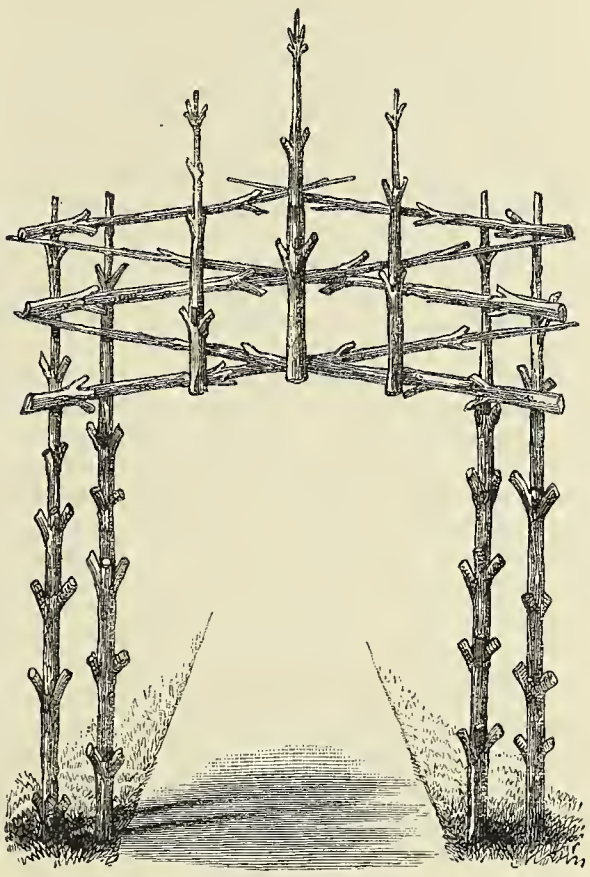
It does no harm to kill the surface herbage before ploughing in, and therefore a *heavy dressing* of salt which *will kill Couch-grass* would be of service; or caustic gas-lime which will first act as a clearer of plant and insect-vermin, and will presently turn, after exposure and mixture with the soil, to a manure of the nature of gypsum.

An eye should also be given to the condition of compost-heaps of rotten turf, or trimmings from ditch-sides, or of neglected manure-heaps which have been allowed to become weed-grown, as Daddy Longlegs grubs are often to be found in numbers in such localities, and carried thence on the land.

Thorough cultivation is very important, as the thriving crop will hold its way, where an unkindly growth would fail under attack without the help (and additional outlay) of fertilizing dressings.—*E. A. Ormerod, in The Agricultural Gazette.*

A RUSTIC ARCH.

Some of our readers may be glad of a hint on the construction of a rustic archway such as is afforded by the illustration below. The sketch represents one half of an easily-made, yet very effective, arch in Sir John Jones Jenkins' garden at The Grange, Swansea, the other half being identical in form, but about 2 ft. away from the first, the whole being clothed with climbers, and having a fine bold effect in the pleasure ground. The walk on either side is planted with Evergreens, Roses, and other plants, forming a neat



A RUSTIC ARCH.

setting for the arch, which is made of young Spruce Firs with the branches cut off. Mr. Linton, the gardener at The Grange, obligingly informs us that the width over all is about 10 ft.; and the height of the side-posts 12 ft. To the spring of the arch the height is 8 ft., and to the highest point 16 ft.

FLORICULTURE.

Auriculas in December.—I hope some of the readers of The Gardening World are cultivators of Auriculas in pots. They are so interesting in all stages of their growth, and so charming when in flower, that it is not to be wondered at, if those who cultivate them successfully are loud in their praises. As with many other flowers, so with the Auricula. Success with this fascinating subject is much a matter of knack, and by knack I mean a line of culture based upon experience. When a man takes up a certain flower, he may be said to get to so completely understand it and its requirements, that he anticipates its wants and necessary conditions; and then it seldom goes wrong with him. Hence it is that young cultivators of the Auricula (young in point of time) go astray in their cultural routine, and the plants suffer.

Experienced cultivators wisely recommend beginners to commence with sorts of little value, and as they succeed with these, attach to their collections sorts of higher merit and value. Not that it is to be assumed the more valuable varieties are more difficult to cultivate, as this does not hold good in all cases. When there is a demand for a valuable Auricula, it has to be propagated as much as possible, and this has a certain weakening effect, so that a young plant has to be managed with care until it has gained a sufficient amount of vigour. Now a beginner with Auriculas in pots might content himself at starting with a moderately-priced collection as follows:—

Green-edged: Anna (Trail), General Neil (Trail), Imperator (Litton), Lovely Ann (Oliver), New Green (Headly), and Rev. George Jeans (Trail).

Grey-edged: C. E. Brown (Headly), Colonel Champneys (Turner), General Bolivar (Smith), Richard Headly (Lightbody), Robert Trail (Lightbody), and Sophia (Chapman).

White-edge: Arabella (Headly), Beauty (Trail), Earl Grosvenor (Lee), Mrs. Campbell (Campbell), True Briton (Hepworth), and Smiling Beauty (Heap).

Selfs: Blackbird (Spalding), C. J. Perry (Turner), Lord of Lorne (Lightbody), Mrs. Smith (Smith), Pizarro (Campbell), Ruby (Read), and Topsy (Kay).

Then when desirous of adding to his collection, he should endeavour to obtain the following:—

Green-edged: Colonel Taylor (Leigh), Talisman (Simonite), Freedom (Booth), and Prince of Greens (Trail).

Grey-edged: Alexander Meiklejohn (Kay), Frank Simonite (Simonite), George Lightbody (Headly), Lancashire Hero (Lancashire), and Victor (Read).

White-edged: Acme (Read), Conservative (Douglas), Sylvia (Douglas), and John Simonite (Simonite).

Selfs: Ringdove (Horner), Mr. Douglas (Simonite), and Cymbeline (Mellor).

Now is a good time to obtain plants, and they would, of course, be delivered in pots. If obtained from some well-known grower, they would be nice young plants that should flower next spring. The season, right up to the present, has been so open and so drying that more water has had to be given to the plants than usual, and they have kept active until a much later period of the year. It is natural that at this season of the year the plants should become dormant—it is the resting period when the summer foliage dies away—leaving only a mere plump filbert-like centre of leaves. But they must not be neglected. They should be gone over occasionally, to remove decaying leaves, and to carefully stir the surface soil, and to see that none of the plants are suffering for want of water. But little water is necessary during November, December, and January, except that it be called for through the peculiar nature of the season above referred to.

I think it is a mistake to keep the plants too dry, and if I find one that is what is termed dust-dry, I make a practice of immersing it in a pail of water up to the rim of the pot, keeping it there until the ball of soil and roots are thoroughly saturated, and then returning it to the house or frame after it has drained thoroughly. Some growers say, give only sufficient water to keep the leaves from shrivelling, but it is obvious, when the result comes about, the points of the roots must shrivel in common with the leaves, and harmful results must follow. During the time air can be given to the plants with advantage, open the lights of the frames or the windows of the house, and let it pass through unchecked.

I may say of my own plants that they occupy a raised stage in a house having a north exposure, and therefore dry faster than they would in a low frame. When I give air, which is freely while the weather is mild, I open the house on the opposite side to that on which the wind is blowing. I allow it to blow freely upon the plants. Besides the little attention mentioned, all that remains to be done of an important character is to prepare a compost for top dressing in February, or as soon as the weather proves favourable for the purpose.

A compost for top dressing should be rich, and it is a good plan to enrich an ordinary potting compost by adding to it some well decomposed sheep or cow manure; mixing it together before it is to be used, so that it may be at hand when wanted.—*R. D.*

New French Roses.—M. Jean Sisley has contributed the following list of new French Roses, which will be put into commerce this autumn, to the American *Gardeners' Monthly* :—

Tea Annette Murat (Levet). Lemon yellow, free bloomer, fine.

Tea Alexandrine Bruel (Levet). Very pure white, fine shape.

Tea Charles Legrady (Pernet Fils). Very fine shape, nearly full, light crimson or dark pink.

Tea Souvenir de Gabrielle Drevet (Guillot). Large, full. white, shaded light salmon, center rose.

Bengale Madame Jean Sisley (Dubreuil). Medium size, full, fine shape, pure white, very free bloomer, fine for forcing,

H. Bourbon Mlle. Berger (Pernet). Medium size, full, light rose.

Hybrid Perpetual Baronne Nathaniel de Rothschild (Pernet). Very large, globular, nearly full; fine tender rose.

Hybrid Perpetual Admiral Courbet (Dubreuil). Fine shape, full, pinkish crimson, fine scent.

Hybrid Perpetual Madame D. Wettstein (Levet). Cherry red, very free bloomer, good shape.

Hybrid Perpetual Docteur Dor (Liabaud). Very large, full, dark cherry red, shaded darker, scent of Teas.

Hybrid Perpetual Etendard de Lyon (Gonod). Large, fine shape, purplish crimson.

Hybrid Perpetual Madame Pitaval (Liabaud). Large, full, light cherry red.

Hybrid Perpetual Madame Stingue (Liabaud). Large, purplish red, fine.

Hybrid Perpetual Monsieur Hoste (Liabaud). Large, full velvety crimson.

Hybrid Perpetual Souvenir de Labruyere (Gonod). Fine shape, vivid rose, center darker, free bloomer.

Hybrid Perpetual Gloire Lyonnaise (Guillot). Large, full, fine shape, vivid creamy white, center yellowish, fine scent, very free bloomer.

Best New Roses of 1883.—Teas—Baronne de Sinety, Clothilde Soupert, Edouard Gautier, Madame de Watteville, Souvenir de Rambaux.

Hybrid Perpetuals—Antoine Mermet, Alphonse Soupert, Eclair, Julie Gauloin, Joseph Metral, Louise Crétien, Louise Aunier, Madame Dellevaux, Souvenir de Leon Gambetta.

Dwarf Perpetuals—Polyantha Perle d'Or, Anna Benary.

Best New Roses of 1882.—Teas—Honorable Edith Gifford, Jeanne Abel, l'Elègante, Madame Eugene Verdier, Souvenir de Therese Levet.

Hybrid Perpetuals—Adelaide de Meynot, Alexandre Dupont. Baron Nathaniel de Rothschild, Centenario de Camois, Fanny Giron, Marie Digat, Marie Lagrange, Madame Eugene Labruyere, Madame Rochat.

Hybrid Bourbon Malmaison rouge.

Best New Roses of 1881.—Teas—Beauté de l'Europe, Etoile do Lyon, Madame Cusin.

Hybrid Bourbon Abbe Girardin.

Hybrid Perpetuals—Ernest Prime, Fortunie Besson, Francois Olin, Helene Paul, Marie Chauvet, Marie Bianchi, Ulrich Brunner, Violette Bowyer.

Dwarf Perpetual Polyanthus—Anne Marie de Montravel, Cecile Brunner, Mignonette, Paquerette.

Noisette Caroline Schmitt.

English Roses.—Hybrid Perpetuals—Lady Mary Fitzwilliam, Earl of Pembroke, Distinction, Heinrich Schultheis.

Tea Princess of Wales.

Hybrid Perpetuals—Michael Saunders, Beauty of Stapleford, Viscountess Falmouth, Duchess of Bedford, Duke of Albany.

SONERILA MARGARITACEA.

Our gardens contain at the present time a number of pretty little plants of the genus Sonerila, with variegated leaves and rose-coloured flowers. They exist under various names, but are very similar in general appearance; differing chiefly in the amount of variegation in the leaves. Cultivated, as they are, under a variety of names we are apt to lose sight of the fact that they are all varieties of the beautiful Sonerila margaritacea, a plant which created quite a sensation when exhibited before the Royal Horticultural Society, on November 7th, 1854, by Messrs. Veitch & Sons. It was first described by Dr. Lindley, in *The Gardeners' Chronicle*, for 1854, p. 727, as a beautiful novelty, forming a compact branching tuft, 9 ins. to 12 ins. high, with polished crimson stems, deep rich green leaves with white oval spots, and bright rose-coloured flowers on crimson stalks; the leaves looking as if sown with pearls. It was introduced by Mr. Thomas Lobb, and said to be "from some part of India." It was also figured in *The Botanical Magazine*, t. 5104; in *Flore des Serres*, t. 1126; and in *The Illustration Horticole*, new series, t. 40; with the same habitat assigned. There seems, however, some doubt as to where it really came from, as it is not even mentioned in *The Flora of British India;* while in Triana's Monograph of the Melastomaceæ, in *The Transactions of the Linnean Society*, vol. 28, p. 76, the habitat is given as "Java?" Lobb collected in Java about this period, since which time we do not find that anyone has collected it, a very unlikely circumstance if it really grows in India.

It is however in our stoves, and not in India or Java, that the plant concerns us. It is easily propagated by cuttings, or by seeds, and grows freely in a light open compost. The habit is dwarf and compact, and the fine foliage is very happily combined with very pretty flowers. The latter are very freely produced, and the yellow anthers form a very pretty contrast to the gay rose-coloured petals. The leaves in the wild form are deep rich green, with oval-shaped white spots or blotches regularly distributed between the principal veins; the name margaritacea being extremely well chosen and expressive. So much for the wild species, and we now come to

"The art which does mend nature."

Twenty years after its introduction evidence was forthcoming that horticulturists were at work upon this plant, for we find that at a meeting of the Royal Horticultural Society, in November, 1874, Messrs. E. G. Henderson & Son, of St. John's Wood Nurseries, were awarded first-class certificates for Sonerila Hendersoni and S. Hendersoni argentea. These two plants were soon after figured at t. 230 of *The Illustration Horticole*. At t. 897 of Regel's *Gartenflora*, Hendersoni was again figured and in its true position as a variety of S. margaritacea, from which it differs in the more numerous silvery blotches between the network of olive-green veins. The variety argentea is more freely though not entirely covered with silvery-grey. This was the beginning of a number of beautiful varieties, and we find the following figured in *The Illustration Horticole*:—S. Mamei (t. 254): leaves very deep green, sparingly blotched with silvery-white. S. Madame Ed. Otlet (t. 256): leaves suffused with silvery-grey, except the green veins. S. Madame Victor Alesch (t. 259): leaves irregularly and copiously blotched with grey. S. Alp. Van de Sande (t. 279); leaves copiously blotched with grey, the blotches often suffused.

Finally, at t. 462 we find a large plate with the following six varieties:—No. 1. Comtesse de Flandre: leaves very dark green with few irregular blotches, very similar to Mamei. No. 2. Madame Alfred Mame: leaves evenly suffused with silvery-grey, except the narrow green veins. No. 3. Madame Charles Heine: similar to the last, but with a green margin and not quite evenly suffused with grey. No. 4. Madame Legrelle: leaves dark green, the blotches not numerous but somewhat suffused. No. 5. Madame Secretan: leaves very dark green, with crimson margins and few blotches. No. 6. Princesse Mathilde: leaves evenly suffused with a pale silvery-green, very similar to Hendersoni argentea. There are several other named varieties in cultivation, but the chief differences between the whole of them is in the arrangement of the leaf-colouration.—*X*.

THE ROCK-GARDEN.

In the forthcoming number of *The Transactions of the Botanical Society of Edinburgh*, Mr. Boyd, of Faldonside, a Scottish veteran in rock-gardening, gives the result of many years' experience. The paper will be highly prized by workers in this special branch of horticulture. Meanwhile, here are some hints from it which may interest beginners:—

In the rockery at Faldonside a series of beds are raised from 2 ft. to 3 ft. high, from 6 ft. to 12 ft. across; and I have kept the soil in every division level, so that in watering the plant may get the full benefit and none run off—an essential precaution where rare Alpine plants are to be grown, otherwise, if planted on a slope, they soon die of drought. The natural soil in my garden is a damp, heavyish clay, consequently quite unsuited for the cultivation of Alpine plants. But, as I have had large quantities of leaf-mould collected, I have used this along with a mixture of coarse, sharp sand, with a small quantity of loam, in the formation of my rockery beds. This I find answers well for most plants, but there are a considerable number which require special treatment; some want more drainage, others less; some require a mixture of lime rubbish, and others, again, a little peat and loam. There are also several classes of plants which, by their habit of growth are well suited for association with others in the Alpine garden, that require soil wholly of one kind, such as peat-loving plants and plants found growing on the chalk downs. These do not care for the same mixture, as previously described. The peat-loving plants, of which many of the dwarf American plants may be quoted as examples, require only fibrous peat, mixed with a little sharp sand, for their healthy growth, and the chalk plants require nothing but chalky soil, in which they luxuriate, and neither of these classes will grow well or long in any other soil. Many of our rarest Orchises are confined to the chalky downs of England, and they are usually found to be difficult plants to manage in cultivation; but if they are carefully planted in soil suited to them they can be managed with considerable success. The excessive moisture during winter in this northern climate is the principal cause of failures in growing these plants. But a good depth of chalky soil, which is of a porous nature, with good drainage underneath will prevent this.

The peat beds should always be placed at the lower part of the rock-garden, and be well drained. The chalk beds, on the contrary, should be placed on the higher portions, so that they may be kept as dry as possible during the winter: and during the summer, when the plants are growing, artificial watering can be applied when necessary.

I have used leaf-mould largely in the making of my rock beds because the natural soil in my garden is clay, but where the natural soil is of a lighter nature it is not necessary to use such a large quantity of leaf-mould, as the natural loam from an old pasture, well rotted down, when mixed with a small proportion of leaf-mould and sand will answer well for the growth of most rock plants.

It is well for an amateur, in commencing the culture of rock plants, to confine his attention for some time to those plants that will thrive in such a mixture as has been mentioned, and afterwards, when they have been thoroughly mastered, he can commence cautiously with those that require more special treatment.

Management of the Rockery.—In the summer management of the rockery, the principal matter is watering in dry weather. Those plants which are accustomed on their native hills to a large amount of moisture, supplied principally from the melting snow, during all the summer months must be supplied by artificial means. Great care should be taken by the cultivator to see that this is done thoroughly. A slight sprinkling of water during summer does really more harm than good, as the roots during dry weather are always on the search for moisture, and if they cannot get this at the level of their roots they naturally turn upwards to get the benefit of the water applied near the surface, where they suffer more from drought, if water be not applied regularly, than they would do when their roots are in their natural position. Give always as much water as will saturate the soil quite down to the roots, and this does not require to be done so frequently. If watering is neglected in dry weather no real Alpine plants can be expected to thrive long.

This matter of watering in dry weather, taken in connection with the proper making of the rockery, so as to secure good drainage, constitute essentially the whole matter in the growing of Alpine plants successfully. We now come to the best method of planting. One good rule—and it should be carefully attended to—is, never plant strong-growing and spreading plants in the same bed with small, rare, and delicate species, as the one is sure to outgrow and choke the others. Nothing kills an Alpine plant so soon as being shaded or overgrown by its next neighbour. I thus generally devote one section of the rock-work entirely to the cultivation of very small growing plants. The edges, however, of these beds may be planted with dense-growing or overhanging plants, such as Saxifraga oppositifolia, Silene acaulis, Hypericum reptans, or plants of a similar habit, so that they may hang down to the walks, and cover partially the stones supporting the outside edge of the bed, care being taken not to let them encroach into the divisions where the smaller plants are growing. Alpine plants on their native mountains are free from this danger, as no very strong-growing species occur at the great elevation where the true Alpine plants are found.

Some particular plants like shade, such as the Cyclamens, Primulas, &c., and should be planted on the parts suitable for them; others, again, like to

grow in the full sun, such as the Gentians, Androsaces, &c., these, again, should be suited according to their requirements.

Spring Plants.—The largest of the Snowdrops flowered is a variety of Galanthus nivalis, called Melvillei, raised from seed by Mr. Melville, Dunrobin; whilst the finest is G. Elwesii, which has much darker green markings inside the flower than the former. G. plicatus, the Crimean Snowdrop, with its broad reflexed leaves, is also worthy of a place.

Spring Crocuses are also abundant. The finest I have are Crocus Imperati and C. Seiberi, both easily grown and free-flowering plants. Iris reticulata is a lovely spring plant, along with its variety I. Krelagei, which flowers a fortnight earlier than the type. They are both desirable plants, and easily grown in light soil. Scillas are very showy, from the bright blue colour of the flowers. And the Chionodoxa, recently introduced by Mr. Maw, are even more so when well-established. Their blue flowers are larger and more saucer-shaped than those of the Scillas. Grape Hyacinths are also showy; there are many sorts of them, and all should find a place on the rockery. I use all these small flowering bulbs for putting into the corners and crevices of the rockwork, as they do not interfere with the plant in its own division, and they look gay, and set off the rockery at a time when flowers of any kind are much appreciated.—*Forestry.*

WHAT CONSTITUTES AN AMATEUR?

The present unhappy dispute between some of the members and exhibitors of the National Carnation and Picotee Society (Southern Section) as to what constitutes an amateur raises an important matter for discussion. Mr. E. S. Dodwell, of Oxford, claims to be an amateur cultivator of Carnations and Picotees, and has been regarded so for thirty years past, exhibiting as such at all leading exhibitions of his favourite flowers when able to do so. But Mr. Dodwell is also a raiser of new varieties of Carnations and Picotees, and has, during the last few years, produced a large number of fine varieties. Instead of selling the stock of his new varieties to a nurseryman, as is generally the case, he prefers to send them out himself, and publishes a circular in which he sets forth descriptions of his new varieties, and the prices he asks for them. In this list Mr. Dodwell quotes nothing but his own seedlings, and he distinctly states that "he distributes only the *surplus growth* of a culture which *has been*, and will remain to the end, the recreation of his life." Because he does this, it is held that he cannot any longer be allowed to exhibit as an amateur at a meeting of the National Carnation Society.

Now it is by no means an uncommon occurrence for amateur cultivators of special flowers to sell their surplus stock, and they do it privately to one or more persons. Some, who can claim to be amateurs in the ordinary acceptation of the term, such as Mr. Samuel Barlow, of Stake Hill, Manchester, have advertised their surplus stock. Mr. Barlow has done it in the case of Tulips, and several gardeners, who have raised new fruits and vegetables, prefer to send them out themselves, and do actually issue printed priced descriptions of their novelties, and yet they would be permitted to show at any exhibition open to gentlemen's gardeners and private growers. It is easy to set up a hard and fast line, but very difficult to maintain it, and those that so persistently set forth that Mr. Dodwell is a trader in the ordinary acceptation of the term, take up an indefensible position.

It is said that Mr. Dodwell's name appears in the *Horticultural Directory* as a trader, but that proves nothing unless it was done at Mr. Dodwell's personal request, which we may much doubt. If it is the deliberate desire of Mr. Dodwell that he should be recognized among the trading florists that settles the matter, but we have no evidence that it is so, and it is more than probable that Mr. Dodwell is greatly surprised to find his name in such a list. The amateur question cannot be settled so readily off-hand as some suppose. It is a large and intricate question, becoming more and more difficult to solve every day.

It is a matter also for generous and liberal construction, and we are afraid that, in so far as it is related to Mr. Dodwell, strong private feelings have come into play, and when this is so, a defensible, impartial and judicial decision is made difficult of attainment. Private growers trade largely nowadays, and the definition of an amateur, in order to be a satisfactory one, needs to be defined differently to what has already been understood by it, and in the light of a larger knowledge and more generous inclusion.—*R. W.*

HORTICULTURAL SOCIETIES.

The National Chrysanthemum Society.—The annual dinner of this Society was held on Tuesday evening, at the Old Four Swans, Bishopsgate, E. Sanderson, Esq., the President, in the chair, about seventy members being present. The toast of the "National Chrysanthemum Society" was proposed by the President in his usual genial way, making special reference to the increased attention now paid to the Chrysanthemum throughout the kingdom, and nowhere better evidenced than by the increased amount of support that had been accorded this Society during the last twelve months. The usual toasts to the officers of the Society were given with much enthusiasm, and the evening was enlivened by several well-executed musical selections.

Several very interesting facts were elicited in the course of the various speeches; for instance, the Secretary, Mr. W. Holmes, stated that no less than 3,734 blooms were entered for competition at the late Show at the Royal Aquarium; that the number of members during the past twelve months had increased from 143 to 257 at the present time, and that no less a sum than £199 1*s.* had been paid in prizes to the successful exhibitors that evening. Special reference was also made to the important work done by the Floral Committee during the late Chrysanthemum season, and it was also stated that the next and last meeting of this Committee, for this year, would be held at the Old Four Swans, 84, Bishopsgate Street, on Thursday evening, December 11th, at seven o'clock precisely. A very urgent appeal was also made for new subscribers, as it is only by this means that the increasing work of the Society can be carried into effect. An annual subscription of not less than five shillings entitles the subscriber to all the privileges of membership.

ANSWERS TO CORRESPONDENTS.

Glazing.—*A. B.*—We prefer the system now adopted by most of the market growers, of bedding the glass well in putty, but leaving none on the top. If well done, and the squares of glass are fastened down on the top with small brads, you will have a perfectly dry, sound roof, that will last for years longer than if glazed in the ordinary way, with putty on the top to keep the glass in its place.

Begonias.—*B. K.*—Your tuberous Begonias should be stored away on a shelf in a cool house until spring, or if more convenient, they may be turned out of their pots and kept in sand or fine soil.

Sparmannia africana.—*Norman.*—Your plant is Sparmannia africana, a very fine thing for winter flowering. It is not unusual for plants to have twenty or thirty heads of bloom like yours, but of course they must have age and cultnre.

Names of Plants.—*A. C.*—1. Tabernæmontana coronaria fl. pl. 2. Clematis indivisa.—*Mabel.*—1. Asplenium Adiantum-nigrum. 2. A. lanceolatum. 3. A. marinum.—*J. J.*—Oncidium pubes, certainly not O. sarcodes.—*F. Rawson.*—1. Paullinia thalictrifolia. 2. Reidia glaucescens. 3. Graptophyllum pictum. 4. Pothos argyrea. 5. Begonia sp.—*H. J.*—Diosma capitata.—*A. F.*—Euphorbia jacquiniæflora.

Heating.—*J. H.*—The arrangement you propose for the cool vinery should do well enough, and you can connect the return to one of the other returns, but it should be at least 3 ins. from such junction into the boiler. The flow connection on the boiler should be 4 ins., with reducing piece into the three-way outlet, or from 4-in. outlet reduce into 2-in. mains. Put a valve on the return pipe from the vinery. It would certainly be better to have a return on each side of the boiler, instead of both on one side.

Insects.—*S. W. V.*—You can get rid of the ants by sprinkling some diluted carbolic acid in their runs. You should bait the cockroaches for a few nights with bread and butter, and when you see they eat it spread some phosphorous paste on it.

Books.—*A Reader.*—Paxton's *Botanical Dictionary* is published by Bradbury, Agnew & Co., Bouverie Street, Fleet Street; and Johnson's *Gardener's Dictionary* by Bell & Sons, York Street, Covent Garden.

Communications Received.—J. L.—J. H.—W. H.—H. B.—J. B.—G. T. (next week).—T. W.—H. W. W.—C. W.—A. V. G.—T. C.—W. C.—W. T.—J. Knight—J. J. (many thanks).—E. M. S.

Trade Catalogues Received.

Thomas Laxton, Bedford.—Select Flowers and Vegetable Seeds, New Seedling Roses, and other novelties.

LONDON SEED TRADE.

December 3rd.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report that to-day's market exhibited no new feature. American Red Clover is quoted lower, but there is no change in values of English. White Clover, Alsike, and Trefoil are neglected, but sellers do not press, and values continue firm. Blue Peas and Bird Seed unchanged. Linseed is dearer.

COVENT GARDEN MARKET.

December 4th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Kent Filberts and Cobbs, per 100 lb.	60 0-62 6
— Nova Scotian, per barrel	10 0-13 6	Pine-apples, Eng., lb.	4 0- 6 0
— Extra samples	20 0-	Pears, French, p. doz.	1 6- 3 6
Grapes, per lb.	0 9- 3 0	St. Michaels	7 0-15 0

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	0 4-	Horse Radish, bundle	3 0- 4 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	1 6-
Brussels Sprouts, ½ sve.	2 6- 3 0	— Cos, each	0 2-
Cabbages, per dozen	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	2 6- 3 6
Cauliflowers, English, per dozen	3 0- 4 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 0 8	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	0 6- 1 0
		Turnips, per bunch	0 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Pelargoniums, per 12 sprays	1 0- 2 0
Azalea, 12 sprays	1 0- 1 6	—scarlet, per 12 sprays	0 6- 1 0
Bourvardias, per bun.	0 9- 1 0	Pinks, various, 12 bunches	-
Camellias, 12 blooms	2 0- 6 0	Primula, double bun.	1 0- 1 6
Carnations, 12 blooms	1 0- 2 0	Pyrethrum, 12 bun.	-
Chrysanthemums, 12 bunches	2 0- 6 0	Roses, outdoor, 12 bunches	-
— large, 12 blooms	0 6- 2 0	Roses, indoors, p. doz.	2 0- 6 0
Eucharis, per dozen	4 0- 6 0	Roses (French), per doz.	0 9- 1 6
Gardenias, 12 blms.	9 0-18 0	Stephanotis, 12 spr.	-
Heliotropes, 12 sprays	0 6- 1 0	Tuberoses, per dozen	1 0- 1 6
Lapageria, white, 12 blooms	2 0- 3 0	White Jasmine, bun.	0 6- 1 0
Lapageria, red, 12 blms.	1 0- 2 0		
Marguerites, 12 bun.	4 0- 9 0		

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ferns, in var., dozen	4 0-18 0
Begonias, per dozen	4 0-12 0	Ficus elastica, each	1 6- 7 0
Bouvardias, dozen	9 0-18 0	Foliage Plants, various, each	2 0-10 0
Chrysanth., dozen	4 0- 6 0	Lilium, various, p. doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyperus, per dozen	3 0- 9 0	Palms in variety, each	2 6-21 0
Dracæna term., doz.	30 0-60 0	Pelargoniums, scarlet per dozen	2 0- 6 0
— viridis, per dozen	12 0-24 0	Petunias, per dozen	-
Evergreens, in var., per dozen	6 0-24 0	Solanums, dozen	9 0-15 0

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"Haud desinam donec perfecero."

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" " SYPHONS	2s. 0d.	3s. 0d.	4s. 0d.	each.
" " TEES	2s. 0d.	3s. 0d.	4s. 0d.	each.

DISCOUNT FOR CASH TO THE TRADE.

FAWKES'
Slow-Combustion Boiler.

Most efficient and cheapest Heating Apparatus in existence.

The only hot-water apparatus on true slow-combustion principles manufactured; will burn house cinders; costs nothing for fuel; will last all night; is a tenant's fixture.

No. 1 will heat 55 ft. 4-inch pipe, 50s.
No. 2 will heat 110 ft. 4-inch pipe, 75s.

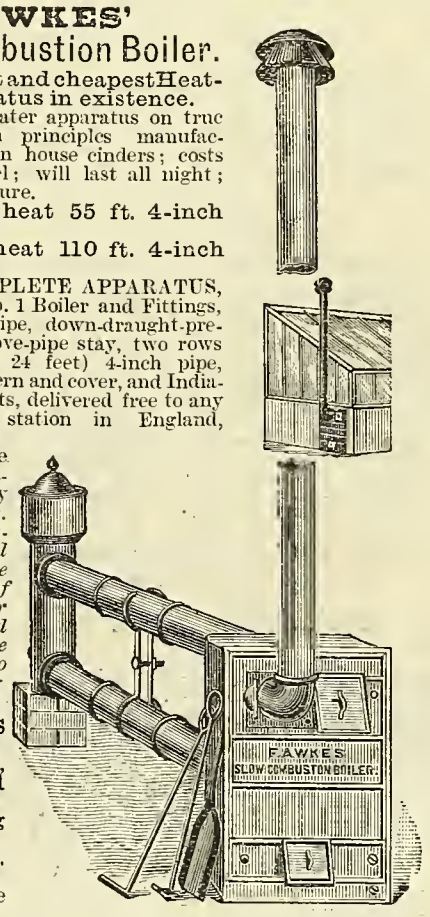
Price of COMPLETE APPARATUS, consisting of No. 1 Boiler and Fittings, 8-feet smoke pipe, down-draught-prevention cap, stove-pipe stay, two rows (equivalent to 24 feet) 4-inch pipe, syphon feed cistern and cover, and India-rubber ring joints, delivered free to any goods railway station in England, £4 12s. 6d.

This is a more complete apparatus than given by any other maker.

New Illustrated revised and reduced Price List, also price of Apparatus for heating any sized house, post free on application to

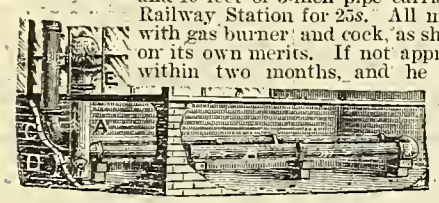
CROMPTON AND FAWKES (late T. H. P. Dennis & Co.), **Horticultural Builders and Heating Engineers,** CHELMSFORD.

London Office:— Mansion House Buildings.



STOVES.

Many attempts having been made to produce a good stove for greenhouses, &c., A. H. SMITH will send you a No. 1 stove and 10 feet of 3-inch pipe carriage paid to any Railway Station for 25s. All made of fire-clay, with gas burner and cock, as shown in drawing on its own merits. If not approved of, return within two months, and he will return the money in full. Further particulars can be obtained on application to the Patentee.



A. H. SMITH, Victoria Street, Clifton.

Watson's Boiler.

THE BEST of all Boilers for Amateurs is WATSON'S GUINEA SUSPENSION BOILER, most Economical, Effective, Substantial, and easily managed, from 21s. each.—Apply for Prospectus, enclosing stamp, to J. WATSON, Patentee, The Nurseries, St. Albans.

Directions for Setting, with Prospectus, any size, to heat from 40 to 2,000 ft. of 4-in. Pipe.

THE CELEBRATED

IS unrivalled for Gardeners', Foresters', Farmers', Joiners', and Amateurs' use. It requires no oil. Sharpen with a spittle or water. Puts on a keen sharp edge; no humbug about this. Cut in Hones for Axes, Hedge Knives, Razors, Penknives, and Plane Irons, &c. Honourable mention Paris Exhibition, 1878; and Bronze Medal London International Exhibition, 1884. Ask your ironmonger or other retail house to get you one, and give my address; if he won't, drop me a note.

JOHN C. MONTGOMERIE, Tam O'Shanter Stone Hone Works, Dalmore, Tarbolton Station R.S.O., Ayrshire.

RICHARD SMITH & CO., WORCESTER.

(ESTABLISHED 1804.)

BULBS Lovely Flowers in Winter and Spring for a trifle. Ready in Autumn.

ROSES (20 acres) Bushes, 8s. per doz., 60s. per 100; Standards, 15s. per doz., 105s. per 100. Packing and Carriage free for Cash with Order.

FRUITS (74 acres) Best Varieties of every form and kind of tree at low prices.

SHRUBS, &c. (91 acres) CONIFERS, AVENUE TREES, FLOWERING PLANTS (8s. per doz., 50s. per 100), FOREST TREES.

ROSES IN POTS (80,000) for Conservatory, Forcing, &c., 15s. to 36s. per dozen.

ALPINE and Herbaceous Plants 4s. per doz., 25s. per 100 (R. S. & Co.'s Selection).

STRAWBERRIES Planting 4s. per 100, Forcing 16s. to 25s. per 100.

VINES THOUSANDS OF GRAND CANES, 3s. 6d. to 10s. 6d. each.

CLEMATIS, White to Dark Purple, Single and Double, 12s. to 24s. per dozen.

THREE ACRES OF GLASS FOR STOVE AND GREENHOUSE PLANTS.

FAMOUS PLANTING AND FORCING ASPARAGUS AND SEAKALE.

VEGETABLE, FLOWER, AND FARM SEEDS.

DESCRIPTIVE LISTS, containing an immense amount of useful information, free on application.

ANTIMONIAL RED RUBBER GARDEN HOSE,

Last four times as long as ordinary white vulcanized hose, stands severe Government tests, thus proving superiority of quality; lighter in weight, greater in strength, and cheaper in the long run than any other hose for garden use. A correspondent writes:—"I have had a length of your Red Rubber Hose in use nine years, and it is now as good as ever." Beware of counterfeit red hose, and order direct. Samples and priced catalogue of hose, garden engines, and fittings free.

MERRYWEATHER & SON, 63, Long Acre, London, W.C.

STRAWBERRIES

ALL THE YEAR ROUND.

AN ESSAY ON THE

Cultivation of the Strawberry, in the Open-Air and Under Glass.

BY

WILLIAM HINDS.

PRICE ONE SHILLING.

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SAMPLES AND PRICE LISTS POST FREE.

CAMBRIC POCKET HANDKERCHIEFS.

Children's, 1/8 per dozen; Ladies'....2/11; Gents'.....3/11

Hemstitched, Ladies'..5/6; Gents'...7/3 per dozen

ALL PURE FLAX.

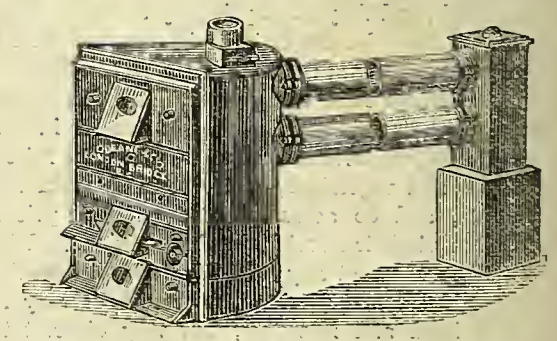
By Appointments to the Queen and Crown Princess of Germany.

"The Cambrics of Robinson and Cleaver have a world-wide fame."—*Queen.*

ROBINSON and CLEAVER, BELFAST.

THE

LOUGHBOROUGH GREENHOUSE Hot-Water Apparatus.



Price, as engraving, with Boiler, open feed syphon, 12 ft. of 4-inch hot-water pipe, and patent joints complete, £4 4s. Delivered free to any Station. Discount for cash.

This is the simplest, cheapest, and most powerful apparatus made. It requires no brick setting, no stokehole, and no hot-water fitter for fixing. The Boiler stands in the Greenhouse, the front only being outside and flush with the outer wall, so that the whole of the heat from the boiler itself is utilized. It burns over 12 hours without attention at a nominal cost.

"Loughborough" Boilers to heat up to 650 ft. of 4-in. pipe, with hot-water pipe, joints, &c., &c., always in stock.

COST OF APPARATUS FOR HOUSES OF ANY SIZE ON APPLICATION.

The measurement of Greenhouse being given, every apparatus is delivered with pipes cut and fitted ready for fixing.

Illustrated List, with full particulars, post free.

DEANE & CO.,

Horticultural Builders and Hot-Water Engineers.

46, KING WILLIAM STREET, } LONDON.

Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex. Saturday, December 6th, 1884.

THE GARDENING ILLUSTRATED WORLD

No. 15.—1884. SATURDAY, DECEMBER 13TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

COMTE BRAZZAS' NEW DOUBLE WHITE VIOLET, White Neapolitan, very large, pure white, sweetly-scented flowers. Without question the finest Violet in cultivation. For full description see new Catalogue of Roses, Trees, Shrubs, and Florists' Flowers, free on application to THOMAS S. WARE, Hale Farm Nursery, Tottenham, London.

PLANTS AND ROOTS FOR FORCING.—Azaleas indica, Ghent and Mollis, Lily of Valley, Spiræa and Dielytra, Lilacs, Rhododendrons and Kalmias, Laurestinus; Liliums and Bulbs in variety; Asparagus and Seakale; extra strong Vines, Roses (Teas and H. P.'s). Our stock of the above have all been specially prepared for early forcing, and are this year extra fine. Catalogues free on application.—IRELAND & THOMSON, Edinburgh. Nurseries: Craigleith. Comly Bank, and New Golden Acre, Granton Road. Seed Warehouses: 20, Waterloo Place.

NEW YELLOW CARNATION.—"Pride of Penshurst." A marvellously free-bloomer and vigorous grower; perfectly hardy, forces well. Plants ready about October, price 5*s.* a pair. Cash with order. Trade price on application.—F. BRIDGER, Penshurst Place, Penshurst.

ROSES.—Dwarfs on Manetti, 5*s.* doz. Pyramid Apples and Pears, 6*s.* doz. Specimen Yews, 50*s.* 100. Larch, 20*s.* 1,000.—T. J. CAPARN, Winthorpe Road, Newark-on-Trent.

LOUISA ASHBURTON, PERPETUAL FLOWERING CARNATION. Thousands of flowers and buds now to be seen at our Nursery. The best Carnation ever sent out for supply of sweet-scented white flowers, summer and winter. See *Gardeners' Chronicle*, p. 500, October 18th. Plants 3*s.* 6*d.* each.
THE GOVERNOR, 18*s.* per dozen. GLOIRE DE NANCY, 9*s.* per dozen, good white. Usual Discount to the Trade.
CROSS AND STEER, Salisbury.

RASPBERRY CANES.—An immense quantity of the choicest Carters' Prolific and Fastolf for disposal.
The Advertiser being the most extensive cultivator of Raspberries in England, special care will be taken to select Canes most suitable for a vigorous growth and an early fruiting.
Lowest cash terms on application to
R. BATH, Crayford, Kent.

FOR INTERMIXING WITH OTHER DWARF SHRUBS, for forming beds by themselves, for house decoration, for open situations in the rockery, &c., the new, hardy, fine-fruiting varieties of PERNETTYA MUCRONATA, with berries of various colours, raised by L. T. DAVIS, Ogle's Grove Nursery, Hillsborough, Co. Down, are unequalled for [illegible] effect. Descriptive List will be sent on application, Carriage free to Belfast, and extra plants for long carriage.

TRAINED IN-DOOR PEACH-TREES FOR SALE.—Several Early Waterloo and Early Beatrice, &c., young trees; one large Early Beatrice, and one Downton Nectarine, all well ripened and healthy; also some large trained Cherry-trees, May Duke, Governor Wood, &c.—Full particulars on application to W. H. DIVERS, Ketton Hall, Stamford.

ROSES.—ROSES.—ROSES.—Forty choice Perpetuals sent on receipt of remittance for 21*s.*; purchaser's selection from 300 best varieties. List of names on application. Twenty choice Standards, or Half-standards, 21*s.*—JAS. WALTERS, Mount Radford Nursery, Exeter, Devon.

GEO. DAWSON, Horticultural Builder, Heating Engineer, &c., Whitington Works, Highgate Hill, London, N., has a large Stock of GREENHOUSES of every description to select from; also all sizes Made to Order. All kinds of Hot-Water Heating Apparatus kept in Stock. Experienced workmen sent to all parts of the kingdom. Catalogues free on application.

GREENHOUSES, CONSERVATORIES, &c., heated on most approved principles, and Repairs to Hot-Water Pipes, Gas Stoves, &c., promptly attended to, in Town or Country, at reasonable charges.—WILLIAM HOWE, Grayshott Road, Clapham Junction, S.W.

Laing's Begonia Seed.

JOHN LAING & Co.
GOLD MEDAL STRAIN from our Prize Plants. New crop now harvested. Sealed packets.
CHOICE MIXED, from single varieties, 1/- and 2/6 per packet; 5/- extra large packets; double varieties, 2/6 and 5/- per packet.
COLLECTIONS, 12 named varieties, separate, 7/6
" 6 named varieties, separate, 4/-
Begonia Growers, Forest Hill, S.E.

Scotch Florists' Flowers.

R. B. LAIRD & SONS (Successors to Downie & Laird) are now sending out strong plants from their unrivalled collection of PANSIES, VIOLAS, PENTSTEMONS, PHLOXES, CARNATIONS, DELPHINIUMS, &c., &c. Descriptive Priced Catalogue may be had free on application.

Seeds saved with great care of all the choicest kinds.—See Seed Catalogue.
ROYAL WINTER GARDEN, EDINBURGH.

Choice Vegetable and Melon Seeds.

R. GILBERT'S PRODUCTIONS are all stamped with the Hall-mark of Superiority, commonly called
FIRST-CLASS CERTIFICATES.
Chou de Burghley, 1*s.* 6*d.* per packet; Universal Savoy, 2*s.* 6*d.* per packet; Gilbert's Burghley Pet Melon, which does not canker, 3-year old seeds, 2*s.* 6*d.* per packet.—Trade supplied on liberal terms. Apply to R. GILBERT, High Park Gardens, Stamford. Stamps with order. Post free.

Chrysanthemums.

ROOTED CUTTINGS.—Why be at the trouble of striking your Cuttings now and run the risk of losing them, when you can have well-rooted Cuttings in February from a choice Collection of all the best varieties guaranteed true to name, FOR WHICH ORDERS ARE NOW BEING BOOKED. My selection, 2*s.* per doz. For purchasers' selection, see Catalogue, which gives full directions as to cultivation, and will be found the best guide for Amateurs.—Post free, four stamps, from W. E. BOYCE, F.R.H.S., 87, Yerbury Road, Holloway, London.

Fruit Trees by the 100, 1,000, 10,000, or 20,000.

HUGH LOW & CO. invite inspection by intending purchasers of their very large and unusually fine stock of APRICOTS, CHERRIES, DAMSONS, NECTARINES, PEACHES, PEARS, and PLUMS, growing at their Nursery, near Enfield, about five minutes' walk from the Bush Hill Park Station of the Great Eastern Railway. Also ROSES, Standards and Dwarfs, POT ROSES, GRAPE VINES, in large quantities. Thirty-three large houses and numerous ranges of pits filled with choice stock, largely winter and spring flowering.—Clapton Nursery, London, E.

Dahlia Tubers.

ALL THE BEST VARIETIES of the following sections:—SHOW, FANCY, and POMPONES, SINGLES; also CACTUS and SEMI-CACTUS VARIETIES. Special offer may be had upon application to THOMAS S. WARE, Hale Farm Nurseries, Tottenham, London.

VERY large importations from the Cape, California, the Caucasus, and the United States just to hand. For particulars see WARE'S New Offer of these and other NEW, RARE, and CHOICE BULBS. Gratis and post free on application, Hale Farm Nurseries, Tottenham, London.

Aquatics.

J. V. REES (late Robert Parker) has the finest Collection of above in the country, and can supply Hardy Herbaceous and Alpine Plants, in 100 showy varieties, from 50*s.* New CATALOGUE now ready.
Exotic Nursery, Tooting, Surrey, S.W.

Good and Cheap Insecticides.

TOBACCO PAPER and CLOTH (Roll).—Thoroughly reliable quality; low prices. Trade supplied.
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CARTER'S RASPBERRY CANES, 3*s.* per 100, or 25*s.* per 1000, strong and well rooted; plant now.—T. MAY, St. Paul's Cray, Kent.

The Best Hardy Plant Nursery.

PAUL & SON, THE OLD NURSERIES, CHESHUNT.
ROSES, in all ways;
FRUIT-TREES for Orchards and Garden Walls;
GOOSEBERRIES, CURRANTS and STRAWBERRIES;
TREES; SHRUBS; EVERGREENS; CLIMBING PLANTS;
RHODODENDRONS and other AMERICAN PLANTS;
ALPINE, ROCK and HOT-HOUSE PLANTS;
BULBS and SEEDS.
NURSERIES AT CHESHUNT STATION, G.E.R.
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" HIGH BEACH STATION, Chingford, G.E.R.
Carefully prepared, illustrated, and fully-priced descriptive Catalogue, post free.

JAMES BOYD & SONS, PAISLEY and LONDON, Horticultural Builders and Heating Engineers to Her Majesty the Queen, H.R.H. the Prince of Wales, H.R.H. the Duke of Connaught, H.R.H. the late Duke of Albany, H.M.'s Board of Works, London and Dublin, H.M.'s Colonial Department, the Royal Horticultural Society, the Royal Botanic Society, and the Royal Dublin Society. Gold Medal, Paris, 1878.—London Office, 48, Pall Mall, S.W. Illustrated Circulars post free. Complete Catalogue, 3*s.*

LOOK HERE. The produce of Dobbie's Select Seeds gained 10 First Prizes, 9 Seconds, and 3 Thirds at the Great International Flower Show, Dundee, 1884.
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GARDEN FRAMES AND LIGHTS, from 20*s.* GREENHOUSES, 10 ft. by 5 ft., from £6. FRAMES OR LIGHTS TO ORDER, any size or shape.—ALBERT HARRIS, Wavendon, Woburn, Beds.

SWEET-SCENTED PLANTS.—Six of the most delicious of all flowers for perfume are Stephanotis floribunda (fine variety), 1*s.* 6*d.* each; Gardenia florida, 1*s.* 6*d.*; Gardenia citriodora, 2*s.* 6*d.*; Pancratium fragrans, 2*s.* 6*d.*; P. speciosum, 2*s.* 6*d.*; Jasminum Maid of Orleans, 1*s.* The six fine strong plants for flower this winter for 10*s.* Packages gratis and Ferns extra to pay carriage.—JOHN H. LEY, Woodside Green, South Norwood, S.E.

6 MOST ELEGANT PALMS for 6*s.*—Three pairs of Cocos Weddelliana, Areca lutescens, Cocos plumosa; pretty plants in small pots; hamper gratis.—JOHN H. LEY, Woodside Green, S.E.

12 DRACÆNAS, 4-in. pots, 12*s.*—All finest and distinct sorts, just showing colour; in 5-in. pots, 1½ ft. to 2 ft. high, 21*s.* dozen. Packages gratis for cash with order.—J. H. LEY, Woodside Green, S.E.

12 HALF-HARDY FERNS, 6*s.*—Strong plants from cold pit of the new Lastrea aristata variegata, Cyrtomium lucidum, Tree Ferns, crested Scolopendriums, and a great variety of others; all distinct. Box gratis for cash and one Fern gratis.—JOHN H. LEY, Woodside Green, S.E.

6 DAVALLIAS, 5*s.*—Hare's-foot, Squirrel's-foot, D. Tyermanni, D. tenuifolia, D. immersa, D. Novæ-Zelandiæ. Box gratis, or by post for 6*d.* extra.—J. H. LEY, Woodside Green, S.E.

12 CROTONS, highly coloured, 12*s.*—Fine plants in 4-in. pots of the best sorts in cultivation; all distinct (any sort not required excluded). Double size, very handsome plants in 5-in. and 6-in. pots, for 21*s.* Packages gratis.—JOHN H. LEY, Woodside Green, S.E.

GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 oz. to the gallon of soft water, 4 to 16 oz. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots Dry and Soft on wet ground. Boxes—6*d.* and 1*s.*, from the trade. Wholesale from PRICE'S PATENT CANDLE CO. (Limited), LONDON.

BENNETT'S SAFETY LIGATURES for Rose and Fruit Trees, consisting of copper wire, and the part in contact with tree is covered with indiarubber. Price per doz.; No. 1, 11*d.*; No. 2, 1*s.*; No. 3, 1*s.* 2*d.* Of all Nurserymen, or of
W. E. BENNETT, Patentee, Condover, Shrewsbury.

PLEASE SEND PARTICULARS of any large or small Greenhouse for which Hot-water Apparatus is required. Ask for cash estimate, and save 15 to 20 per cent.—J. JONES & SONS, 42, Farringdon Street, London, E.C., late of 6, Bankside, S.E.

Laing's Rose Trees.

JOHN LAING & Co.
Roses for Removal in November.

	Per doz.
Standards, choicest and best sorts ...	18*s.* and 21*s.*
Half-Standards " " " ...	15*s.* " 18*s.*
Dwarfs " " " ...	9*s.* " 12*s.*

Our selection of above Perpetuals.
Vigorous growth, well-rooted, unequalled quality.
Rose Growers, Forest Hill, S.E.

SALES BY AUCTION.

DUTCH BULBS. MONDAY NEXT.

Final Sale.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on MONDAY next, December 15th, at half-past eleven precisely, their last consignment of DUTCH BULBS for this season, comprising thousands of first-class Hyacinths, Tulips, Crocus, Narcissus, and other roots from Holland. Lotted to suit large and small buyers. About 700 lots.

On view morning of Sale, and Catalogues had.

TUESDAY AND WEDNESDAY NEXT.

IMPORTANT SALE of the entire collection of COOL ESTABLISHED ORCHIDS formed by the late J. S. BOCKETT, Esq., of The Hall, Stamford Hill, N.

Without Reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from the Administratrix to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY and WEDNESDAY next, December 16th and 17th, at half-past twelve o'clock precisely, the entire collection of COOL ESTABLISHED ORCHIDS, probably the grandest lot, both in regard to varieties and to superior cultivation, that have been submitted to the hammer for some few years past. The collection comprises

2,500 ODONTOGLOSSUM ALEXANDRÆ,

in fine condition and containing many superb varieties. Also may be mentioned among other fine things:—

Trichopilia suavis alba	Odontoglossum blandum
Lælia anceps Dawsoni	,, Alexandræ fastuosum
Masdevallia, Harryana, Bull's blood variety	,, ,, guttatum
,, Chelsoni	,, ,, excellens
Cypripedium vexillarium	,, mulus, Bockett's variety, part of original plant
,, albo purpureum	,, fine hybrid
Dendrobium Falconori majus	,, Chestertoni
Cœlogyne Lemoineana, large plant	,, Andersonianum, fine plant
Epidendrum imperator	,, polyxanthum, fine plant
	,, hebraicum, &c.

Also the erections of Two Greenhouses, hot-water piping, a capital boiler.

The whole of the plants will be sold without reserve, and none will be disposed of previously.

On view morning of Sale. Catalogues may be had of Mr. Ebbage, the Head Gardener, and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.

THURSDAY NEXT.

15,000 Lilium auratum, Roses and Plants.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on THURSDAY next, December 18th, at half-past twelve o'clock precisely, 15,000 unusually fine and fresh Bulbs of LILIUM AURATUM, and two cases of special LILIES, just received from Japan; 600 Standard and other ROSES of the best sorts from an English Nursery, in variety from Belgium; 2000 Double African TUBEROSES, received direct; 1000 fine Berlin CROWN LILY OF THE VALLEY; Milla biflora; extra fine imported Bulbs of LILIUM HUMBOLDTI, hardy English green LILIES, very large roots; and a variety of Bulbs and Plants for the Garden and Greenhouse.

On view morning of Sale, and Catalogues had.

FRIDAY NEXT.

Orchids from Rio.

MESSRS. PROTHEROE AND MORRIS will include in their SALE on FRIDAY Next, a very fine lot of Imported ORCHIDS in splendid condition, brought home by a Gentleman from Rio, comprising Oncidium sarcodes, O. concolor, Lælia pumila, Burlingtonia venusta, Oncidium Marshallianum, and Sophronites grandiflora.

On view morning of Sale, and Catalogues had.

Orchids in Flower.—Special Sale.

MESSRS. PROTHEROE AND MORRIS beg to announce that they have fixed their next SPECIAL SALE of ORCHIDS in Flower for TUESDAY, December 23rd.

It is believed there will be a good demand for them for Christmas, and Messrs. Protheroe and Morris will be glad to receive notices of entries as soon as possible.

MESSRS. PROTHEROE AND MORRIS'S SALES for NEXT WEEK:—

MONDAY, December 15th.—Final Sale of DUTCH BULBS at Protheroe & Morris's Rooms.

TUESDAY, December 16th.—Sale of CAMELLIAS, AZALEAS, ROSES, &c., at the City Auction Rooms, by Protheroe & Morris.

TUESDAY and WEDNESDAY, December 16th and 17th.—Sale of the late Mr. Bockett's Collection of Cool Established ORCHIDS, at Protheroe & Morris's Rooms. Two days.

THURSDAY, December 18th.—Sale of LILIUM AURATUM, PLANTS, and ROSES, at Protheroe & Morris's Rooms.

FRIDAY, December 19th.—Sale of Imported ORCHIDS, at Protheroe & Morris's Rooms.

To Cut Flower, Fruit Growers and Florists.

SURREY, 37 miles from London, and within easy distance of two important towns. To be LET on LEASE, a Compact and Well-established NURSERY, comprising 5 acres of Land, seven well-built greenhouses, detached Cottage, and Sheds. Lease, 19½ years. Rent only £50. The houses are fully stocked with good saleable plants, and to effect a speedy sale, the low price of £200 will be accepted for the Stock and Lease.

Apply to PROTHEROE & MORRIS, 67 and 68, Cheapside, E.C.

LOVELY LILIES AND IRIS.

WM. GORDON has still the finest Collection of these. Buy of the Importer. The three lovely Lilies, Lilium album Krætzeri, Lilium Melpomene, Lilium Brownii, for 5*s.* 6*d.*, six for 9*s.*, post free. Over thirty varieties of Japanese Iris, all Hybrids, in all hues and beautifully marked, perfectly hardy, the admiration last season of all who saw them. Six varieties for 9*s.*; twelve for 15*s.*; the thirty varieties for 30*s.* Lilium Humboltii, Lilium auratum, each 1*s.*, 1*s.* 6*d.*, 2*s.* 6*d.* These surprise all my customers. Specially imported Bulbs, 6*d.*, 9*d.*, 1*s.*, and 1*s.* 6*d.* each. Special terms to the trade.—WM. GORDON, Nurseries, Twickenham, Middlesex. See previous Advertisements.

ORCHIDS A SPECIALITY.

The stock at the Clapton Nursery is of such magnitude that, without seeing it, it is not easy to form an adequate conception of its unprecedeuted extent.

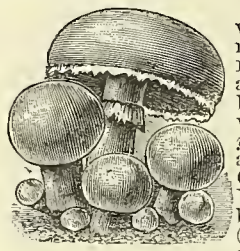
HUGH LOW & CO.

Very cordially and respectfully solicit an inspection by all lovers of this interesting and beautiful class of plants, whether purchasers or not.

CLAPTON NURSERY, LONDON, E.

CUTBUSH'S

MILLTRACK MUSHROOM SPAWN.



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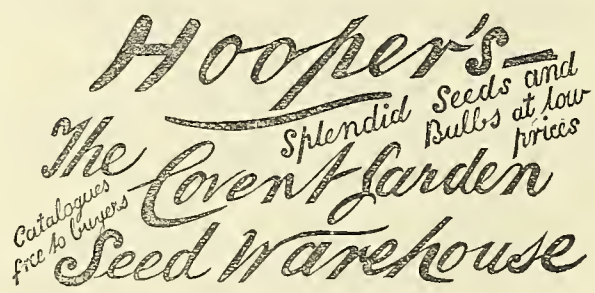

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'Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, DECEMBER 13TH, 1884.

Amateur Gardeners.—That prince of American humourists Max Adeler, indulges in a little quiet sarcasm in one of his publications at the expense of the Yankee amateur gardener, whose ignorance of the elements of gardening is so great, that he plants his Cabbages upside down, and sticks in poles for the Strawberry-runners to climb; to the astonishment and disgust of his professional help, who next morning discovers these evidences of amateur gardening lunacy. Without doubt, Adeler is right in his assertion, that with the true amateur fresh from city office, warehouse, or study, a little manual labour goes a long way. And that whilst a tickling of a yard or two of the earth's surface with a hoe may give pleasure, a regular burst at digging or other laborious employment, will be found to be anything but recreation or enjoyment.

There is much genuine garden love in the man who potters about amidst his frames and his flowers, but he does not work really heavily, simply amuses himself, and withdraws the moment he feels discomfort or fatigue. That is pure recreation, and if with it there is pure garden enthusiasm, happy indeed is the lot of the amateur. But the puffing, loud talking and professedly laborious amateur is generally a humbug. He is a boaster, but does little or nothing to earn the credit he assumes. Usually he is trading upon the reputation of some garden hack who does the actual work which the amateur tries to persuade credulous friends is the product of his exertions. An hour's real labour in digging, or wheeling, or watering, or mowing, would settle him for a week, and for the sake of the poor hack happily so. The boasting amateur will never make a gardener, he lacks the soul, the inner sense of the recreative gospel, without which no one, rich or poor, great or small, can ever hope to become a true follower of the grand old gardener.

We sympathize very much with Max Adeler's appreciation for a garden which gives a run for the children to romp and play in. The new fashion of apportioning a plot of grass to the worship of lawn tennis and the consecration of it with broad hideous chalk lines and nets and poles to that form of recreation was evidently, and happily, not known when the Hurly Burly was indited. We love him greatly for his plea for the children, for a plot not dedicated to Roses or Cabbages, Vines, or Potatos, where the little ones may romp and play without doing harm or sacrilegiously trespassing on the cultivated ground. If a garden be all plants and narrow gravel walks; if it lacks room to play in, to run in, or to have some form of physical amusement in, it is like a book that is cram full of Latinity or grammar and has not in all its pages one single illustration or picture wherewith to please and satisfy the longing craving for some little recreative oasis in this desert of priggishness and primness.

The paid labourer, whose quality of work means the quantity of his pay, must of necessity have about his life much of the drudge, though if he has soul he may after all get more real enjoyment from his garden than his amateur employer, who with all his wealth soon finds that pure gardening is an enjoyment which no wealth can purchase.

Hollyhocks and the Disease.—In common with the general apparent decline of vigour in fungoid plant diseases, we have noted during the past summer the subsidence of attacks on the Hollyhock of that pestilent fungus which for several years has rendered the culture of that favourite old garden flower almost impossible, we are tempted to ask whether fungoid diseases are waning in power or are in process of dying out, that during a season so favourable for its heat and drought to the promotion of some, if deterring to others, that the Hollyhock's enemy should have proved so feeble. The general experience of this parasite has been that it was mostly favoured by dry weather, and that frequent waterings and sprinklings overhead kept it in check. Certainly, this year, whatever causes may have been in operation to check the fungus, moisture has had no part in it. If this decadence of the fungus should lead to a renewal of confidence in Hollyhock culture, our gardens will be the gainers, for truly it is a grand flower, and one which merits all care and attention. We have now such capital seed strains, that it is very easy indeed to raise an abundant supply of good double kinds in great variety. It is too late to sow now in the hope of getting plants to bloom well during the coming year, but at least seed sown in May will give very stout plants to bloom the following summer, and another sowing made in August will give a good succession of bloomers for the autumn. The Hollyhock has enjoyed a high reputation as a florist's flower, and has given to us many superb, named kinds. Probably many of these are extinct, but in any case it is of less moment that the pure florist's features should be revived than that the plants should once more take its position as a first-rate garden flower.

Exhibition Apples, Pears, &c.—Now that the excitement incidental to the exhibitions of fruits, so plentiful of late, is over, there is a question to be asked and we should like to have it answered, and that is this, How far in the face of ruling market prices for good fruits of Apples, Pears, &c., can the culture of huge samples such as we have seen during the past few weeks be made profitable? If we include in the term profitable the capacity such fruit may possess to win prizes here and there at shows, of course an element is introduced such as could hardly be expected to enter into our calculations. But the chance to exhibit fruit for prizes is of a very intermittent kind, whilst the real profit on fruit culture must of course be looked for chiefly if not only in market returns. Now, big samples not only look well and always take the highest honours on the show table, but they will, as a rule, secure good prices relatively in the market. But these fine fruits are not obtained under ordinary systems or methods of culture. They are rather the spoilt children of the garden, procured by much thinning, or in such a way that they are made to carry six or a dozen, where an ordinary or fair crop should consist of three or four times as many. Some are grown on aspaliers, some on cordons, some on bush or small pyramid trees, but few or none on those ordinary standards, such as we find the backbones of our orchards, and the chief fillers of our fruit-rooms. We have seen wonderful crops of medium-sized fruits on small trees, and here and there some grand fruits thinly strewn over others; but still the main point for solution is, does the production of big fruits, whether of Apples or Pears, pay or does it not? It is a matter well worthy of discussion, for profit is after all the chief element which we must regard in any attempt at systematic fruit culture.

Dark Flesh in Potatos.—We meet with many complaints this year of the blackness of the flesh of many Potatos, and which is not of the common order of blackness found in tubers later on in the winter arising from rough usage, but is a blackness incidental to some deficiency in culture, or in the capacity of the season to fully mature the tubers, or from some other cause, the which it may not be easy to comprehend. What is curious concerning this blackness is that it is chiefly found in what is called the heel or root end of the tuber, and is more specially seen in kidney than in round kinds. Our own conclusion is that drought or excessive dryness of the soil, such as has been the general feature of the past season, is to blame for this grave defect in our Potatos, but in what way it has operated it is difficult to explain. The fact that the nose end of the tubers in all cases is sound and good shows that the elements of good Potatos were not wanting in the soil, but it may be inferred that there must have been, in consequence of the drought, considerable inability to utilize them. The defect seen in this blackness is evidently one of imperfect growth or maturation. Farther, we find this portion of the tuber that is black to be hard, indeed it would seem as if some of the strength of the Potato plant needful to build up the woody stems had been directed into the tubers. In a vast number of instances the Potato plant received in the course of the season such a severe check that it may almost have abstracted nutriment from the newly-forming tuber to help sustain it, and thus led to the defects. There is ample room for this hypothesis, but the actual cause remains unknown. A chemist might perhaps tell us what is lacking in blackened tubers.

Orchid Sales.—The establishing of periodical sales of flowering Orchids, and the introduction of Orchids in flower into all the sales has done much to give interest to the sale-rooms, which may now be reckoned among our most useful of trade institutions, and to spread a knowledge of the plants by exhibiting the rare ones in flower, and showing what are good and what inferior to the old varieties. By these means the wealthy amateur can always add rare things to his collection, and at the same time see that the variety is worth getting, and different from what he already has, while he of slender means may be made acquainted with good and desirable rare species to be booked against the time they come within his reach. So frequently and unexpectedly do rare things turn up in flower at these sales, that many of our great growers seldom miss looking into Stevens's or Protheroe & Morris's rooms to see what can be picked up in bloom, even when the catalogue list does not contain anything they want. Among the many rare things recently offered in flower lately by Messrs. Protheroe & Morris, at the City Auction Rooms, 67 and 68, Cheapside, may be mentioned Cattleya Wagneriana, a pure white Mossiæ, with orange lip; C. Eldorado Leeana, pure white, with yellow throat and crimson lip; Odontoglossum adspersum, a beautiful new hybrid; O. elegans, a hybrid between luteo-purpureum and cirrhosum; Batemannia Colleyi, a rare and strange-looking Orchid; Cypripedium Arthurianum, one of Messrs. Veitch's rare hybrids; with C. Fairrieanum, C. purpuratum (true), and many grand forms of O. Alexandræ. As illustrating the chances, too, of picking up good things at these sales, we may mention that Mr. Page, of Twickenham, recently bought at Messrs. Protheroe & Morris's two small plants of Odontoglossum in bud, one of which on flowering was valued at four guineas, and the other Mr. Page refused thirty guineas for, not wishing to part with it.

Fumigating.—The mere mention of fumigating gives one an unpleasant sensation, but it is, nevertheless, one of those disagreeable duties that cannot well be shirked, and to keep plants in a healthy state, operations should be commenced on the first appearance of aphides or any other kind of insects that can be destroyed by fumigation, as a little delay will not only prove damaging to the plants, but it will be found far more difficult to eradicate insect life when once they get established. It is, moreover, an operation which requires the greatest care to thoroughly eradicate the pests without damaging the plants. Of course a great deal will depend upon the article used, yet still more will depend upon how it is used, and for this reason we should not like to recommend any one preparation as being better than another. We have used many different kinds of tobacco paper, &c., and have found but little difference in their efficiency when properly used. Previous to smoking, the house should be brought to as low a temperature as is consistent with safety, and the drier the plants are, the less likely they will be to get damaged. After the fumigating-pots are lighted, great care must be taken that no flame escapes, for this reason, pots with perforated lids will be found best, but where these are not used, a little damp moss should be at hand, to put on in case they burn up too rapidly. The best time for fumigating is in the evening, though it may sometimes be done in the morning, but never on any account if the sun is likely to come on the house before the operation is finished.

Flower Forms and Floral Philosophies, is the title given to a series of three lectures in connection with Owens College, Manchester, by Prof. Williamson. On the occasion of the first lecture, Prof. Williamson said, it struck him that, seeing there were hundreds of greenhouses and conservatories in Manchester, that there were probably thousands of gardens and tens of thousands of people who professed to be lovers of flowers, there might, as an exceptional thing, be some two or three dozen who might care to know what flowers were. He was thoroughly convinced that a large number of people did not care to have the knowledge, because, as a fact, the number who desired to be informed was exceedingly small. The result showed his prediction to be true. What he aimed at doing in this course of lectures was to give his audiences some conception of the remarkable forms of flowers that we met with in gardens and conservatories, and why they were what we saw them to be. There was nothing in nature that was the result of mere accident. There was a cause for all phenomena, and in the majority of these phenomena there was a law underlying the conditions regulating the results and producing a definiteness in many cases capable of being represented mathematically and numerically. He then went into his subject in detail, his remarks being illustrated by a number of diagrams.

Severe Weather.—Mr. C. Warden writes:—"I wish to supplement Mr. Boothby's note at p. 212 of your last issue, by recording a similar experience. Up to the morning of November 30th many flowers were flourishing out-of-doors here, in South Wilts, including Zonal Pelargoniums, in sheltered positions, Lobelia cardinalis, Schizostylis coccinea, and also Chrysanthemums, but after the morning named we had 14 degs. of frost, which seemed to wind up everything in the way of flowers out-doors. But in our case, instead of the snow following the frost, it preceded it by a day, and the whole gave way to a general thaw at noon on Sunday. To the rapid thaw which followed this frost, I attribute a great deal of the injury done to plant life."

Gardening Miscellany.

St. Michael's Pines are now arriving in large numbers and in excellent condition. At three of the Pudding Lane sales last week over 30,000 fruits came under the hammer, and were sold cheap. The well-swelled fruits average from 5 lbs. to 6 lbs. each, and are very fresh and perfect.

Dr. Augustus Voelcker, F.R.S., the well-known analytical chemist to the Royal Agricultural Society of England, died at Kensington, on the 5th inst., aged sixty-two years.

Mr. Stephen Brown, seedsman, of Weston-super-Mare, and formerly of Sudbury, Suffolk, fell downstairs on Saturday week, and received such injuries that he died on the evening of the 2nd inst.

Messrs. Keegan Paul, Trench & Co. have brought out an English edition of M. de Candolle's very useful book, *The Origin of Cultivated Plants.*

Mr. Henry Frettingham, of Beeston, Notts, an enthusiastic trade grower of Roses, and for some years a very successful exhibitor, died on November 30th, aged sixty-six years.

The second Shepperton and District Flower Show is announced to be held on July 2nd next, in Lieut.-Colonel Harfield's grounds at Sunbury House.

The Council of the Royal Caledonian Horticultural Society have decided to hold their Shows next year on the following dates:—April 8th and 9th, July 8th and 9th, and September 9th and 10th; and the Chrysanthemum Show in the last week in November. The schedule of prizes for the Spring Show is now ready.

The Preston and Fulwood Horticultural Society will hold its next Spring Show on March 18th and 19th, in the New Public Hall, Preston. We note in the schedule issued that a friend of the Society will give a gold medal value £3 3*s.*, in addition to the money prizes offered, for the best twenty-four Hyacinths.

Messrs. Watt & Anderson, of Edinburgh, who have a list of the rare plants cultivated by the late Mr. Anderson Henry, are offering the collection for sale by private treaty.

At the next meeting of the Manchester Horticultural Improvement Society, to be held on December 18th, a paper will be read by Mr. R. D. Astley on "Leaves: their Forms and Functions."

The late Mr. J. S. Bockett's fine collection of Orchids will be sold at Messrs. Protheroe & Morris's Rooms, Cheapside, on Tuesday and Wednesday next. This collection has long been known to contain many fine varieties of Odontoglossum Alexandræ, among the 2,500 specimens of this Orchid grown at Stamford Hill. Eight hundred and twenty lots are enumerated in the catalogue, and, besides the fine crispums, are many other gems, such as the original Odontoglossum mulus.

At the sixty-eight annual meeting of the Proprietors of the Glasgow Royal Botanic Institution, held on Monday, it was stated that during the year the revenue from ordinary sources amounted to £2,175 19*s.* 5*d.*, and the expenditure to £2,691 10*s.* 6*d.*, there being a deficiency of £515 11*s.* 1*d.*, which deficiency, however, has been more than met by funds on hand at the close of the previous year, interest and new shares sold.

The St. Peter's, Hammersmith, and District Gardeners', Amateurs', and Cottagers' Improvement Society has just been formed. It is proposed to hold monthly meetings for reading papers and discussing subjects of gardening interest. It is also proposed to hold a Chrysanthemum Show next year. Mr. H. J. Farron, 62, Black Lion Lane, Hammersmith, is the Honorary Secretary.

At the last monthly meeting of the Scottish Horticultural Association, Messrs. R. B. Laird & Sons sent from their Winter Garden a collection of blooms of new Continental and English varieties of Chrysanthemums, including a number of single kinds, the most distinct of which appeared to be Miss Cannell, Miss Ellen Terry, Mrs. Killock, and Gus Harris. Some discussion followed as to the merits of these single blooms for cut-flower decoration, but the general concourse of opinion was decidedly unfavourable.

CHRYSANTHEMUM NOTES FROM SOMERSET.

Nothing could better illustrate the usefulness of public competition than the results of the recent Chrysanthemum Shows at Taunton and Yeovil. About three years ago, when a local lover of the queen of autumn flowers wished to arrange for an exhibition, he sought the assistance of sundry nurserymen with a view of ascertaining the names of the principal growers in the district. The replies received clearly showed that very few were known, even to those whose special business it was to make themselves acquainted with such particulars. The Shows recently held, however, have been the means of bringing lovers of the "mums" into personal communication, and already the results have been highly beneficial. Although it is but little over a year since the first Show was held at Taunton, the improvement in selection of sorts and in special culture has been most marked, and many of the plants and trays of bloom recently seen in the Castle Hall would have been a credit to any grower in England.

At Yeovil the effort at organization is of still more recent date, but the Chrysanthemum Society now started there bids fair to do good work in the future. Already we hear of arrangements having been made for a series of meetings to be held during the winter, when papers on Chrysanthemum culture are to be read by gentlemen well known as growers and successful exhibitors. Moreover, the members, anxious to learn what they can from more experienced men, have been visiting several of the principal local growers. Some of them recently made a tour in the neighbourhood of Crewkerne, and obtained permission to see the plants grown by Mr. W. B. Sparks and Mr. H. Parsons, of Misterton; Mr. W. H. Hoskins, North Perrott; Major Sparks and Dr. Wills, of Crewkerne. The principal collection visited on this occasion was that of the last-named gentleman, who has been a grower for nearly twenty years past. It consisted of about two hundred and fifty plants in some one hundred and twenty of the best varieties of incurved, Japanese, and pompons, all admirably grown, carrying splendid heads of bloom, and with foliage that spoke volumes for the constant care of the gardener, Frederick Coombs. They were skilfully arranged in a noble conservatory recently erected, and presented a most charming effect.

There have been other visits, too, over the Dorset border to Compton, where Mr. J. Bowles, gardener to Major Goodden, has a very fair collection of plants. During the past week a call was made on Mr. W. Case, gardener to Mrs. Bagehot, of Herd's Hill, Langport, who grew Chrysanthemums extensively many years ago, when they were not so fashionable as they are now, and who still strives to keep up with the times in culture and selection.

But the principal excursion was on Saturday last, December 6th, when a large party of the Yeovil growers paid a visit to Mr. Lionel Patton, of Hillmore House, near Taunton, who, probably, has one of the finest private collections in the West of England. Although many of the plants are past their prime they still present a perfect picture of floral loveliness that does credit to the cultural skill and tasteful arrangement of the gardener, Mr. Simmons. Three large and admirably-built houses are occupied by about 700 plants, including 200 varieties. When it is added that amongst these are the best and newest sorts, that they are all healthy and well grown, and that the plants are so arranged as to show off the colours to the best advantage, it will readily be understood that the sight is one to delight the eyes of every lover of the beautiful, whether florist or not. The trained plants are staged in the orchard-house, and many of them are 5 ft. to 6 ft. in diameter, and literally covered with blooms. For instance Fair Maid of Guernsey had 400 fully developed flowers upon it. Close by was a Princess of Wales, with over 100 grand incurved blooms, a delicate purplish-blush upon white. Chang was another noble plant, laden with flowers. And so one might go on, with splendid specimens of Baron Beust, Delicata, Madame C. Audiguier, Hero of Stoke Newington, and many other leading varieties. The Melon-house, about 60 ft. long, is lined on each side several plants deep, while the end opposite the

entrance is packed from floor to apex of roof with a mass of lovely blooms. The plants here number about 300, and the colours vary from the pure white of the large Anemone Fleur de Marie to the very deep rich velvety-crimson of Pére Delaux, including all the delicate intermediate shades, such as Mdlle. Moulise and Princess Teck.

The sight was one to fill a lover of flowers with ecstacy and to linger long in the memory. But, perhaps, the most effective display, after all, was that in the conservatory, where the plants were so arranged as to form an unbroken bank of bloom, commencing at about 2 ft. from the ground and running up to 12 ft. Growers of Chrysanthemums will know what this means when they are told that fine specimens of the best varieties already named, and scores of others, were lit up with grand plants of such fine sorts as Thunberg, laden with immense flowers. It is scarcely a matter for surprise, therefore, that Mr. Patton took eleven prizes—six firsts and five seconds—at the recent Chrysanthemum Show held at Taunton. When an employer takes a real delight in his flowers and spares no expense in their culture, and when his gardener manifests not only intelligent interest but genuine pleasure in his work, honours are easily obtained if they are sought. Mr. Patton has generously thrown open his houses to the inspection of the public, who have thus an opportunity of seeing, free of charge, a grand lot of plants, that could scarcely have been surpassed by the combined exhibits at the recent Taunton and Yeovil Shows. The readiness with which Mr. Simmons imparts information to less experienced gardeners and enthusiastic amateurs, as to the selection of sorts and the secrets of successful culture, makes the privilege of visiting Hillmore just now all the more valuable and enjoyable.

Another year, perhaps, opportunities may offer for extending the system of educational tours referred to above, and it may be possible to visit the famous collections of Mr. J. Carver, at Chilton Polden; Mr. C. L. Collard, Wiveliscombe; Mr. W. Marshall, at Staplegrove, &c. The result of such trips can scarcely fail to be highly valuable.—*C. T.*

CHRISTMAS ROSES.

These valuable plants are in bloom much earlier than usual this year, they having been brought on by the mildness of the weather; but though out of season they are always acceptable, as there is nothing in the way of hardy flowers to equal them, and they are of great service either indoors or out, for when taken up and potted they last a long time in a room, where the blossoms come of a more pure white than they do when exposed in the open. The way to manage them when required for windows or greenhouses, is to take them up with as many roots and as much ball as can be had, so as to disturb them as little as possible, and if there is more soil than can be thrust into the pots the plants are to be placed in, some of it may be worked away, which, if care be exercised, may be done without hurting the roots. All that is necessary after the potting is to give a good watering, and if the plants are then placed under the protection of glass in a cold frame, or at once placed in the greenhouse or window, they will expand their fine blossoms in rapid succession and make a capital show.

In cases where Christmas Roses are only required for cutting, a purpose for which they are specially adapted, the best way is to leave them where they grow, and protect them there instead of disturbing the plants. If they are in isolated positions or stand singly, nothing answers better for covering them than a handlight, the top of which may be tilted slightly to change the air and prevent any damping. There seems to be a general complaint with many that they cannot get Christmas Roses to grow, and others appear to have a difficulty in propagating them; but their increase is easy enough, as all that is needful is to dig the plants up and divide them. The proper time for doing this is as soon as they have done flowering, as then the crowns begin to start and make fresh leaves, when the plants may be pulled apart with safety, but in carrying out that operation care should be taken to secure eyes, or buds, and roots to each piece.

The next thing is to pick out a suitable place to plant them, the margin of a Rhododendron bed being a good situation, as they like peat and shade, although they will grow freely in almost any soil where they once become established and are left undisturbed. It is the digging about such things as the Hellebores and the denuding them of their foliage that tells so much against them and weakens them so seriously, for without plenty of healthy big leaves they cannot form strong crowns. A frequent cause of the dwindling to which Hellebores are subject in some places is the attack of slugs, which feed on them underground and take out the heart of the buds; to prevent which a sprinkling of lime and soot should be given occasionally, or traps of tempting bait set and frequently searched that the slugs may be taken and killed.—*Alpha.*

AN ANCIENT PEAR-TREE.

At Newburgh-on-Tay, Fife, there exists a grand old Pear-tree, which is perhaps the largest in the kingdom, at all events, in Scotland. Sir Robert Sibbald, in his *History of Fife*, written nearly two hundred years ago, takes notice of it and some others near it. He says:—"Almost contiguous to New Burgh E., and formerly within Earneside Wood, are the ruins and seat of the Abbacy of Lindores, a right sweet situation and of most rich soil: witness the vastly big old Pear-trees there."

ANCIENT PEAR-TREE AT NEWBURGH.

Some of these trees still survive, but the one here illustrated is that which strikes the eye as being particularly noticeable; it is only a few feet back from the public road, and in an open field. The trunk of the tree is 18 ft. in circumference at one foot from the ground, has a height of about 44 ft., and formerly a spread of branches of 53 ft., but one half of the tree has lately been torn off by lightning. However, the remainder of the tree seems to be perfectly healthy, and bears a good crop of fruit; in fact, one year as much as 2,268 lbs. was gathered. The tree is locally called Beurré, but is correctly the Hazel, or Hessel. —*Leonard Barron, Chiswick.*

At the last meeting of the Chambre Syndicale des Horticulteurs of Ghent, Certificates of Merit were awarded to the Compagnie Continentale d'Horticulture for Caraguata cardinalis, Vriesia Pastuchoffiania, Carludovica Plumieri, and Zamia Tonkinensis; and to Mr. Ed. Pynaert for Caraguata sanguinea. Cultural Certificates were accorded to M. Ad. D'Haene for Croton volutus, to M. Ed. Pynaert for Schismatoglottis Robellini, and to M. Aug. Van Geert for Cattleya maxima. Specimens of Tillandsia musaica Geonoma species nova, Cypripedium Spicerianum, Sonerila Mad. V. Alesch, and Pescatorea Sanderiana received Honourable Mention.

THE POINSETTIA.

Poinsettia pulcherrima is one of those beautiful plants which materially assist in cheering the dull days and long evenings of winter (when used indoors) with its beautiful scarlet bracts, and which are greatly admired by all who see them. Unfortunately these plants are not always seen in the best condition. We have often met with them in gardens, where their bracts have entirely failed to develop, from some unknown cause or other, yet their culture in reality is of the simplest kind. When I took charge of these gardens, I was told that Poinsettias would not do here, as they had been tried in several places, and in different ways, but without success. Of course I did not credit the statement, but it lead me to give a little more attention to the plants myself than perhaps I otherwise would have done.

The plants were rested by first gradually withholding water, then laying them on their sides under a stage in an intermediate temperature, where they remained till the latter part of May, or the beginning of June, when they received several waterings to moisten the balls of roots. We next removed them to a Melon-frame which had a slight bottom heat from fermenting material. The plants being rather tall they were laid on their sides in this pit, so as to cause them to break along the stems, so that we might take a maximum number of cuttings. In this moist pit, with the humid dung and leaves, and the regular syringing of the Melon plants every afternoon, the cuttings soon became sufficiently long to be taken off with a heel of old wood. This done, we proceeded to dip the heel of each cutting in some dry sand as it was removed from the plant to prevent over-bleeding and to prevent the cuttings messing one another when laid together. When inserted in sandy soil in pots, the pots of cuttings were plunged in the fermenting material at the foot of the same frame.

After these cuttings had been removed the old plants were cut down and kept a little dry until they broke again near their base. Part of the stock was removed to a cool pit and hardened, with a view of taking the cuttings off them later in the season, and which was eventually done in the manner above described. When the cuttings were rooted they were potted off several in a pot, round the sides, though I much prefer placing them singly in small pots. These, when potted, were returned to the same pit, or a similar one, until they got a little hold of the soil. As time went on and the plants progressed the old ones were potted up, and the young ones potted on as required, and the whole of them plunged thinly in a three-light box on a slight hotbed. Here they were attended to as to water, the chief aim being to keep the plants as near to the glass as possible without touching it. The warmth of the bed soon decreased, plenty of air was admitted by day, and, during favourable weather, at night also. The frame was raised a little at a time as the plants increased in size, and if one showed a disposition to grow away from the rest, it was plunged deeper into the bed, so as not to sacrifice the well-being of the whole for an individual or two.

The plants were kept in this frame as long as it was safe in the autumn, when they were removed to the plant-stove, and here again raised so as to bring their heads as near the glass as possible. The young and dwarf plants were placed on shelves, with their heads only just below the glass, and from these we had the nicest lot of heads that one could wish for, the bracts in some cases measuring more in diameter than the plants were high. From the taller, stronger, and older plants we had bracts well proportioned and filled out, and some of the best measured 18 ins. across. I am aware that larger have been had, but it must be remembered that none of these plants exceeded 3 ft. in height.

The cold-pit system of culture differs little from the above, the exception being the very slight heat given off by the fermenting materials, but there are not many pits that can be raised or lowered according to the size and height of the plants. I know of several growers who succeed admirably on the pit system of culture—viz., Mr. Thirlby, at the Broadlands, Romsey, and Mr. Budd, at Lockerley Hall, in the same neighbourhood.

The planting-out system in the south of England is a good and reliable one, as I can state from experi-

ence. Choose a south, east or west border where the natural soil is good, and if it is not good, make it so, by adding fresh soil, or what answers equally well after opening a hole for the reception of the plants, put in a good shovel full of prepared compost. For this system of culture, the plants must not be subjected to much heat beforehand, but must be allowed to break almost naturally after being cut down. Harden them off when fairly started and plant them out as described, about the middle of June, or after the bedding subjects have been put in their summer quarters.

We find this a very useful method of culture, as we are often hard driven to find or get water for the plants in pots, and when this is the case, the more one can plant out the better, as they are the better able to take care of themselves. At lifting time, take care that the soil is wet or moist before commencing operations; pot into suitable sized pots about the beginning or middle of September, place the plants in a cold frame and keep them close for a few days, and let the plants be syringed if they suffer by flagging. As the weather becomes colder, they must be removed to warmer quarters, and here I would again urge that they be brought with their heads close to the glass, and be subjected after their bracts begin to unfold to a temperature ranging between 60 degs. to 75 degs. Fahrenheit. I have never had heads so large under this system as by frame-culture, but considering the minimum of labour and attention they require, they are very acceptable. I enclose a head for your opinion. —*Chas. Warden, Clarendon Park Gardens, Salisbury.*—[A very good sample, bearing out our correspondent's statement. Where climatic conditions are favourable, the planting-out system has much to recommend it. —*Ed.*]

STANDARD ROSES.

Why do Standard Roses die? This question has come home to me time after time, during the shrinking of a collection of about three hundred of the best varieties of (Standard) Roses down to sixty, which has been my fortune. In fact, for years past I have given Standard Roses up, only filling up a gap here and there, where a deficiency would have spoilt a line. Being a doctor by profession, I could not submit to such a death-rate without trying to satisfy myself as to the probable cause, and I venture to give you my ideas. I quite agree that affinity has but little to do with the question; the very fact that so many Standards live for many years, and the success of budding on Manetti, &c., are sufficient proof that the scion and stock can get along very well together. But with affinity there must be *balance* between the two, and a want of this is, to my mind, the chief cause of death to the Rose. As your correspondent says, the Briar is removed forcibly from its home, and what of the root the spade spares is attacked by the too eager knife of the ordinary gardener. Further, sooner or later the head is chopped off, and another one, foreign in its habits, being substituted, we have between the altered roots and the altered head an unaltered Standard, ready for much more work than either root or head are able to supply it with. And here commences the risk. If both head and root can, within reasonable time, get to work and do their duty, not only to themselves, but also to each other and the Standard, all goes well; the whole plant becomes homogeneous, and, bar accidents, it is likely to live many years.

But it requires very great experience in selection, and good luck in growing to insure this; and, in consequence, from lack of these, many die. If, on the one hand, the head gets ahead of the root, sooner or later deficient nourishment exposes the plant to crippling by cold, aphis, rust, &c. On the other hand, if the root action is too strong for the upper works, the first thing the root does is to try to relieve itself by throwing up suckers. These being rigorously removed, it soon has to give up growing as a bad job, and canker, &c., step in. In both cases death may not come for some years, but come it will.

But even if a proper balance between root and head shall have been obtained at first, yet that balance may be disturbed later on by climatic influences. I lost upwards of two hundred Roses, more or less established, after two consecutive winters, six or seven years ago. These winters were exceptionally open and wet. I am convinced that the following was the course of events: There being nothing like a checking frost, the ground retained more than the usual amount of heat for the time of year, while there was a considerable amount of moisture. This kept the roots at work, elaborating a quantity of material that could not be utilized above, where all work was suspended for the season. Consequently this material was thrown back on to the roots and rootlets, with the result that the latter became coarse and enlarged, and very far from what rootlets should be. When the spring came the plant began to start, and the growing buds demanded the help of the roots to an increasing extent. But these roots had become effete, and unable to supply what was wanted. In a very short time the plant was starved and died. On removing the plants, an inspection of the roots confirmed this view. When Roses are grown in pots such a disturbance of relations between head and root is impossible; and this will account, I think, for the difference between the Roses grown out-of-doors and those under glass.

I should like to mention another cause for Standards being more uncertain than other forms of Roses. A vast deal of harm is done by careless pruning. If in removing a shoot, or part of a shoot, the cut is not made close down to the principal shoot or to the next bud, as the case may be, there is much left that must decay. Then, if decay is once set going, it is not always possible to stop it, and it is very liable to travel down the pith canal. Whereas, if the cut be made in the proper place, there is nothing left to postpone that healing over, to which there is a constant tendency in a healthy plant.

Again, if a cut be made in a slovenly manner, and a projection left, the pith is almost sure to shrink before the other parts, leaving a hollow for anything that chances to lodge there, this in itself tending to increase the amount and nature of the decay.

There is a small grub that is very fond of boring a hole in the pith so exposed. If the grub is allowed to go on uninterruptedly, it is sure to create much mischief, as, on account of the yielding nature of the pith, there is but little limit to its progress. As soon as such a hole is discovered, a peg, made of a wooden match, should be driven in. If this has been previously soaked in creosote, so much the better. Of course, the peg should be cut of such a length that it cannot be driven in far enough to injure the pith or any growing part of the plant.

One last word as to pruning. If a plant grows strong and coarse, it does not matter how it is pruned, so far as its health is concerned. If a shapely head is required, and the grower will run the risk of only leaving a minimum of buds, there is no reason why he should not cut in hard. But if a plant grows weakly, then he must make up his mind whether this is due, on the one hand, to weakness of the Briar, or, on the other hand, to an habitual weak growth of the Rose. If the former case, he must prune short, so as to accommodate the Rose to the Briar; while in the latter case he must leave a good shoot, as it is odds that if he does not the Briar will prove too strong for the Rose, and, as before said, this condition is sure to lead to death.—*H. H. N., in The Field.*

STRAWBERRY FORCING.

The present is a good time to look over the earliest layered plants of Vicomtesse Héricart de Thury Strawberry, and to select therefrom a good batch of those having the plumpest crowns for forcing. These plants should at once be taken to the potting-shed to have the drainage made efficient, the bad leaves and a little of the surface soil removed, and some pulverized horse-droppings and loam added as a top-dressing. The pots should then be plunged in a bed of new leaves, within a few inches of the glass, in a pit from which frost can be kept out. They should then have sufficient water to settle the new soil, after which further applications will probably not be required more than once or twice before their flower-spikes appear, which they will do in a few weeks if the pit is kept close and the plants carefully tended. The pots should then be washed and placed on shelves near the glass in a forcing-house.

In order to prevent a blank occurring in the supply of ripe Strawberries from the time the first dish is sent to table until the fruits are ready for picking out of doors it will be necessary to start a batch of plants in the manner set forth above at intervals of a week or ten days, so that there shall be always a regular succession of plants in various stages of growth to fill the shelves as they are vacated by plants from which the crop has been gathered.

Temperature.—In the process of forcing fruits, like plants and vegetables, it is best for the cultivator to first consider the most favourable conditions under which the finest examples are naturally produced out-of-doors, noting the maximum and minimum temperature prevailing during the various stages of the plant's growth. These temperatures should be the guide, varying them a little, if need be, to suit the other occupants of the house. Thus a night temperature of from 45 degs. to 50 degs. when the plants are in flower, and 10 degs. higher by day with fire heat will be sufficient, running it up 5 degs. or 10 degs. with sun heat; but during the interval from the setting to the ripening of the fruit the night temperature should be gradually increased to 60 degs., or higher if necessary, with a corresponding rise in the temperature by sun heat.

Cropping the Plants.—As the plants come into flower the blossoms should have a camel's-hair brush passed over them about mid-day when dry to assist the work of fructification, repeating the operation daily until a fair crop of fruit is set. But with the advent of spring and an increase of light and sunshine, the brush can be dispensed with, as a good set can be secured without its aid—the hand passed gently over the blossoms, which will then be plentiful and strong, or a gentle spray from the syringe being enough to distribute the pollen. When the fruit is set, select ten or twelve of the best (crown) berries of uniform size, so that they may all swell and ripen together, when the fruit can be gathered and the plants be removed to a hardening-off pit or house, if they are required for future use. Having selected the best berries, a few more or less according to the strength of the plants, remove the superfluous fruits and all flower-spikes that show between this and the ripening of the crop should be kept pinched out, so as to concentrate all the energies of the individual plants to the swelling and ripening of fine large fruits.

Atmospheric Moisture and Ventilation.—No hard-and-fast line can be laid down as to the distribution of moisture in forcing-houses, for, like the admission of air, it must be regulated in accordance with the nature of the weather, temperature of the house, and the stage of growth at which the occupants of the house may have reached. But we may say that Strawberry plants started under the influence of fire heat will require to be syringed once or twice most days until they come into flower. Then a rather dry and buoyant atmosphere should be aimed at until the fruit is set, when the syringe can again be brought into use, using it, however, sparingly and with judgment during dull weather. Should the houses in which the Strawberry is forced be air-tight, it will be advisable to leave a little air on at night when the plants are in flower, and again when the fruit is approaching maturity, and weather permitting, to ventilate freely during the day.

Watering the Plants.—This is an important consideration in the culture of plants in pots. Give no slight surface watering, but a thorough drenching to the roots when they require it, and from the time the plants throw up their flower-scapes until the fruit commences colouring they should have some fertilizing agent applied in a liquid state alternately with clean water. Beeson's manure, at the rate of 3 lbs. to 10 gals. of water, is a safe and powerful fertilizer. care, however, should be taken in watering the plants not to pour it indiscriminately over the fruits and crowns, but to pour it in at the side of the pot. The attacks of red spider and green-fly should be guarded against. A vigorous and well-directed use of the syringe and clean water should keep both in check. However, as regards fly, it will be advisable to fumigate the plants a couple of evenings in succession just before the flowers expand and again after they have set, which will rid the plants of this pest should the syringe fail to dislodge them. La Grosse Sucree, Keen's Seedling, and President will make a good succession to Vicomtesse Héricart de Thury in the order named.—*H. W. Ward, Longford Castle.*

THE CLAPTON NURSERY.

Of the 7 acres devoted to Messrs. Hugh Low & Co.'s immense trade establishment at Clapton, something like 5½ acres are covered with glass, and large as these figures represent the undertaking to be, the surprise at the magnitude of the nurseries and of the business transacted must be greatly increased by the knowledge of the fact that the old Clapton Nursery at present under notice, while still being the head-quarters of the firm, is far surpassed in size by their new nurseries at Enfield, where about 16 acres are devoted to plant culture.

Orchids! Orchids! Orchids! was the reiterated exclamation on the occasion of our visit, as house after house of these plants were inspected, not houses filled with a few of this and a few of that, but whole houses devoted in many cases to one, two, or three kinds only, and those kinds often rare in collections. For example—Dendrobium Brymerianum, D. Lowii, Lælia grandis, L. zanthina, Aerides Lawrenciæ, and many other new or rare plants are to be found in large quantities at Clapton.

The Cattleyas and Lælias.

The Cattleyas are represented by immense quantities of all the favourite kinds, many houses being devoted to C. Mossiæ, C. Warnerii, C. Eldorado, C. gigas varieties and C. amethystoglossa (these two occupying a large house between them), C. Walkeriana, C. Schilleriana, C. Trianiæ, C. Dowiana, C. Mendelii, &c., all in the most robust health, and by the great variety exhibited in their bulbs and leaves offering a rare chance for connoiseurs to make a speculative selection from—some of the C. amethystoglossa, with large club-like growths, and the many strange-looking purple-leaved C. Mendelii being particularly inviting. Of the last-named the greater part of a large span-roofed house is filled with sturdy plants, just such as are best suited for the amateur to display his skill on.

The great batch of Lælia elegans are a surprising lot; they seem to run much on the Turneri strain, and as some fine varieties of that kind have already flowered out of this importation, it is no doubt plentifully sprinkled throughout the bulk, and as the plant may be selected by one who knows it with tolerable certainty, it is worth the venture, particularly as it can be made with the comforting assurance that if the object be missed some other good or perhaps new thing will be obtained well worth the money. Lælia pumila in endless variety, L. anceps, L. autumnalis, L. harpophylla, L. grandis, and most of the other good Lælias are to be found in fine stock, L. purpurata alone occupying one large house.

Odontoglossums and Phalænopsids.

The Odontoglossums also fill many houses at present, but few are in flower, but some grand varieties have been lately bloomed out of them. Whilst we were on our visit of inspection a bloom of a splendid thing, second perhaps only to the phenomenal Veitchianum, arrived from one of Messrs. Low's clients, and strangely enough we were able to identify it with its close ally, O. crispum guttatum fastuosum, which Mr. Jacomb had submitted to us, and which he purchased at Clapton some time before. It is a priceless beauty. O. vexillarium and O. Roezlii are also very good, and O. Pescatorei by the 20,000.

The Phalænopsis fill several houses, the main one which has its praises sung annually at this season, presents a forest of flower-spikes borne by the plants on the elevated staging which seems to be so conducive to their health, and also to the effective display of their flowers—thousands of P. Schilleriana and P. amabilis, and hundreds of P. Stuartiana, P. Sanderiana and all the other beauties are there, while the stock of P. grandiflora is so large that it has a house to itself. The plan pursued here of having the beds in the Phalænopsis-houses planted with ferns and mosses, and the open wood-work staging on which the plants are placed, arranged well above the beds, seems to be perfection so far as the health of the plants and their free-blooming is concerned.

Cypripediums.

The Clapton Nursery is noted for its Cypripediums, and its prestige is not likely to be lowered if the evidence of the grand stock on hand may be taken as a guarantee. There is a good show of flowers on the large batches of C. Spicerianum, C. Lawrenciauum, C. ciliolare, C. niveum, C. Lowii, C. Stonei, C. villosum, C. Boxallii and C. Haynaldianum. Of this last a grand form is in bloom unlike any yet seen of it. There is also a new Cypripedium very distinct in leaf, which many are looking forward to flowering with interest, as it certainly appears to be good and distinct.

Vandas and Aerides, &c.

Vandas and Aerides are grown cooler than usual here, and now that they have shaken off their evil character of wanting great heat they are becoming greater favourites every year. The great stock of V. tricolor varieties, V. insignis (true), V. cœrulea, V. Cathcartii, and many others, are really only treated as warm greenhouse plants at Clapton, and nothing could be more vigorous than their condition. Fine batches of V. cœrulescens, V. Denisoniana, V. lamellata Boxallii, and other Vandas are here, in company with grand lots of Aerides maculosum, A. quinquevulnerum, A. affine, A. crispum, A. Lawrenciæ, A. suavissimum Saccolabium guttatum, S. Blumei majus (best dark Java variety), S. curvifolium, and S. giganteum, &c.

Prominent by their great quantity and fine health also are Lycaste Skinneri, Pleione maculata, a houseful of Masdevallia Tovarensis, Angræcum citratum, Dendrobium macrophyllum (Veitchianum), D. Wardianum, D. crassinode, D. Bensoniæ, D. Brymerianum, D. thyrsiflorum, D. formosum giganteum, and D. Lowii. Of the last named there is a fine batch, and Mr. Low states that it grows best in pots, unlike most of the other nigro-hirsute Dendrobes, which are only safe on blocks or in baskets.

Stove and Greenhouse Plants.

But although Orchids are the special feature at Clapton, general plant stock is not neglected, and everything that can be grown into pretty plants, and particularly for winter flowering, are grown by the thousand, foremost among them at the present time being Carnations, which fill two large houses with compact plants in 48's, well set with buds and blooms. These plants are worked to a nicety at Clapton, and on such a plan that failure seems to be impossible, for every December finds the largest house in the same good trim. The true winter-blooming varieties are the kinds grown, and lovely their flowers are, some of the best and most distinct being Andalusia, lemon-yellow; Oscar, yellow and crimson; Jean Sisley, yellow and scarlet, flaked and edged; A. Alegatière, vivid scarlet; Vulcan, scarlet; Miss Joliffe, pink; Pagnet, blush, fringed; Hermine, white; Juna, bright rose; Magnifica, rose; and several very fine new flakes and selfs.

The Bouvardias are equal in quality and showiness to the Carnations, and also fill several houses. The plants are all bushy, compact, well grown, and well set with buds, the most attractive appearing to be Dazzler, scarlet; Vreelandii, white; Elegans, crimson; Queen of Roses, rose; Albert Neuner, double white; President Garfield, double pink; Priory Beauty, flesh colour; Bride, blush; Candidissima, white; Roseo-oculata, pale pink; and Jasminoides, white.

The Erica hyemalis, E. gracilis, and all the other winter heaths for which this firm is noted are in finer condition than ever this year, many thousands of them being in bloom, and by the array in the packing-yard about to make a return for the long service and attention rendered them in order to bring them to the perfection in which they now are. The large batches of Genetyllis, Correas, Boroneas, Pimelias, and general hard-wooded stock are in fine order. Jasminum gracillimum is grown in great quantity for a winter-flowering plant on account its of great beauty and fragrance, and it proves so amenable to treatment that although the plant was well recommended when first sent out, the culture of it here shows that it was not over-rated or even praised up to its due. J. hirsutum is also grown in quantity in the same way, and the beautiful white sweet J. grandiflorum, which will do in a much lower temperature than the other two, is equally well grown.

Ferns, Palms, India-rubber Plants, Dracænas, and other ornamental plants appear in seemingly countless numbers, Adiantum cuneatum alone occupying several houses; and all the other kinds, such as Lastrea aristata variegata, Pteris tremula, P. serrulata, P. cretica, &c., being in proportionate quantity. The hardy culture of the Palms, especially of Latania borbonica and Ptychosperma Alexandræ, whereby broad plants, beautiful and lasting, and very different from the drawn-up specimens usually seen, are secured, must cause them to push their way in the trade in preference to the fragile and often dearer specimens forced up on bottom heat.

Camellias and Azaleas.

These are represented by thousands of bushy plants, well set with buds, and of fine kinds only; and Solanums in berry, Cyperus, Grevillea robusta, Gardenias, Greenhouse Rhododendrons (a great speciality), and many other good things are to be found at Clapton—in fact, the large premises there seems to be converted into a nursery where all the best things may be grown so well and in such quantity that their beauty and usefulness may be exhibited at their best.

ARDISIA CRENULATA.

The crenulate-leaved Ardisia, Ardisia crenulata, is a very handsome evergreen stove or warm greenhouse plant, growing from 2 ft. to 6 ft. in height, and belonging to the natural order Myrsinaceæ. It is a native of the West Indies, from whence it was introduced as early as 1809. It is a plant much esteemed for the beauty of its dark green lanceolate ovate crenate leaves and pale pinkish white coloured star-like flowers, which are freely produced in terminal panicles early in the spring, and which are succeeded by small coral-like, round, vermilion-red berries, that remain on the plant for a long time; indeed, if the plant is properly cared for, they will remain on the plant until others are produced the following year, thus rendering it a very desirable and useful ornamental plant, suitable alike for the decoration of the greenhouse or window garden. The Ardisia is a plant easily cultivated, doing best in a compost of two-thirds well-rotted turf, one-third well-decayed manure, with the addition of a little sharp sand; mix thoroughly, and use the compost rough. In potting, use porous or soft-baked pots, and let them be proportionate to the size of the plants. Be careful to drain them well, and give an average winter temperature of 55 degs. and a light, sunny situation. They should be given liquid manure-water once a week, and sponge the leaves occasionally, to remove dust, dirt, &c., as well as to guard against insect pests. They do best when planted out during the summer season in a deep, well-enriched border, in a partially-shaded situation, care being taken to keep them well supplied with water. They should be carefully taken up and potted early in September.

The plants are occasionally troubled by the scale and mealy bug. So, to guard against these pests, it is advisable to thoroughly sponge the leaves and stems several times during the year with clean water, in which a little whale-oil soap has been dissolved.

Propagation is effected by seeds, which should be sown as soon as possible after being gathered; but, as they have a hard covering, it often takes them a considerable time to vegetate; then, again, they generally germinate unevenly, but if the soil is kept moist and a little care exercised, all will germinate after awhile. Sow the seed thinly in a well-drained pot or pan of light, loamy soil, and place it in a warm, moist situation, giving, if possible, a bottom-heat, and as soon as all the young plants are well up and strong enough to handle, pot off into 3-in. pots. Keep them in as warm and moist a situation as possible, re-pot as often as necessary, and use every means to induce as rapid a growth as possible, until they attain the desired size. The plants, if well cared for, will fruit when a year old.—*Charles E. Parnell, in American Gardeners' Monthly.*

At a recent quarterly meeting of Lancashire Botanists, held at Dukinfield, Mr. James Parkinson, of Oldham, in the chair, a paper was read by Mr. Thomas Schofield, entitled "Reminiscences of a Lancashire Botanist." Mr. Schofield gave his personal experiences of Richard Buxton, Jethro Tinker, Thomas Gibson, Crowther, Horsefield, Newton, Clough, and many others. He stated that he began the study fifty years ago; had studied it in many parts of Europe; and had gathered plants of a most interesting kind on the wild steppes of Russia.

The Amateurs' Garden.

Seasonable Work in the Garden.—Considering the fine open season we have experienced, we may presume that all additions to the stock of fruit-trees or small fruit-bushes, and any alteration that may have been deemed necessary with regard to the existing stock, have by this time been effected, if not, the sooner these alterations are carried out the better. Fruit-trees cannot be planted with greater advantage than at the fall of the leaf, as if deferred until spring any chance of a crop of fruit will be imperilled. Every opportunity should be taken while the weather is fine to turn up the ground from whence crops have been removed, either by ridging, or rough-digging, so that it may get sweetened and pulverized by wind and frost. By this means also many of the insect pests which trouble the cultivator will be destroyed.

Remove all weeds and decayed vegetable matter from the surface of the ground about to be turned in, as nothing so much encourages the production of insects as the practice of digging in green vegetable matter. There are two ways by which this refuse may be disposed of, one by collecting it with leaves and other matter into a heap to rot, and when rotted it may be mixed with a little quick-lime and dug in as a manure in the usual way. The other and more satisfactory way of disposing of garden refuse, is to make a fire of the various prunings and reduce the whole to ashes, which may at once be spread on the ground, or better still, if kept moderately dry until spring, they will be found useful in many ways when small seeds have to be sown.

The pruning of all fruit-bearing trees and bushes should now be carried out, and when the Gooseberry and Currant bushes are pruned, add manure if convenient or necessary (and it is not necessary every year), and let the ground be forked and left as rough as possible. The spade should never be used for this purpose, as it is impossible to dig with the spade without causing injury to the roots. The Raspberry may be looked upon as one of the most useful of small fruits, and is deserving of greater attention than it usually receives from amateurs and cottagers. It likes a rather cool, rich soil, in a rather sheltered position, where it can be permitted to grow without its roots being disturbed. The ground between the rows of canes should never be either dug or forked up, but after the old canes have been cut out and the young ones tied up, a dressing of good well-rotted manure should be spread over the ground, and a little soil spread over the manure to prevent it being blown about by the winter winds, or scratched about by birds.

There are many ways in which Raspberries are grown and trained, but the simplest and the best plan we have in view, is to plant them in rows 18 ins. apart from plant to plant, and if more than one row is desired place them 5 ft. apart. Let them be tied to a trellis, which may be either of strained wire or lath-strips fixed to stakes. If the canes are weak when planted cut them down to the height of 1 ft., to encourage strength for the following season; on the other hand, if the canes are strong leave them from 2 ft. to 2 ft. 6 ins. in length, and such canes will often produce fruit the first season after planting. When the canes get well established, they may be left to the height of 5 ft., and after the fruit is gathered, it is well to go over them and cut out all those which have borne fruit and to tie the young canes up in their places. This will materially assist the ripening of next year's bearing canes. The pruning may be carried out as soon as the leaf falls, selecting three or at most four of the strongest canes from each root to be tied to the trellis, when this is done take a 5-ft. rod in one hand, and cut each cane by it, so that when finished the whole may have a neat and workmanlike appearance.—*G. T.*

A new Society, called the Wilts Horticultural, has been formed in Salisbury, and it is proposed to hold the first exhibition on or about the 20th of August next. The show will be a general one, and prizes to the amount of £170 will be offered for competition.

FLORAL DECORATIONS.

What—a wedding without flowers, Mr. Editor! Well, I cannot but express my surprise at the statement which recently appeared in your columns, because I and many other gardeners would be severely censured if we had not plenty for the dinner-table every day, and an abundance on all festive occasions. The subject of floral decoration is one that might be most profitably discussed at this season, if only for the benefit of the young men in the bothy, on whom a large share of this kind of work now usually devolves. The golden rule should be to use as few colours as possible—say, never more than three—and one of these should be green, whether it be the green foliage of the flowers that are being used, fern fronds of whatever kind, scented-leaved Pelargoniums, or evergreen trees or shrubs.

In setting up centre-pieces, epergnes, or trumpet vases for the dinner-table, and vases for the drawing-rooms, &c., lightness should always be kept in view, but to attain this end mean-looking flowers should not be employed. The best way of securing this desirable object is always to have at hand some kind of grass or feathery-looking flowers, to relieve the more stiff and massive kinds, such, for instance, as Lobelia cardinalis (which is most beautiful this mild autumn), towering above that spotless white Chrysanthemum, Elaine; or, failing the Lobelia, Schizostylis coccinea is an excellent compeer. The latter, though it closes at night in the ordinary way, like the Crocus and some other plants, opens and looks as gay under artificial light as though the sun were shining upon it.

Of course, every season brings its own particular kind of flower, so that it is necessary for us to note the most striking effects at each particular period. From this time onwards many parties are held for shooting, and at very few of these would the employer be satisfied with simply a centre vase on the table, so that some other devices have to be arranged. A number of small standard and also low glasses, suitably arranged as to colour, will do very well for one night, but it would be very monotonous to place these in the same way every night, if the party is to last five days out of the seven, so that some fresh arrangement must be made each night. Suppose we take first for a round or an oval table, a tall trumpet vase with no branches, and simply a low flat dish at the base. The stem of the glass should be draped with some suitable creeper, such as the climbing fern, Lygodium scandens, a green shoot of the blue Passion-flower, Passiflora cœrulea, or the yellow Honeysuckle, Lonicera aurea reticulata. The base of the vase should be filled with some suitable flowers arranged low, so as not in the least to obstruct the view across the table, and the margin be fringed with fern fronds, resting on the cloth. The trumpet should be made up of rather tall and spray-like flowers and fern, so as to look as light and elegant as possible. Few or many of these glasses, as mentioned above, according to the size of the table, would make a pretty arrangement for one night.

The next night the centre stand or trumpet might be removed in favour of an elegant plant of either Kentia australis, Geonoma gracilis or Cocos Weddelliana, or any other handsome palm; the ball of which should be surrounded with fresh green moss, and the outer edge of the low dish or circular board, which we use, may be fringed with leaves remarkable for the beauty of their autumn tints, such as the Liquid-ambar or the Virginian Creeper while in season; or the leaves of the common bramble, Rubus fruticosus, which latter remains good till very late in the year. In the event of not having a suitable palm the centre vase may be used, and for the top of the same, the following autumn berried-plants would be found useful with suitable foliage. The common Gladwin, Iris fœtidissima, which is common in the woods in many parts of the south of England; the skewer wood, Euonymus europæus; and the winter Cherry or Physalis Alkekengi, make suitable subjects for decoration in winter.

The third night the centre-piece or trumpet stand might be used again, with four triangle pieces of cardboard cut according to the size of the table, and dressed, two with scarlet, and two with white or yellow flowers. The base should first be covered with some fresh green moss, then fringed with Maiden-hair fern, Adiantum cuneatum, and the moss neatly covered with flowers, for two, yellow Chrysanthemum or white Primula would suit, and for the other two, scarlet Pelargoniums and Poinsettias are well adapted. These should then be laid point inwards towards the centre vase, and so that the points touch the centre. The whole to have a fringe of Maiden-hair fern, and to be filled in as neat as one would fill a carpet bed in the flower-garden, and when completed, form a Maltese cross.

For the fourth night the centre Palm may be used, surrounded with flowers and Maiden-hair fern fronds, the flowers in this case to be either scarlet and white or scarlet and yellow, mixed. Around that and resting on the cloth, should be placed four shapes of cardboard cut out in the form of a half moon, nicely fringed with fern fronds, and one nice row of scarlet Pelargonium blooms, small at the points and larger flowers towards the middle and tapering towards the other end again, and at the back another row of yellow Chrysanthemums arranged in the same way. all four of these shapes are arranged in this way, and in the open spaces between are put some saucers containing a good potful of Selaginella Kranssiana, in the centre of which is a good head of Poinsettia pulcherrima.

For the fifth and last night we will take our trumpet-vase again, and having filled the top with suitable flowers, and dressed the stem with greenery, we next take eight triangles, four large and four small ones, and arrange them with their base towards the middle of the table in the form of a star of eight points. These are covered with moss and fringed with Maiden-hair fern, and four are filled with flowers of one colour and four with another. This, if care is taken to preserve the form properly, has a very pretty effect. Around the star, and towards the edge of the table, are placed several of the saucers of moss with a good head of Poinsettia in each.

Of course, all the above may be modified according to circumstances. These decorations are what some call cloth-work, and what the ladies call cloth-gardening. Some object to it on account of the waste of flowers which it involves, as they cannot be put in water. But that does not affect us, as the work is never done till shortly before dinner commences and the decorations are removed again as soon as dinner is over to a cool cellar, where the flowers and fern fronds are put into water. If of no other use, these notes may be of service to some of the younger members of the fraternity, who may be hard driven for suggestions as to materials suitable for the purpose of decoration.—*W. C. C.*

A GAY OLD BORDER SHRUB.

Such is Althæa frutex, or Hibiscus syriacus. Imagine a dwarf and twiggy shrub, not unlike the common hedge Maple in habit as well as in shape of leaf, bearing flowers for two months or more in shape like a single Hollyhock, 4 ins. or 5 ins. across, and some idea may be formed of this showy shrub. It is a very old shrub, for it was cultivated by Parkinson in 1629. It may also be termed a forgotten shrub, as it has long been neglected; but to things with sterling qualities we often return with the "old love" intensified. So it would appear to be as regards this quaint but beautiful border shrub. "Where is the good old Althæa frutex?" is now often asked, and it is being planted in isolated specimens, in groups and in hedges, as it is grown in Japan. It is a fine subject to introduce into the border with the stronger herbaceous things, and there are few, if any, that will outshine it during the latter end of summer. Immense bowl-shaped purple, yellow, and white flowers, mixed with shining foliage, are no mean things in August and September, and these have lasted well into October during the present fine autumn. If Linnæus re-classed and re-named it as a Hibiscus, we should not give up what is truly a free-flowering hardy border subject, because there are other Hibiscuses which are not hardy largely grown under glass. Rather should it be otherwise, especially with those who have no glass; but such a plea for it is, perhaps, not needed now that it is coming into favour.

It is a native of Syria, and in the open-air of our climate grows 5 ft. high, but it flowers freely when only 18 ins. in size, or two years old. Gerard describes it for us: "The shrubbie mallowe riseth vp like vnto a hedge bush, and of a woodie substance, diuiding it selfe into diuers tough and limber branches,

couered with a barke of the colour of ashes, whereupon doe growe rounde pointed leaues, somewhat nickt about the edges, very soft, not vnlike to those of the common marsh mallow, and of an ouerworne hoarie colour; the flowers do growe at the top of the stalkes, of a purple colour," &c. The flowers, 4 ins. or more across, are produced from the axils of the leaves of the new wood. This accounts for Gerard saying "at the top of the stalkes," and the "hoarie" or downy quality of the leaves only belongs to their young state, they being quite smooth and shining, as already stated, in the latter part of the season. This shrub is deciduous.

Like the Hollyhock, to which it is nearly allied, there are varieties of it, with purple, red, white, yellow, and tricoloured flowers, and some of these are repeated in double forms. All are characterized by having dark spots at the bases of the petals. In this range of colour in big flowers, there is offered a fine opportunity of making a good display.

Its culture is as easy as that of the commonest shrubs; but it should be borne in mind in planting, that this native of Syria should get every possible ray of sunshine, in order to have it flowering well; and if the soil is made warm by a liberal mixture of sand, and slightly raising it above the ordinary level, all the better. There is no tenderness about it; this treatment is only such as has been found in practice to be needful, in order to induce a somewhat late-blooming exotic to flower well in a very opposite climate to its own.

It is readily propagated; the young side shoots may be slipped off in July, and if set in sand, well watered, and a hand-glass placed over them for two or three weeks, they will be ready for potting. Plunge the pots in ashes in a cold frame, and there leave them until spring. In April they may be set in their permanent quarters. Older plants may be transplanted in the autumn as soon as the flowers are over, even if many leaves remain unfallen.—*J. Wood, in The Field.*

A GARDENER'S BOTHY.

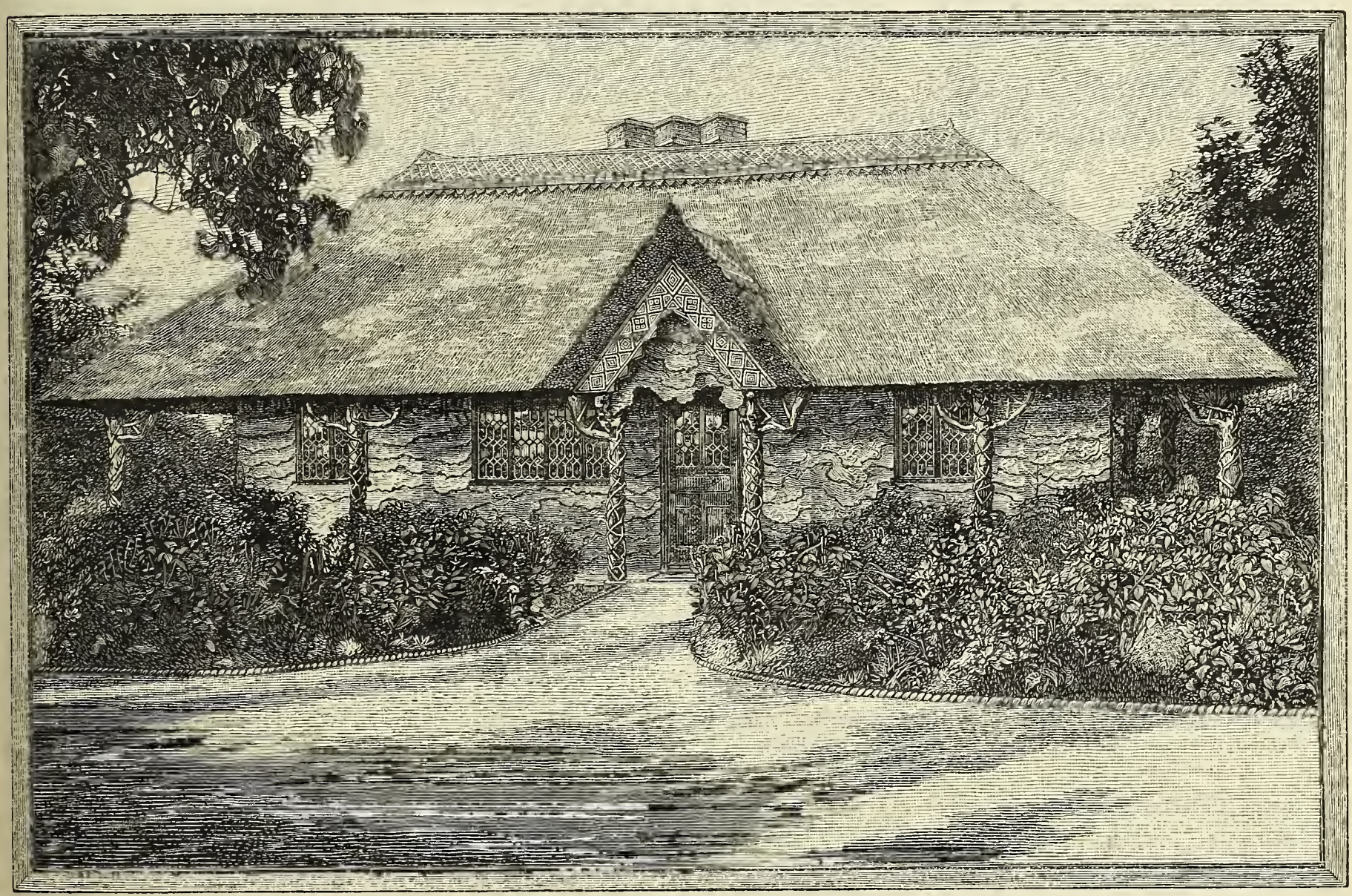
That a bothy life is a pleasant one, few of our practical readers will deny. Many of the fraternity, like ourselves, who have reached mature age, have experienced it, and look back with mingled envy and surprise at the amount of enjoyment we then managed to extract from what now seems to us to be very slight material. Could but the thrill of pleasure which pervades the whole body of the thrifty bothy lad as he counts over the small store of savings stowed away in the corner of his box, or the pleasant excitement which takes hold on him some time before each select and social bothy gathering, and retains its hold on him for a long time after the cause of excitement has passed, be only increased in proportion to the accumulation of store, or the more frequent opportunities of pleasure at more important gatherings, his life would indeed be one of enjoyment.

But unfortunately, as the means of pleasure increases the appetite for its enjoyment decreases, and what we regard as pleasant things in youth are very matter-of-fact occurrences in later years. Not the least among the pleasant recollections of bothy life is the firm and life-long friendships which spring up between the young men associated together, friendships of more than ordinary warmth by reason of the intimate relations existing between the men on account of their inhabiting the same rooms, and sharing the same employment and pleasures together.

Often at flower-shows do the old "bothy chums" meet and chat over old times, and warm is the grasp of the hand and cordial the friendly feelings which exists between such old friends. But although of late years much has been done to improve the places provided for the young gardeners to live in, there are yet many very rough habitations still left. We have one in our mind as we write, which is situated in one of the home counties, and which is a true type of a bad bothy. It faces north and is near the stoke-hole, and so shaded by a high wall that a gleam of sunshine seldom reaches it. Its roof is leaky and its walls damp, and it is altogether a disgrace to the garden. Still, even in such a place youth is irrepressible, and we have seen merry gatherings in the tumble-down sheds, happy little parties, at which the flute and an extemporized tambourine supplied by the bottom of an old watering-pot brought forth the strains by which the dances of England, Ireland, and Scotland were executed, and danced, too, with more than usual energy, difficult steps having to be executed in order to escape may be the large cracks in the floor. Generally speaking, the rougher the bothy is, the rougher the amusements of the inmates; and on the contrary, the more refined the arrangements of the modern bothy so in proportion is the improvement in the habits of its occupants.

The bothy represented in our illustration is that in Mr. Leopold de Rothschild's garden at Ascott, near Leighton Buzzard, and which is the perfection of what such a place should be, being comfortable within and ornamental without. It is constructed to accommodate five young men, and has five rooms, viz., living-room or mess-room, 15 ft. by 16 ft., two bed-rooms, each 12 ft. by 14 ft., a large kitchen, and a bath-room fitted well enough for any gentleman's house. Gas and water are conveniently laid on, and the place is comfortably, not to say elegantly furnished, and supplied with books, periodicals, &c, which offer every inducement to the young men to make themselves comfortable, and at the same time to extend their knowledge. The Ascott bothy is thatched with reeds, and further rendered more rustic-looking by the verandah, which extends 3 ft. all round.

Altogether the bothy at Ascott is of such beauty that there is no need to try and hide it, as is sometimes done, for it is an ornament to the garden. At the same time it is one of those improvements for the benefit of young gardeners which our present advanced state of civilization seems to demand, and which in some degree we are happy to say are becoming much more common than in our young days.



THE "BOTHY" AT ASCOTT.

FRUITS.

The Golden Spire Apple.—The last fruit illustrated in *The Florist and Pomologist*, which has now ceased to exist, is the Golden Spire Apple, than which there are few more handsome varieties. "The name is very appropriate, since it approaches more nearly to the idea of Golden than any other Apple we know, and in shape and build it is very spire-like. This beautiful Apple seems to belong to the western counties, where it is not only considered an excellent culinary variety, but is also used for cider purposes. It is but rarely grown in the neighbourhood of London, and only within the last few years have we noted its appearance on the exhibition table. Mr. Haycock, of Barham Court, Maidstone, knows its value and cultivates it with great care. At the National Apple Congress it was represented in seven collections, and the examples from which the illustration was prepared were exhibited by the Cranston Nursery and Seed Co., Hereford. The variety may be thus described:—Fruit large, conical, somewhat angular, especially near to the eye; eye open, deeply set; stalk short; skin of a pure uniform golden-yellow throughout, very clear; flesh white, tender, somewhat acid; season, October to Christmas. The tree is stated to be a great cropper."

Birds and Fruit-buds.—I found on examining our Red and White Currant-trees the other day, that the birds were making sad havoc among the buds despite the mild autumn we have experienced. On close examination it appears that they have been among them for some little time, for in the most remote parts of the garden they have attacked them most severely. As soon as we discovered the state of things, a man was set immediately to slack some lime, and also to add a portion of soot to tint the wash. I myself took up the sharpening-stone and commenced to whet my pruning-knife, and gave orders to the kitchen-garden-man to give up all work then on hand and assist in getting the bushes pruned, and the mixture of lime and soot applied with the aid of a syringe. This course we continued until the Red and White Currants and Gooseberry bushes were completed. We would urge on those who are troubled with birds attacking fruit-buds to adopt the same system, for we have come to the conclusion that it is a poor policy to prune late on account of the birds attacking them, and have to be content with what they are disposed to leave one. Set about the work at once and choose your own buds, then protect them by the above means.—*C. Warden, Clarendon Park Gardens, Salisbury.*

On Pruning Gooseberry Bushes.—By way of supplementing "Alpha's" remarks on this subject at p. 202, I may be allowed to say that no greater error prevails in the culture of this popular bush fruit, than the practice of spurring them, that is, the cutting back of the individual shoots to within a bud or two of their base, with the result that a thicket of shoots and small fruits only are produced. The way to obtain fine large berries, as well as handsome bushes heavily laden with ropes of rich fruit, is to thin out the shoots freely, and where very long and weak to shorten them back a little, so as to promote a balance of growth in the individual bushes, as well as to prevent the fruit-laden shoots from touching the ground, in which case they would sustain injury by grit and damp.

Thus treated the bushes, in consequence of the weight of the crop, will assume a pendulous habit, and the centre of each bush being partly open, the crop can be gathered without the hands being scratched in so doing. If the readers of The Gardening World would like to be able to pick large Gooseberries in plenty next year, let them follow the instructions set forth above at once, for the sooner the pruning is performed after the fall of the leaf the better will be the results. When the pruning is finished, remove the prunings to the fire-heap and with a rake draw 1 in. thick of the surface soil back about 3 ft. from the stem of the individual bushes, and when the branches are damp dust them well over with fresh lime. This will not only save the buds from the ravages of birds, and kill the moss, which is so ruinous to fruit-trees, when allowed to spread on them, but it will also destroy the larvæ of the Gooseberry caterpillar.

This done, lay on a good surface-dressing of short manure and point it into the ground with a four or five-pronged fork. All fruit-trees and bushes which are infested with moss or lichen should be dusted over with lime when damp. In the case of large orchard trees, we apply a solution of fresh lime and soot with the garden engine, one man directing the liquid on to the branches, whilst two others work the pump. Where a great number of trees, as in our case, have to be operated upon, it will be necessary to dissolve the lime in a large tub and strain the liquid through a fine sieve into the engine. This will prevent the barrel of the engine from being choked, as would otherwise be the case, and so facilitate the process of distributing this moss and insect-killing liquid.—*H. W. W.*

Apples in Yorkshire.—We take the following letters on Apple culture in Yorkshire from *British Apples*:—Taking all points into consideration, we consider dwarf bush-shaped trees, slightly pruned, and not hard spurred in, the best, both for private use and market. The best fruit is obtained from young trees ten to twelve years old. The trees are all on the Crab stock. Situation, sheltered from north and east. We find that if it be fully exposed to the south-west, much fruit is lost by the winds. Soil, one part good and loamy, resting on magnesian limestone, the other on alluvial soil; subsoil sandy, in some cases a deep warpy loam, just above the water-mark of periodical flooding of the River Wharf. Grown in the latter condition the fruit is generally very fine for the north. I have known 40 stones of fruit picked from a tree of so-called Red Balsam, or Scarlet Cockpit. To-day, October 12th, we have picked 35 stones from a standard tree of Lewis's Incomparable. There is a good deal of fruit grown hereabouts considering the latitude. I have been trying to induce those most interested to plant more Apples for some years past. Standards are the most liked, because the ground beneath can be cropped or laid down in grass, the cattle not damaging the trees to any extent. For my own part I prefer bush-shaped trees, if the fruit alone is to be considered, because of the ease in gathering the fruit, and, because the trees are ready of access, they can be more regularly pruned, and will consequently produce finer fruit—an important advantage. Further, there would not be such heavy losses by winds in the autumn. For choice dessert Apples I do not think there is a more profitable way of growing them than on espaliers. Pyramidal-shaped trees we do not care much about, unless the natural habit of the tree causes it to grow in that form. I ought to mention that we are here much more favourably situated than others in many other parts of Yorkshire as to altitude, being about 100 feet above the sea-level.—*H. J. Clayton, Grimston Park, Tadcaster.*

The fruits sent were grown on standard trees about ten years old, grafted on the Crab stock. Hutton Hall Gardens are comparatively new. The situation is seven miles inland, 400 ft. above sea-level, and we have no old timber in the park. The gardens are much exposed to gales off the North Sea. The average rainfall is 39 ins. per annum. The soil may be described as argillaceous, pure and simple; the subsoil consists of hard blue and yellow clay. By draining, trenching, liming, manuring, and adding large quantities of sea sand, it has been much improved, and now grows as excellent vegetables as Apple-trees. The cold and sunless weather we had during July will account for the want of colour in the fruit.—*J. McIndoe, Hutton Hall, Guisborough.*

Pear, Grand Soliel.—This is an excellent new variety raised in Belgium by Major Esperen, and highly recommended by M. Edward Pynaert, of Ghent. It is rather large in size, variable in shape, with a rough skin at first bright green, but changing to golden-yellow streaked and shaded with red-brown. It has a large fleshy stalk; a deep eye, and white, moderately firm flesh, brisk, luscious, and perfumed. Its season is November and December, and the tree is stated to be a vigorous grower.

FLOWERS.

Seasonable Work in the Plant-houses.—In the stove some useful work may be done at this season. In any case where Crotons or Dracænas have become leggy they should have attention. If good-sized tops of Crotons are taken off they will root freely where there is a good bottom heat, and will make nice plants for the spring. With Dracænas it will be found a good plan to cut the stems about half way through at a point where the foliage is good, placing a small wedge in the incision to keep it open, and then bind some moss round the stem, keeping it moist until roots appear where the incision is made, when the top may be taken off and potted, and if extra stock is required the bottoms may be shaken out and laid horizontally in some cocoa-nut fibre refuse, these will throw up young shoots which should be taken off as soon as they have made a few roots at the base. Both these and the tops should be placed where there is a brisk bottom heat and remain until they have made some fresh roots. It is also a good time to finally thin out and clean Stephanotis previous to its starting into fresh growth. In pruning it, none but well ripened growths should be left. We recommend that the knife should be used freely, leaving only just sufficient wood to cover the space allotted to it. It is better to cut out a little too much, than to leave too much wood in the plant, especially where the space is limited.

Chrysanthemum Sœur Melanie.—Nothing can be better for supplying cut flowers at this time of the year and all through the month of November than this variety. It has the great advantage of being of a dwarf habit of growth, and consequently is not so liable to be blown about by the winds. If cuttings are struck any time in March, and grown on into nice stiff plants by being stopped about twice, hardened off carefully, and planted out in the herbaceous borders early in May, watered occasionally during the summer, if dry, and kept neatly tied to stakes, the plants will reward the cultivator with an abundance of pure white flowers at a time when most of the varieties in the early blooming section will be over. Sœur Melanie grows only about 2 ft. or 2 ft. 6 ins. high.—*E. M. S.*

The Daffodil.—At a late meeting of the Linnæan Society the following letter was read from Mr. William Brockbank, F.L.S., dated Brockhurst, Didsbury, November 17th:—"On April 2nd I had the pleasure of exhibiting to the Society a number of prepared specimens of the Daffodil, which appeared to prove that Double Daffodil flowers might produce seeds, and I advanced some arguments, based upon the observations I had made, to show that they were spread over wide areas in a wild state by seeding. The specimens showed the seed vessels filled with ovules, but this did not fully prove that ripe seeds capable of germination would be matured. I therefore carefully observed a number of flowers of Double Daffodils (Narcissus telamoncus plenus), and marked them as they went out of bloom to prevent any mistakes. One of these produced a capsule containing nine shining black seeds, which were gathered June 24th, and at once sown in a pot and covered with a sheet of glass. Of these seeds four have already germinated, and show grass-like growths an inch above the soil. This, therefore, completes the proof."

Spiræa (Hoteia) japonica.—In many gardening establishments this useful and effective decorative plant is grown largely and systematically for house and conservatory embellishment. Annually from April to July, as the plants have done flowering, they are, while thoroughly moist at the roots, divided and planted in a favourable situation out-of-doors in rows from 15 ins. to 18 ins. apart, according to the size of plant aimed at, and at the same distance asunder in the rows. The plants are then watered and mulched, and, with the exception of keeping them free from weeds, and, in case of the summer being a very dry one, giving them an occasional soaking of water at the roots, they are left to take care of themselves for sixteen or seventeen months. Where batches of

Spiræa were thus treated in the summer of 1883, the present is a good time to take up a batch and pot them in suitable sized and properly crocked pots—that is, in sizes ranging from 6 ins. to 10 ins. in diameter. Use a compost consisting of three parts of light loam and one of leaf-mould and manure from a spent Mushroom or Cucumber bed, with a dash of course sand, and let it be moderately rammed with a flat rammer. Then water and stand the pots on coal ashes in a cold pit, whence they can be taken to the forcing-house as required. In the meantime it would be advisable to put a small batch of plants into the Mushroom-house for early work, and as soon as the plants have started into growth they should be gradually inured to light, and be finally removed to the forcing-house.—*H. W.*

Hydrangea petiolaris.—This striking and elegant plant is a native of Japan, where it is common in the subalpine districts. It is closely allied to the Himalayan H. altissima, both having the curious habit of the petals cohering at their tips in an extinguisher-lip cap, as in the Vine. They both have a remarkable habit of climbing lofty trees, by throwing out numerous adventitious roots along the stem and branches, as in the Ivy. H. petiolaris is a free grower, and if planted out in a cool conservatory with a good support will attain a considerable size. The Kew plant is grown in the temperate-house on the stem of a tree fern (Dicksonia antarctica), and flowered in April and May of last year. The leaves are dark green above, paler below, ovate-cordate, and serrate; the cymes flat and 18 ins. to 10 ins. in diameter; the radiate flowers are white, not numerous, and 1 in. to 2 ins. broad; the fertile flowers very numerous, pale green, and each with 15 stamens to 20 stamens. It has been sent to Kew from two sources—from Max Leichtlin in 1878, and recently in the collection of the late Mr. Joad, of Wimbledon. In both cases it was labelled Schizophragma hydrangeoides, which is a very different plant. It is figured in the December number of *The Botanical Magazine*, t. 6788.

Bedding Pelargoniums.—Considerable difficulty is often experienced at this time of the year in preventing these plants from damping off. Keeping them dry at the roots prevents the mischief in a great measure, but this in some cases may have the undesired effect of killing the roots and drying up the tops. If compelled to water the plants and damping should result, remove all decayed leaves and dust the plants over with some fine broken charcoal, this will arrest in a great measure all damp, and keep them over until a better position may be found for them, such as a vinery after the Grapes are cut.—*C. W.*

Myosotis dissitiflora.—Those who wish to have this beautiful plant at its best should lose no time in taking up and potting a portion of their stock, as, by doing so now, they have time to get fresh hold and become re-established before the season arrives for them to bloom, when, without having made new roots, they would flag under the influence of sun or exposed to dry air. In lifting the plants care should be taken to raise them with good balls that they suffer little check, and when potting them the proper soil to use is that which is light and rich, to settle which about them a good watering is necessary, and after this is done the best situation for the plants is in a cold frame, where they should be kept close for a week or so to give them a start. As soon as they will bear the air without suffering, it will be needful to tilt the lights, and during mild weather it is advisable to remove them altogether, as under confinement the Forget-me-not is very subject to mildew, which pest shows itself on the leaves, and, if not stopped, soon spoils the plants. The best remedy is sulphur, and to prevent the spread of the fungus this should be dusted over the foliage, and, after a few days, be syringed off again. Another parasite that generally affects the Myosotis is the green-fly, which spreads at such a rate that, if left for only a short time to itself, quite cripples the points of the shoots and destroys the young tender blossoms. The only way of dealing with the aphis is to fumigate or syringe with tobacco-water, the fumigating being the best, as the smoke reaches every part and none of the insects escape.

VEGETABLES.

Cucumbers from November to March.—In order to maintain a constant supply of Cucumbers during the interval from the end of November to the end of March it is necessary that the cultivator should be provided with suitable accommodation in the form of a low, light, and air-tight house, adequately supplied with top and bottom heat, so that a minimum temperature of from 60 degs. to 70 degs. can be kept up, let the weather be what it may. To do this in very severe weather, it will be both necessary and advisable to cover the glass at night with mats; indeed this practice, on the score of economy as well as a means of securing a more genial temperature and atmosphere in the house, is to be commended during the winter months. The plants during the period above referred to will require to be very carefully looked after in the way of watering at the roots as well as distributing moisture in the house. This, however, must be regulated in accordance with the condition of the weather and the plants; but a humid rather than an arid atmosphere should be aimed at. Hence during mild weather there will be no necessity for damping the plants with tepid water from the syringe, in which case mildew might ensue. On the other hand, should the nature of the weather be such as to necessitate severe firing to maintain the minimum temperature given above, a slight distribution of moisture in the house in the morning and afternoon will be necessary to counteract the somewhat parching influence of the highly-heated pipes. Cucumber plants being subject to canker, it will be advisable, as a preventative, to place some powdered charcoal around the individual stems; should fly be troublesome, fumigate a couple of evenings in succession with tobacco-paper. Crop light and cut the fruits as soon as large enough, and stand them on end in a saucer containing a little water in a cool room till required for use.—*H.*

Haricot Beans.—The origin of the word Haricot as applied to Phaseolus vulgaris, has been a source of much controversy. De Candolle, in his *Origin of Cultivated Plants*, says that chance has led him to find it. An Italian name, *araco*, found in Durante and Matthiolo, was given to a leguminous plant which modern botanists attribute to *Lathyrus ochrus*. Durante quotes the Greek ἀραχος as the synonym of his *araco*, which gives the clue to the etymology. Père Feuillee wrote in French aricot; before him Tournefort, who was the first to use the name, spelt it *haricot*, in the belief, probably, that the Greek word was written with an aspirate, which is not the case, at least in the best authors. M. Littré, in his dictionary, inclines to the theory that *Haricot*, the plant, comes from the *ragôut* called haricot or laricot of mutton, given in some French dictionaries as the equivalent of "Irish stew," seeing that the latter is older in the language and that a certain resemblance may be traced between the Haricot Bean and the morsels of meat in the *ragout*, or else that this Bean was suitable to the making of the dish. As Haricot Beans are not used in making the *ragout*, as we find on reference to Soyer and other authorities on cooking, Littré's suggestion is evidently a misleading one, while De Candolle's seems perfectly satisfactory. Wedgwood, in his *Dictionary of English Etymology*, says, "*Haricot* is described as small pieces of mutton partly boiled and then fried with vegetables, but without any reference to *Haricot* Beans."—*Midland Naturalist.*

Seedling Potatos.—I must join issue with Mr. Webb (p. 219) in the conclusion at which he arrives with respect to the time needed to discover the real merits of a seedling Potato. My own experience is a very large one, not only with my own seedlings but with others, and I have always found the features shown in the first year or two to be thoroughly borne out. Perhaps something is due to the strains of seedlings, or rather the parentage from which they are derived. Good stocks give usually very true results, bad stocks are always unreliable. I fear Irish raisers are a long way behind us in this matter of Potatos, indeed one kind of which Mr. Webb writes in terms of such approbation, Erin's Pride, tried at Chiswick last summer with so many other fine kinds, to be proved a very poor sample, rough, uneven, and altogether unworthy a place beside our best English kinds. The Champion seems to have been made the active parent of many fresh new kinds, and a coarse and unreliable parent it is. The raiser who harks back to the Champion for raising seed-stocks of Potatos will find himself some twenty years in the rear.

I have found even the first year's character of seedlings giving a pretty fair estimate of what the kind will be in years to come, especially if the seedlings be treated fairly as Potatos should be, and not coddled and nursed as though they were tender exotics under glass, and perhaps in pots. My own practice is to sow seed in pans early in April. They will without heat germinate in a couple of weeks and by the end of the month the plants need dibbling out thinly into other pans, then by the middle of May they may be stood in a warm place outdoors, and at the end of the month be transplanted with a trowel and a good ball of soil to each plant into the open ground, in rows some 30 ins. apart and in good soil. Such plants will, according to character, produce from 1 lb. to 3 lbs. of tubers the first year, and a really good stock is obtained to enable a correct line to be obtained the second year. If then any seedling kind did not give satisfaction it would go, but of course in making such a selection very much depends upon the experience and judgment brought to bear upon the matter as those fully acquainted with Potatos will better know what is worth preserving and what is not, than will a raiser in his novitiate.

It is this comparative lack of knowledge as to what constitutes a really improved Potato, that causes so many inferior kinds to be put into commerce. There can be no greater waste of labour than in raising seedlings the which are not the product of some well-designed and carefully-executed cross. Naturally fertilized seed almost always reproduces its kind only. A score of seedlings from some good cross is worth ten times the number from a naturally fertilized pod. Those who may contemplate raising seedling Potatos should not make their crosses in a haphazard fashion, but should first select kinds of known excellence, productiveness, and capacity to resist disease, and utilize the pollen from one kind to fertilize blooms on another, carefully marking the flowers thus fertilized, saving the seed apples produced, working out the seed in the winter when the pulp has decayed, and finally sowing it in the following spring as above advised.—*D. A.*

The Best Varieties of Rhubarb.—It is an undoubted fact that Rhubarb is one of the most important of kitchen-garden crops, and regarding it from a pounds, shillings, and pence point of view, I should doubt if we have any other crop that pays better when properly grown. The question of cultivation lies in a nutshell, and may be summed up in the words, "The more manure, the more Rhubarb." We therefore dig the land deeply, manure it heavily, and plant single crowns, at 3 ft. apart each way, in February. A large plantation planted last February has grown into fine stout stools, fit for forcing if required. The variety which I have cultivated for the last eighteen years is Hawke's Champagne, and as it was presented to me by Mr. William Myatt, I can say positively that it is the true variety, raised by Mr. Hawkes, market gardener, Deptford. It is the earliest and best flavoured of any Rhubarb of my knowledge. The Royal Horticultural Society's Fruit Committee last spring gave Messrs. Bunyard & Co. a first-class certificate for this excellent variety, an honour which it well deserved. My next favourite variety is Scott's Crimson, which is the only Rhubarb I know of that cuts crimson to the centre, but it plays second fiddle to Champagne in regard to earliness. Paragon I have only a slight acquaintance with, therefore I will pass it over to a future time. If very large Rhubarb is esteemed, and size with some is preferred, I can highly recommend Myatt's Victoria. —*R. Gilbert, Burghley, Stamford.*

THE

Orchid Growers' Calendar.

Vanda cœrulea.—By common consent this plant is acknowledged to be one of the best of the genus to which it belongs, in fact, I think that many Orchid growers consider it should hold the foremost place, for whether we consider its all but unique colour, its floriferous character, the season at which it blooms; and the length of time that the blooms remain fresh, we shall not easily find its equal, yet in private collections we seldom find it grown in quantity. On looking through one or two large collections quite recently, I was disappointed to find it so scantily represented. I can scarcely think that this is altogether to be attributed to any real difficulty in its cultivation, as I find it to be very easily suited in this respect.

For some years I have grown them in teak baskets, suspended near the roof of the Cattleya-house, in such a position as will enable them to get a good amount of light, without being exposed to bright sun. As regards moisture it is treated precisely the same as the other Vandas, in fact, ours hang partly over the others. And with this treatment we never fail to get a good return for our labour, in the way of a profusion of flowers at a dull time of year. We have one plant that has been under my care for about fourteen years (from a small imported bit with six of eight leaves), which has this autumn produced fifty-nine blooms on four spikes, the greatest number on one spike being seventeen, and last year the same plant had on one spike twenty-two blooms. This autumn we have had over one hundred blooms from six plants, which I think may be considered a proof that with rational treatment this plant will amply repay one for all pains taken in its cultivation.—*J. Jaques, Malvern.*

The Orchid Album.—The current number of this admirable publication contains beautiful plates of Dendrobium moschatum cupreum (generally known as D. Calceolus), Cattleya calummata, Odontoglossum Cervantesii and Vanda Cathcartii. Cattleya calummata is a garden hybrid raised by M. Alfred Bleu, of Paris, between Cattleya Acklandiæ and C. intermedia, and partaking more of the characteristics of C. Acklandiæ in its manner of growth and in the size of its flowers, but appears to be more free in its development. The plant is of dwarf-growing habit, and is also free-blooming. It produces slender club-shaped stems, from 4 ins. to 6 ins. high, surmounted by two leaves of a light green colour, from between which the flowers proceed at the time the plants are making their growth. The sepals and petals are white, heavily blotched with rosy purple, and the lip is a bright magenta, in shape similar to that of C. Acklandiæ. The plant requires the same kind of treatment as C. Acklandiæ.

Phalænopsis Stuartiana. — This charming Orchid is supposed to be a natural hybrid, and is closely allied to P. Schilleriana and P. amabilis. The young leaves are transversely marbled with greyish-brown. The flowers are nearly 3 ins. in diameter, pure white, except the lower half of the lateral sepals and the lip, which are densely spotted with cinnamon red. It succeeds well in the East Indian house, under similar treatment to P. Schilleriana. The plant should never be allowed to get dry, and the Sphagnum should be kept growing. There is an excellent figure of it in the November number of *The Illustration Horticole.*

Odontoglossum Londesboroughianum.—It is surprising the length of time this Odontoglossum will remain in flower. A plant here has been in bloom for fully two months, and has yet some buds to open, which will, by the time the last flower fades, extend its season of flowering to nearly four months. The rich brown and bright yellow flowers are very telling at this season of the year, and find many admirers.—*E. Dumper, Summerville, Limerick.*

FLORICULTURE.

New English Roses.—Amongst the novelties announced for distribution next year, we note two new Roses raised by Mr. Thomas Laxton, and which he states are the first outcome of the last six years' work, and the bravest survivors of upwards of 1,000 seedlings, raised from some hundreds of crosses effected during that period.

Bedford Belle is described as a hybrid tea-scented variety, from Gloire de Dijon, fertilized by Souvenir de Comte Cavour (dark H. P.). "The flower is of a lovely blush white, in colour approaching nearly to that of La France, but sometimes tinted rose externally, of good size, cup-shaped, and most beautifully formed, very full, but every bud coming perfect in form, and opening well, even in bad weather, a qualification not present in all the hybrid Teas. The plant is a very early and persistent flowerer, commencing in May and June, whence for several weeks it continues a mass of bloom, and again flowering intermittently until October. The tree is very hardy and vigorous, with a tendency to climb or become pendulous, branches somewhat thickly set with blackish thorns, on dark tinted stems, foliage composed of numerous leaflets of a bluish-green colour, giving this variety a most distinct appearance from all others. It is a splendid Rose for the florist for cutting, and will probably also, on account of its beauty and distinctness, take a place on the exhibition table."

Gipsy is "another beautiful but smaller Rose from the same source, partaking more of the H.P. type. Colour dark velvety red, every bloom coming perfect like a miniature Chas. Lefebvre. Plant vigorous, hardy, and a most perpetual bloomer, one of the best dark Roses yet introduced for the florist."

DAPHNE INDICA.

The deliciously fragrant Daphne deserves to hold a more important place in our greenhouses and conservatories than it does at present, and perhaps it would, were it not for the difficulty of obtaining healthy and good-looking plants, which is generally due to the want of a proper knowledge of their culture. Experience has proved the method of propagation and culture given below to be attended with the best results, and the gardener who wishes to increase his stock of these plants cannot do better than adopt it. The Daphne can be grafted or obtained from cuttings.

In the selection of cuttings, ripe wood of intermediate growth, well finished up at the points, should be taken, making each cutting about 3 ins. long. The bottom of the cuttings should be cut off with a sharp knife, this will leave a fresh and smooth surface, which is favourable to the better production of roots; and the cuttings should immediately be potted into long thump pots, taking care to press the soil in very firmly. They should be placed upon a slight bottom heat in a case or frame situated in a house of intermediate temperature; if, however, too much heat is given they often not only start into an unnatural growth, but do not put forth any roots.

They will require careful treatment while in the frame. Each morning the light or glasses must be removed for an hour, and any cuttings that are dry must be watered, but it is only necessary to water the whole case every other morning, which should be gently done with a fine rose pot. Occasionally the cuttings must be looked through, and any dead leaves should be removed, as also must any pieces of flower in the centre of the cuttings, and thus prevent their decay. They should also be sheltered from the sun. As soon as they have well rooted, they can be placed outside the frame, and there be allowed to remain until they have become somewhat hardy. The young plants should then be firmly potted into large 60-sized pots, and after watering they require to be placed in the intermediate-house. When the plants have put forth sufficiently developed roots they should be potted into large 48's, and should be replaced in the intermediate-house, but they should be well supplied with water, and be occasionally syringed.

As the season advances, say in April, these plants must be removed to a cold pit to receive the same treatment as they did in the intermediate-house; but here great care must be taken both to protect them from the frost, and to shade them from the hot sun. As the weather gives opportunities, the plants should receive a good supply of fresh air, and when the season has so far advanced that the frost is no longer to be feared, the lights should be taken off altogether during fine nights. This mode of treatment is recommended because, as a rule, Daphnes grown in houses turn out so sickly, and soon get their foliage spotted with disease.

During the flowering period the plants should, of course, be removed to the conservatory, or to a cold, airy greenhouse; but they should be taken back to the cold frame as soon as they have ceased to flower.

The soil for the cuttings should be composed of three-fourths of peat and one-fourth sand, to which should be added a small quantity of finely-broken pot shreds, the whole to be well mixed together and sifted through a ¼-in. sieve. For the stronger plants, however, the proportions are varied thus:—Half turfy yellow loam, one quarter of peat, and another of sand, mixed together with the finely-broken pot-shreds or ballast. The pots used both for plants and cuttings should be well drained.

For grafting, the common purple and white D. Mezereum is used as a stock, and the grafts unite very freely with it, and in the course of a few months develop into nice plants. The stock must be cut down, leaving only 2½ ins. of the stem above the soil. The top of the stem should be made smooth and level, and a piece an inch long and V-shaped must be cut out of the side of the stem, leaving a groove or hollow into which the graft must be made to fit. After having bound the grafts securely with Russian matting, they should be placed upon a very slight bottom heat in a cutting case or frame. Here they must be ventilated for half-an-hour each morning for the first week, but after that time the period should be increased to an hour; the dry plants must be watered, but great care must be taken not to wet the centre of the stock or even the matting, and when the sun shines they must be shaded from its rays. When the grafts have thoroughly united, an increased quantity of air should be given them daily, until at length they are sufficiently hardened to be stood out in the open part of the house. As soon as they are strong enough they should be potted into large 60's, and be replaced in the intermediate-house; and after the plants have well rooted through the new soil they may be potted into large 48's. The plants should be watered when they become dry, and occasionally a good syringing should be given them, but this should not be done until they have well rooted. They should then be removed to a cold pit to be treated in the same manner as those raised from cuttings.—*T. H.*

POTATOS AT BINGLEY HALL.

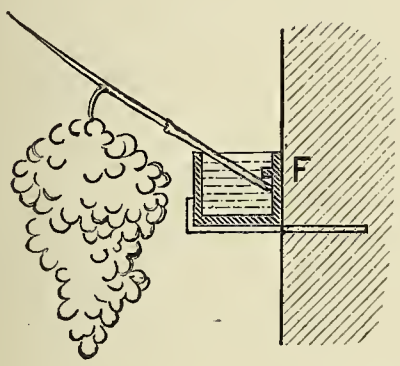
As a successful exhibitor of Potatos myself I was very much pleased with the article on "Exhibition Potatos" which appeared in The Gardening World of September 13th, and I came to the conclusion that it was written by one who knew what he was writing about. In the Midlands Potatos form one of the leading features at all autumnal exhibitions, reaching the climax at the great Cattle Show annually held at Birmingham the first week in December. The prizes ranging in value from 10*s.* to £10 10*s.*, and divided into fifteen separate classes, with such eminent judges as Mr. A. F. Barron, of the Royal Horticultural Society's Gardens, and Mr. Thomas, of Chatsworth, invariably secures keen competition from the best growers in all parts of the Kingdom. This being so a few notes derived from a closer inspection of this year's exhibits may not be uninteresting to some of the many readers of The Gardening World, who, like myself, strive to keep pace with the times. The exhibits at Birmingham, taken as a whole, clearly showed that the past season had been a favourable one for the growth of Potatos, this was clearly evidenced by the very large number of dishes staged, and the size and even quality of the tubers, being decidedly in advance of the display of the previous three years.

In white rounds Schoolmaster fairly held its own, being somewhat closely run by Porter's Excelsior and First and Best. Some good examples of Prime Minister and Bedfont Prolific were likewise shown, and among varieties not generally known and staged

but sparingly, I was greatly pleased with some dishes of Lady Pigott, Standwell, and Lady Truscott, a dish of the latter being probably the heaviest dish of white rounds in the Show. Oval whites were numerously represented, Lady Gordon being shown in fine form and marked in my notes as a desirable acquisition.

White kidneys were in perfection, and to Cosmopolitan must be awarded the palm in this class; nearly every winning collection containing splendid examples, fairly outweighing International Kidney, and Magnum Bonum. In the classes for two dishes this variety was shown in two out of the three winning sets. In the sections for early kidneys, Woodstock Kidney showed up with the heaviest and most handsome tubers.

Coloured rounds were very numerous, Vicar of Laleham being the most shown among the dark skins. There were but three dishes of The Dean staged, but these were sufficient to show that The Vicar will be eclipsed as soon as its seedling becomes better known. Reading Russet stood its ground well, and nothing handsomer could have been wished. Manhattan carried off the honours for the heaviest dish in this class. In the lighter coloured reds, or crossbreeds as I prefer to call them, the number of dishes of Adirondack surprised me, all equally well grown. Beauty of Radstock seemed to have lost ground so far as size was concerned, and was to be found in only a few collections, while Blanchard, a variety after the same type, was evidently in favour. Tifflie's Annie, a novel-looking sort, and Early Red Emperor, Purple King, and Lord Rosebery were jotted down by me to be tried next year.



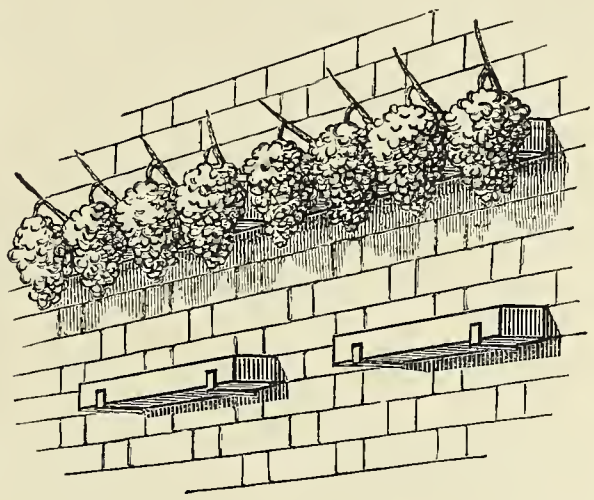
SECTION OF GRAPE TROUGH.

Coloured kidneys, in almost all shades imaginable, constituted by far the largest section of the Exhibition. White Elephant appeared at a discount, as I could find only two dishes staged. The same may be said of most of the old American Rose tribe. Mr. Bresee appears still indispensable, the handsomest dishes being of that variety. A dish of a purple kidney, called Alliance, formed one of the best in a winning collection of eight dishes. Edgecote Purple showed up well, and will evidently rise in favour as it is better known. Sir Garnet Wolseley, a red mottled kind, Caunce's Favourite, and W. E. Gladstone, I noted as varieties in this class, new to me, and worthy of a trial.—*J. Knight, Bilston.*

White Celery.—Three years ago, when taking a trip into the southern counties, I called at Normanhurst, near Battle, the seat of Sir Thomas Brassey, M.P., and although a stranger to the worthy gardener, Mr. Allen, I was well received by him. After showing me round the houses, which were in the finest trim, we walked on to the pleasure-grounds, and there I beheld the finest collection of conifers it was ever my good fortune to witness. I was then ushered in between the garden walls, and there felt in my element. The first thing I noticed was a quarter of dwarf White Celery, which I looked upon with great admiration, and concluded that this Celery was the pick of Mr. Allen's excellent quarters of vegetables. I then resorted to the most honest of all trades, viz., begging, and Mr. Allen was good enough to favour me with two roots, which I brought home and seeded. I leave you to give the readers of The Gardening World your opinion of it.—*R. Gilbert, Burghley.*—[The flavour was very good; but the specimens sent, being trimmed, we are unable to say if it is distinct from White Plume.—*Ed.*]

WARD'S GRAPE TROUGH.

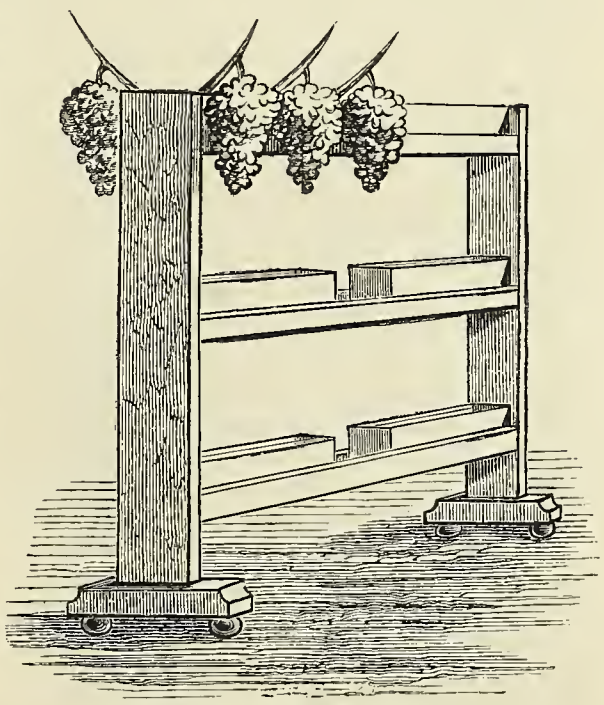
At one of the late autumn fruit shows held in connection with the Health Exhibition, Mr. George Ward of Bishops Stortford, who a few years ago was a very successful grower and exhibitor of Pine Apples, and is now as well-known as a large grower of Grapes, exhibited a new trough which he has invented for



GRAPE TROUGHS AGAINST A WALL.

keeping Grapes after they are cut from the vine. The trough is made of glazed earthenware, oblong in shape, and about 17 ins. long. The troughs are single and double in form, the former for fixing with L-shaped holdfast against walls, and the latter for standing on wood-frames constructed as shown in the illustration below. The method of fixing and using them will be clearly seen on reference to the larger scale sections.

Both single and double troughs have a flange or ledge, f. f. The shoot bearing the bunch of Grapes should be cut sufficiently long to admit of the bunch hanging free of the trough, while the end of the shoot is lodged under this flange as shown. No tying or fastening of any kind is required, the weight of the Grapes being sufficient to hold the bunch in position. By this simple contrivance much labour and trouble is avoided. The Grapes hang in their natural position, without the trough being tilted, and consequently there is no danger of any drip, or of the end of the shoot being out of the water, though the trough need not be filled brim-full. Water can



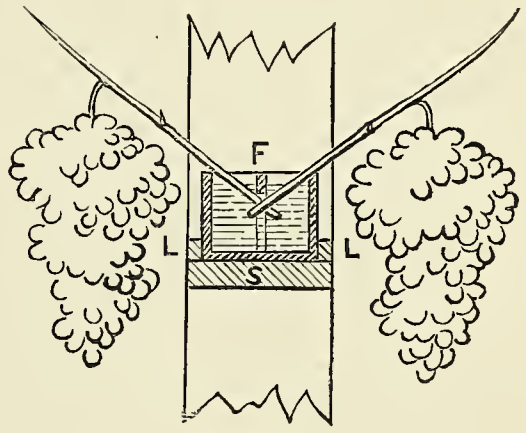
WARD'S GRAPE RAIL AND TROUGH.

be put into the troughs without disturbing the Grapes, and each bunch can be lifted out for examination, and replaced with the greatest ease.

The troughs are not placed close up end to end, but kept about 7 ins. apart, as shown in the sketches. It would be useless to place them too close, because if a bunch is hung at the extreme end of each, another could not in any case be placed between. Mr. Ward has found his troughs of great value to him in keeping a large quantity of Grapes from January to April, and many practical men who have seen them have expressed unqualified approval of the invention.

HEATH AND HEATHER.

Botanically considered, the heaths (for there are many) belong to the great and very beautiful family which has for its most imposing members the arborescent Rhododendrons of the Himalayas and Ceylon, and for its tiniest, that delightful little fairy, the moss-Andromeda of Lapland. The heaths themselves occupy a middle place in regard to dimensions: the points of resemblance in the entire company are found in the structure of the flowers, and in the same kind of give-and-take of aggregate characters which unites the members of all other comprehensive orders. Two or three of the very plentiful species, occurring in Southern Europe, attracted attention more than 2,000 years ago, the ancient Greeks plainly intending them in the name ereikë, met with now and then in their dramatic and pastoral poetry, Æschylus, in that splendid passage in the Agamemnon, where we have the description of the news being conveyed by means of beacon-fires lighted upon mountain-tops, beginning with "a brilliant gleam from Ida," the signal thenceforward "travelling joyously," says that the watchmen of Messapius did



SECTION OF GRAPE TROUGH AND RAIL.

their own part well by kindling a blaze with withered heath. Theocritus, in his Fifth Idyll, represents the rival musicians as calling in for umpire a woodman engaged in cutting ereikë. The Greek word travelled into Italy, settling there as part of the vernacular, but (though employed by Pliny) it does not seem to occur in the Roman poets: nor indeed do we come upon it again for fifteen centuries, or till the period of the revival of learning in Western Europe. In 1542, temp. Henry VIII. of England, that admirable old botanist Leonard Fuchs, of Basle (so deservedly commemorated in the name of the Fuchsia), gives in his *Historia Stirpium*, p. 254, a drawing, singularly accurate, like most of his other plant-pictures, of the Calluna vulgaris (the "common heath" or "heather" of to-day), underwriting it "erice, German heyden." In 1586, Mathiolus, of Florence (in honour of whom we call the Brompton-stock, Matthiola), gives a similar but inferior woodcut representation, with various European synonyms.

Botany, in those days, was only finding its feet, so that no wonder the name erica got passed on to various other plants of similar habit and complexion, as the Tamarisk, the Crowberry, and others figured in Gerard's *Herbal*, published towards the close of the reign of Elizabeth. The Germanic "heath" followed suit, denoting, in these early days, any little wiry ligneous plant, with slender leaves, especially if an inhabitant of the wilderness. Hence the appearance of the word in the authorized version of the Old Testament (Jer. xvii. 6 and xlviii. 6), the proper sense of the original Hebrew, 'ar'ar and 'ar'o er, being in all likelihood, savin. By and by, when Botany became an exact science, and "genera" were estab-

lished, Erica acquired its modern definite sense, designating that matchless group of hardwooded flowering under-shrubs in which we find not only the beautiful ereicë and heath of our forefathers, but the nearly 400 species that were quite unknown to them, being natives of a region they wot not of, that land of flowers, the extreme point of South Africa, familiarly called the Cape of Good Hope, and many of which are the pride of the modern greenhouse.

Enriched as our modern gardens are with the botanical wealth of every country in the world, it is hard to think of the time when the Rhododendron, the Fuchsia, the Camellia, the Chrysanthemum, were not only unknown, but undreamed of, as in truth our modern Orchids were, only fifty years ago. How grand has been the outward ripple of enterprise to discover and concentrate in our own dear little island the loveliest, the sweetest, the most marvellous of Nature's vegetable productions! When George III. ascended the throne, not only had the Rhododendron, the Fuchsia, the Camellia, the Chrysanthemum, still to arrive, but every one of the heaths excepting the original dozen Europeans. The best-known of the latter would undoubtedly be the indigenous "common heath" or "heather," in Latin, Calluna vulgaris, the species of widest distribution, extending as it does over the whole of central and northern Europe, to the Arctic circle, eastward to the Ural Mountains, and westward even to the Azores and Labrador, where it stands as the sole American representative of its special race, for the Calluna Atlantica so called (Seeman's *Journal of Botany*, iv., 305, 1866) can hardly be considered distinct. Mark here that "vulgaris" in Botany does not mean 'vulgar,' or the character and behaviour of the ignorant, the selfish, and the discourteous—of such of these in particular, as suffer from that grievous mental disease, the idea that money by itself suffices to make a man a gentleman. In botany "vulgaris" means universally diffused, or the same as when the Prayer Book calls plain English the "vulgar tongue." The Calluna is at once known by its minute, closely-imbricated leaves, and long erect clusters of shining lilac flowers.

It is this one, the Calluna, which we take to be the plant entitled purely and simply to the name of "heather." Doubtless, in the northern parts of our island, "heather," a modification seemingly of Scottish origin, is applied indiscriminately to the Calluna and to the two common wild Ericas, cinerea and Tetralix—the late Mr. Bentham even restricts it to the cinerea. But standing alone, as a species, it is eminently convenient, at all events, to let "heather" denote the Calluna, and nothing besides, and then we have precise and definite appellations, and know what we are talking about. "Ling," it may be added, is another name for the Calluna, thus a synonym of "heather" ipsissima. Calluna, as a genus, was distinguished about the year 1800, by the celebrated botanist, Richard Anthony Salisbury, who pointed out in the *Transactions of the Linnæan Society* (vi., 317), that the structure of the flowers and seed-capsule is essentially different from that of the ericas in general, the calyx being coloured and longer than the corolla, and the detriscence of the capsule "septicidal" instead of "loculicidal." The name he bestowed upon his new genus was eminently felicitous, being derived from the old Greek word Kalluno, to adorn or embellish, the functions so well played forth by the beautiful plant which during the pleasant drive upon Cannock Chase so charmed the heart of "Aldershaw" —a heart counting very plainly with those enviable ones which are rich in the fine secret that "makes music from the common strings wherewith the earth is strung," and thus grow daily in capacity for all pure enjoyments and all lofty and enduring satisfactions.

The Calluna is at home not only upon the mountain side and the lonely moorland, but it has great love for the steep banks of wooded ravines that lie faceward to the sunshine, fern, and Blackberries not far off, and where we may sit down and listen to the "quiet tune" of running water not in view.

After the Calluna, our forefathers would be most familiar with the cinerea, that delicious plant which, though attached, like the preceding, to dry moorlands and hilly wildernesses, loves quite as well the green open spaces of dry woods, where silence is, and we are always young, forming a knee-deep jungle, and fringing their uncertain paths, hanging also, in cataracts of crimson, from the crevices and ledges of sunward cliffs. They would be fairly familiar also with the Tetralix, or "crossed-leaved heath," the kind so charitable, like the silver-tassels, to wet moors and "mosses," cheering them with its bright touch of the queenliest of all the colours, blush deepening into rose, the texture withal so delicate that the blossoms seem a cluster of waxy berries rather than flowers. The geographical distribution of these two, though both are very plentiful in Britain, is not so wide as that of the Calluna. The cinerea extends from southern Spain to Norway; the Tetralix, in southern Europe, is strictly western, but in the northern parts it has a more eastward tendency.

In the early days of botany it is probable that the Vagans, the Mediterranea, the Arborea, and perhaps others, had been discriminated, and to some extent "erica" and "heath" would cover these as well. Into this further question we need not go. For our own practical every-day purposes "heath" means the Erica cinerea and the Erica Tetralix; and that by "heather" it is eligible to denote the Calluna alone. They are heaths of this character, if not these identical species, which furnish the material for the so-called "Briar-root" pipes, esteemed by smokers, "briar," in this connection, being a corruption of the French bruyère. The "heather-bells" of Scottish Song are the flowers of any of the three species above described, though the name is also very elegantly applied, in the shape of "heath-bell," to the azure flowers of the Campanula rotundifolia, the true "Bluebell of Scotland." In the dictionaries we have likewise "heath-rose," but with no better definition than "the name of a plant."

Pending the discovery of the precise ownership, perhaps it may be regarded as the flower seen not only upon the heath, but in the forest, on the shore, yea, by the dreariest wayside, even amid the "diamonds of the sky," when the Rose is already in the soul.—*Leo Grindon, in Manchester City News.*

HORTICULTURAL SOCIETIES.

Royal Horticultural.—The concluding meeting of the year, of the Fruit and Floral Committees, was held on Tuesday last, when there was a small but interesting display of flowers, and a good attendance of Committeemen; but owing to the unfavourable state of the weather, there were very few visitors. Messrs. Cannell & Son sent up from Swanley a fine group of Chinese Primulas in pots, which included a greater variety of colours than we had before seen in any similar collection. The plants were nicely bloomed, and the colours very pure and bright. Amongst the named sorts we particularly noticed Swanley White, a pure white fimbriated flower of fine size and substance; Emperor, a good red, but not the best; The Queen, blush white; Lilacina, a very pretty lilac-coloured flower, with a wire edge of white; Invicta, rosy-crimson; Swanley Red, very good indeed; Swanley Giant; a large and showy rosy-purple; Queen of Whites, Princess Beatrice, white ground, heavily shaded with rose; Princess of Wales, peach-coloured; and Swanley blue, a fimbriated flower of good substance, and very bright. As usual, and especially at this season, the Messrs. Cannell also contributed some splendid cut blossoms of various Zonal Pelargoniums. Most conspicuous among these were the single white Queen of the Belgians and the double white Le Cygne, very pure. The best of the scarlets were Scarlet Cloth, Advance, Ajax, and Alcides; and of crimsons, Ida Walter and F. Kauffer; while of the salmon-coloured sorts, Lady Chesterfield and Favourite; and of the pinks, Mrs. Bowen and Mrs. Robertson were conspicuously bright and attractive.

Messrs. John Laing & Co., Stanstead Park, Forest Hill, contributed cut blooms of some more new Chrysanthemums, and received First-Class Certificates for the beautiful little yellow Pompon, Val d'Or, noticed in our columns last week; and for Fabias de Maderanaz, a decided novelty in the form of an Anemone-flowered Japanese variety, white at first, but shading off with age to pink.

Baron Schroeder's gardener, Mr. Ballantyne, and Mr. James, Castle Nursery, Norwood, each received First-Class Certificates for Cattleya bulbosa grandiflora, but the varieties differed much in the depth of colour, Mr. James's plant having a decided advantage in this respect. Mr. Ballantyne also received a similar award for Odontoglossum Andersonianum flaveolum, a large, finely shaped, straw-coloured ground flower, changing with age to a deeper yellow. Sir Trevor Lawrence, Bart., M.P., received a First-Class Certificate for Calanthe Sandhurstiana, a garden hybrid, with rich, deep-rose coloured blossoms. Calanthe tincta delicata and Houlletia odoratissima, a handsome species with large, shining, deep blood-red flowers, also came from the Burford Lodge collection. Perhaps the largest piece in the country of Dendrobium Leechianum was shown in fine bloom by Wm. Lee, Esq., Downside, Leatherhead. It is a garden hybrid of the same parentage as the better known D. Ainsworthii, and the Committee thought it so near that variety that they awarded only a Cultural Commendation. A cut, seven-branched spike, bearing forty-five flowers, of Odontoglossum Alexandræ was shown by G. F. Wilson, Esq., F.R.S., Heatherbank, Weybridge; and a good specimen, with fifteen flowers, of a fine type of Cypripedium insigne violaceum punctatum, shown by Mr. Heims, gardener to F. A. Philbrick, Esq., Q.C., Oldfield, Bickley, was also distinguished by the award of a First-Class Certificate.

Messrs. James Veitch & Sons exhibited two more of their hybrid greenhouse Rhododendrons, one of which, named Conqueror, was certificated. It bears fine large trusses of crimson flowers, but the latter are not so fine in shape or so bright in colour as some of their other seedlings that we have seen. Chrysanthemum Maid of Athens was shown by the same firm, as a good late flowering white Japanese variety. Mr. Turner, Slough, and Messrs. Hooper & Co., Twickenham, each contributed some beautiful winter-flowering Carnations, and the former received a First-Class Certificate for a rich deep claret-coloured variety named Grand Monarch. From Messrs. William Paul & Son, Waltham Cross, came specimens of Abies Douglassii, and A. Douglassii glauca, the last-named being a well-marked variation from the type.

Mr. Allan, gardener to Lord Suffield, Gunton Hall, Norfolk, rendered good service to Violet growers by exhibiting not only a box of blooms, but a round basket of flowering-plants of Comte de Brazza's double white Neapolitan Violet, the flowers of which were large, very pure, and deliciously scented. It is a grand variety.

The Fruit Committee had not much placed before them for consideration. Mr. Roberts of Gunnersbury, had a couple of strong robust young plants of the Negro Largo Fig, in full leaf, and bearing excellent crops of fruit coming to maturity. Mr. Hudson, gardener to H. J. Atkinson, Esq., Gunnersbury House, Acton, contributed two nice fruits each of Queen and Lord Carington Pines, and a handsomely developed fruit of the Smooth Cayenne, weighing about 6 lbs., which was conspicuous for the absence of any trace of a crown. Messrs. James Veitch and Sons, showed a well-grown sample of Henderson's White Plume Celery, a dwarf yet robust-growing variety; and from Chiswick, Mr. Barron sent up samples of other Celeries, including Williams' White Queen, Clayworth's Prize Pink, Harrison & Son's New Early Rose, and Watkins & Simpson's Covent Garden Red.

The usual business of the Committees being concluded, a formal meeting of both bodies took place, to discuss the proposed amalgamation of the two sections of the Floral Committee, and in the end the following resolution was agreed to unanimously:—"That the Council be respectfully informed that the Floral Committee has endeavoured loyally to conform to regulations adopted by the Council for the present year, the chief feature of which is the division of the Committee into two sections. The Committee had no opportunity of expressing an opinion in advance of the change, but now that a year has elapsed, feels bound to say that the change has proved unfavourable to the despatch of business. The Committee in its divided state cannot command the variety of knowledge and fulness of judgment that are requisite to its deliberations, and the several members, being restricted in their critical consideration of subjects submitted, feel less interest than formerly in the business that calls them together. Moreover, the restriction limits their compensation for the time and

attention their work demands. Under former arrangements, the consideration of every subject by the whole body was of advantage to all, irrespective of individual opinions, and the votes finally taken.

(Signed) "James O'Brien, *Chairman A Section.*
"Shirley Hibberd, *Chairman B Section.*"

Manchester Horticultural Improvement, *December 4th.*—At the usual fortnightly meeting of this Society, held in one of the rooms of the Old Town Hall, King Street, Mr. Bruce Findlay, the President, said the annals of horticulture bore witness to the success which has attended at least many of the efforts made by cultivators in the hybridization of the ornamental plants of other climes after they had been introduced among us. In short, many of the finest plants we cultivate owe their origin to this source, some have been crossed and inter-crossed until they have been thoroughly broken up, and now yield us seminal varieties to an unlimited extent. Orchids have been broken into, and that with remarkable success, and then there is the great and important class of useful plants, our fruits, vegetables, and field crops, and not only these, but the economical plants, such as cotton. All these prove to be under the influence of the cross-breeder. India will soon supply the world with quinine from plants raised by English skill in English hot-houses, and there is no reason why the cotton plant should not be improved thus and sent out to be grown in our cotton-fields. There are several cases where certain sorts cannot be grown except in peculiar soils and situations, while others thrive best under totally different circumstances. Again, cases occur when one sort possesses, say, quality A and lacks quality B, whilst the qualities of another are exactly reversed. Here a mutual interchange and equalization of properties by the skill of the hybridist would tend to improve the plant.

Mr. A. Woolnough read a paper on the fertilization of plants and flowers, his remarks being illustrated by specimens shown under the microscope, and a number of diagrams. After speaking of the changes in a flower, in various parts, brought about by fertilization, he remarked that in many plants also a marked change followed pollination. In many of the Orchids the ovules are not formed till pollination has taken place. He pointed out that pollination is rarely effected by the wind alone; it is, however, in many of the conifers. In some cases the pollen is thrown on to the stigma by the bursting of the anthers; but the most general agents of pollination are insects, and many and varied are the contrivances resorted to to allure the insects to the flowers. The attractions offered to insects are colour and sweet juice, or honey, and in the case of flowers without them it meant no insects, which might mean no fertilization, and no fertilization must mean no seeds. Then this meant eventually that the plants and species must die out.

The lecture was followed with close attention by the members, and at the close a unanimous vote of thanks was awarded to Mr. Woolnough.

Mr. W. Swan, the honorary secretary, drew the attention of the meeting to two collections of cut flowers which were laid on the table. He said that in answer to a letter from himself, Messrs. H. Cannell and & Sons, of Swanley, Kent, had sent to the meeting some forms of their new Primulas, which were entirely due to a persistent course of fertilization. Mr. Swan ventured to say that the specimens included some of the best forms ever sent into this district. The other flowers were contributed by Mr. Robert Tait, the treasurer of the Society, and comprised a great variety of flowers grown in the open-air in Wales.

North of Scotland Horticultural Association.—The third annual exhibition of Chrysanthemums held under the auspices of this Association was opened in Aberdeen on the 5th inst., and proved in point of numbers and quality a decided advance on its predecessors. The exhibition was held in the Ball Room, Music Hall Buildings, the large plants being arranged along the walls of the room, and the flowers and small plants laid out on two tables along each side. Amongst the miscellaneous flowers we noticed a beautiful white Lapageria, an excellent specimen of Poinsettia, and fine specimens of Primulas and Cinerarias. At the far end of the room there was a collection of large plants which obtained the first prize at the Royal Horticultural Society's Show, while along the east side were three collections of well-flowered Chrysanthemums arranged in groups of four. Some good vegetables were also exhibited, among which a beautiful new Carrot shown by Mr. David Middleton, and a fine smooth specimen of Carrot marked St. Valery, obtained cultural certificates. Some immense Leeks were also exhibited by Mr. Gill, while on the same table there were eighty-five varieties of fine Potatos exhibited by Messrs. John Smith & Sons. Messrs. Cardno & Darling also obtained a cultural certificate for a fine display of conifers.

In the classes for Chrysanthemums in pots, the most successful exhibitors were Mr. A. Innes, Pitmuxton; Mr. James Hunter, Richmondhill; Mr. A. Chisholm, Blackneuk; and Mr. James Minty, Canal Road; while the best cut blooms were exhibited by Mr. G. Wyness, Usan; Mr. A. Grigor, Fairfield; Mr. W. Jeffrey, Ferryhill; and Mr. William Ogg, Morken.

THE LATE DANIEL JUDD.

We regret to record the death on the 3rd inst., at Shefford, Beds, after a long and painful illness, of Mr. Daniel Judd, aged sixty-nine years. Mr. Judd, who years ago when gardener at Althorp and subsequently at Hawkstone and Warwick Castle, held a high position among the leading practical men of the day, was born at Edmonton, Middlesex, where his father was gardener to Charles Campbell, Esq., of Bury Street. On leaving school he spent six months with his father, and then went to Brocket Hall, in Hertfordshire, under Mr. Dawson, one of the lights of the profession at that time. Between two and three years afterwards Mr. Judd went to the Royal Kitchen Garden, Kew, thence successively to Gunnersbury and Chiswick House, and in February, 1840, became head gardener at Southwell Park, Beds., and stayed there for eight years. His next move was to Althorp Park, Northampton, where he made his reputation as a fruit grower, and where he was specially successful in the production of early Grapes. In March 1864, Mr. Judd became gardener to the late Lord Hill, at Hawkstone, Salop, in succession to the late Mr. Niemann, and stayed there about twelve years, when consequent upon a reduction in the establishment he left, and became gardener to the Earl of Warwick, at Warwick Castle. Here he did not make a long stay, and on leaving was presented with a testimonial by his many friends in the town. From Warwick, Mr. Judd went to Brook House, in the Isle of Wight, but had to leave there in 1882, on account of failing health. In the following January, he became a pensioner on the funds of the Gardeners' Royal Benevolent Institution.

ANSWERS TO CORRESPONDENTS.

Crocuses and Snowdrops.—*Ada B.*—Cut some circular patches out of the turf, remove some of the soil if poor, and put in some fresh compost. Then plant the bulbs in patches of a dozen or so, about 3 ins. below the surface.

Gladioli.—*J. Williams.*—You should have the ground trenched at least 2 ft. deep at once, working into the soil at the same time a thorough good dressing of spent hotbed manure, or that of an exhausted Mushroom bed, mixed with cow-dung, if you can get it. Leave the surface rough, and about the first week in March, if the soil is in good condition for working, have it forked over and make your first planting in rows, setting the roots 1 ft. apart and about 3 ins. deep.

Mistleto.—*Camoronian.*—Wait till February, or even March, if you can get fresh berries at that time, then make a slit in the bark on the under side of the Apple branch and rub in the seed, freshly squeezed from the berry. It is not everyone who succeeds in getting Mistleto to grow on their trees, simple as the operation appears to be, but Messrs. Richard Smith & Co., of Worcester, keep a good stock of young trees with Mistleto growing on them, in fact, this is rather a speciality of their nursery.

Large Apples.—*J. B.* asks which is the largest sort grown in this country? Can anyone give a better answer than Gloria Mundi?

Moss on Lawn.—*J. A. R., Croydon.*—If the disposition of the ground is such as to allow of a good fall, we should say drain it at once to the depth of 3 ft., and in March give it a dressing of wood ashes, or if you can get nitrate of soda easier, apply a dressing of that at the rate of 100 lbs. to the acre. To facilitate its distribution, mix it well beforehand with three or four times its bulk of dry earth or sand.

Plant to Name.—*J. A. R., Croydon.*—Pleroma macrantha.

Fruits.—*J. Davies.*—Urbaniste, a good stewing Pear.—*P. P.*—Bess Pool, a well-known and excellent safe keeping Apple, but it is not a good bearer, and should not be planted too feeely.

Worms in Pots.—*Charles Owen.*—You can destroy the small ones and the large ones, too, without injuring the plants by watering them with clear lime water.

Chinese Primulas.—*H. H. D.*—The flowers sent, though of good substance, fair size, and nicely fringed, have nothing that is novel in the way of colour to commend them. The strain is a fair one only.

Communications Received.—H. A.—W. S.—R. G.—W. C. J. C. & Sons.—S. W.—H. W. W.—Lady J.—J. Wilson.—A. V. G.—T. B.—R. & S.—M. C. O.—W. B.

Trade Catalogues Received.

Ireland & Thomson, 20, Waterloo Place, Edinburgh.—Forest Trees, Conifers, Ornamental Trees and Shrubs, &c.

LONDON SEED TRADE.

December 10th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report that to-day's market was well attended, owing to the presence of visitors in town interested in the Cattle Show. Clover Seeds continue neglected. White and Alsike are cheaper, owing to larger supplies. There is no change in value of Bird Seeds or Blue Peas.

COVENT GARDEN MARKET.

December 11th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Kent Filberts and Cobbs, per 100 lb.	60 0-62 6
— Nova Scotian, per barrel	10 0-13 6	Pine-apples, Eng., lb.	4 0- 6 0
— Extra samples	20 0-	Pears, French, p. doz.	1 6- 3 6
Grapes, per lb.	0 9- 3 0	St. Michaels	7 0-15 0

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	0 4-	Horse Radish, bundle	3 0- 4 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	1 6-
Brussels Sprouts, ½ sve.	2 6- 3 0	— Cos, each	0 2-
Cabbages, per dozen	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	2 6- 3 6
Cauliflowers, English, per dozen	3 0- 4 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 0 8	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	0 6- 1 0
		Turnips, per bunch	0 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Pelargoniums, per 12 sprays	1 0- 2 0
Azalea, 12 sprays	1 0- 1 6	—scarlet, per 12 sprays	0 6- 1 0
Bourvardias, per bun.	0 9- 1 0	Pinks, various, 12 bunches	-
Camellias, 12 blooms	2 0- 6 0	Poinsettia, doz. heads	3 0- 9 0
Carnations, 12 blooms	1 0- 2 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	4 0-12 0	Primulas, Chinese, bun	4 0- 6 0
— large, 12 blooms	1 0- 2 0	Pyrethrum, 12 bun.	-
Epiphyllums	0 6- 0 9	Roses, outdoor, 12 bunches	-
Eucharis, per dozen	4 0- 8 0	Roses, indoors, p. doz.	2 0- 6 0
Gardenias, 12 blms.	9 0-18 0	Roses (French), per doz.	0 9- 1 6
Heliotropes, 12 sprays	0 6- 1 0	Stephanotis, 12 spr.	-
Hyacinths, Roman, doz. sprays	1 0- 1 6	Tuberoses, per dozen	2 0-
Lapageria, white, 12 blooms	2 0- 3 0	Tulips, per doz.	1 0- 1 6
Lapageria, red, 12 blms.	1 0- 2 0	Violets, doz. bun.	1 0- 1 6
Lily of the Valley, doz. sprays	6 0- 8 0	— French, doz. bun.	1 6- 2 0
Marguerites, 12 bun.	4 0- 9 0	— Parma, doz. bun.	5 0- 7 0
Narciss, Paper White	2 6- 3 0	White Jasmine, bun.	0 6- 1 0

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Hyacinths, Roman, doz.	10 0-12 0
Chrysanth., dozen	4 0- 6 0	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-15 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	3 0- 9 0	Pelargoniums, scarlet per dozen	2 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	9 0-15 0
Epiphyllums, doz.	18 0-24 0	Solanums, dozen	9 0-15 0
Evergreens, in var., per dozen	6 0-24 0		
Ferns, in var., dozen	4 0-18 0		

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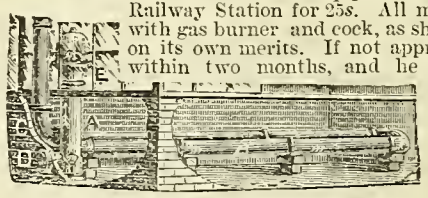

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THE GARDENING ILLUSTRATED WORLD

No. 16.—1884. SATURDAY, DECEMBER 20TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

NOTICE TO ADVERTISERS.

In consequence of the Christmas Holidays, "The Gardening World" will be published on Wednesday next instead of Friday. All Advertisements intended for insertion in the next issue must reach the office not later than Tuesday morning.

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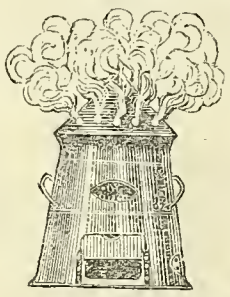

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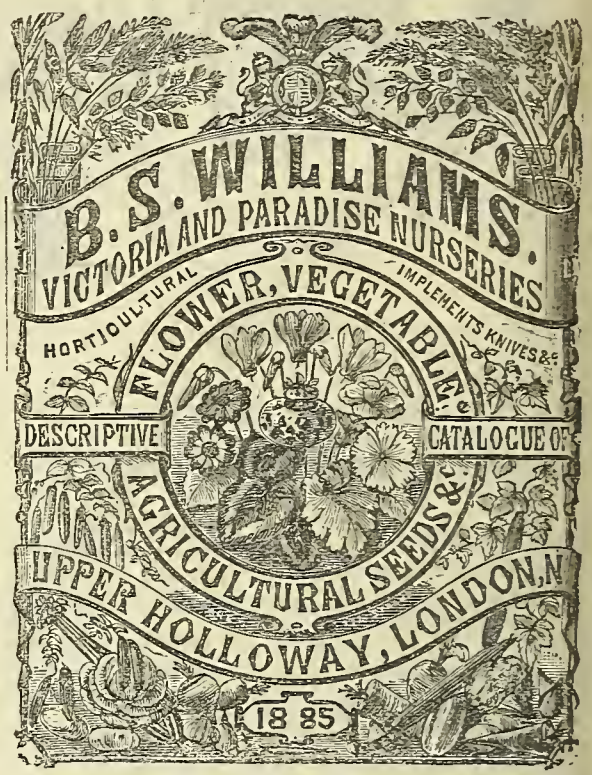

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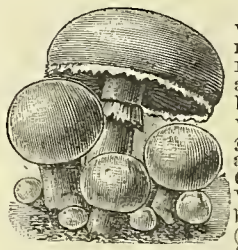

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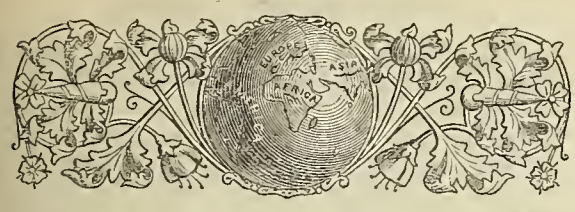


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, DECEMBER 20TH, 1884.

VEGETABLES IN SEASON.—Christmas with its customary festivities will find the market amply supplied with good fresh vegetables. Of course, let our home shortcomings be what they may, our foreign supply will inevitably be large, but with all our Free Trade sympathies we may well be pleased when our home growers have a turn and a good one too. Very often it is said that with an abundance of green stuff and prices low, a few sharp frosts would send them up, and prove profitable to the grower. On that head we may well be sceptical, because frosty weather of necessity demands more labour in securing the crops for market, whilst the greens always shrivel in bulk, and therefore a greater area must be covered to fill the bushel than is the case in open weather. This year the green crop owing to the dry summer and autumn is not a heavy one, and prices now are fairly good. The Cauliflower season is over, and when that passes by the more common though more hardy members of the Brassica family get a chance. It is marvellous that gigantic Drumhead Savoys, which must be rather strong eating, should find purchasers, but they do, in fact, the bigger they are, the better, with a certain class of customers, they are liked. Small green curled Savoys, good Rosette Coleworts, Brussels Sprouts, and White Turnips always find a good demand amongst buyers of more elevated tastes, and Carrots, also a fairly abundant crop this year in Carrot districts, are in good request. Spinach, early Brocolis, forced Asparagus, Seakale, and other choice vegetables may be had by those who can pay for such delicacies. The great mass of consumers happily can get good vegetables with their roast beef, if fortunate to possess the popular Christmas joint, including plenty of excellent Potatos cheaply. We should like to see the demand for these products enormously increase, and that for some other things much less healthy and wholesome decrease, for in the end all classes would be more prosperous and happy.

THE WEATHER.—How under the influence of the prevailing south-west winds, laden as they have been with soft invigorating moisture, the prospects of a severe winter fades away. True it is we are a long way from being out of the wood, and in weather matters it is never safe to prophecy; but it is an undoubted fact that the very features which have marked the early portion of previous mild winters now mark the present one, and so far there is every indication that softness of temperature will rule. The season is without doubt full of very grave disappointment to mere pleasure-seekers, those who have neither cares nor sorrows, and are always well fed and warmly clothed. To them a hard Christmas time, a low temperature, intense frost, and bitter cold would be full of enjoyment, because it would create ice and skating, and all the delights incidental to such a pastime. Alas! for the poor and those miserably clothed when the rigours of winter prevail, for then their sufferings are great, and tens of thousands not absolutely poor are brought to the brink of poverty and suffering because of the check given to labour. These considerations tend to make us rejoice at the prospect of another mild winter, because then life even to the most miserable is far less bitter than it is in severe weather. Besides we have had a wonderfully dry year, and much rain is yet needed to fill up in the earth the vacuum of moisture the long spell of drought has created. A hard winter would probably be a dry one, whilst a mild winter will most likely give us the needed rainfall and assured abundance of moisture to withstand the drought of another summer. Work in all directions just now should be plentiful, especially on the ground, and planters are specially rejoicing at the rainfall.

GULLS IN THE GARDEN.—Mr. G. F. Wilson writes from Heatherbank, Weybridge:—"I can recommend gulls for an enclosed garden. They are very useful in picking up grubs, and seem to do no mischief among plants. They watch the men digging, and nothing seems to escape their watchful eye. They see grubs and small worms which we cannot see. We are now reduced at Oakwood to one of the large grey gulls, but I hope to get a pair, and that they will nest by the pond."

JASMINUM NUDIFLORUM.—What a beautiful object this hardy climber is at this inclement season of the year! It seems to defy the rain and fog to impare its beauty, and at the present time may be seen in hundreds of our suburban gardens. A few days ago the writer observed a house whose sole adornment in the shape of vegetation was a pair of these plants, one trained on either side of the porch, and clothed with its beautiful flowers from head to foot. It was introduced from China by Mr. Fortune, and was described by Dr. Lindley in *The Journal of the Horticultural Society*. It was there called a greenhouse climber, and the conditions of its culture described. But the plant was soon discovered to be hardy, a fact which Dr. Lindley afterwards mentioned when figuring it in *The Botanical Register* in 1846. Since that period it has been most extensively propagated and planted, as its abundance at the present time sufficiently demonstrates. Its graceful sprays of bright primrose-yellow flowers would be a sufficient recommendation even if it flowered at a gayer season of the year, but at the present time they become quite indispensable, unless, indeed, we agree to banish hardy flowers altogether during the dull season, a condition of things which, happily, is not likely to be soon realized.

ASPLENIUM GERMANICUM.—At the last meeting of the Edinburgh Botanical Society, Dr. John Lowe, King's Lynn, Norfolk, communicated a paper on Asplenium Germanicum, in which he contended that it was not a hybrid between A. septentrionale and A. Ruta-muraria, as was sometimes alleged, but a mere variety of A. septentrionale. In Switzerland he had always observed Germanicum associated with septentrionale, and never with Ruta-muraria, and in 1882 he found several specimens bearing on the same root every intermediate form betwixt septentrionale and Germanicum. These roots, which were still flourishing, had put up a goodly crop of fronds, which were all typical forms of Germanicum. Extreme care was taken to see that there was only a single root—all the fronds being observed issuing from the same point. It was mentioned in the paper that Mr. Boyd had obtained a specimen with intermediate fronds, which ultimately developed into septentrionale. Mr. Lindsay, curator of the Botanic Gardens, said that in growing septentrionale from spores he found that the young fronds were identical with Germanicum. Eventually they turned out septentrionale. He doubted very much if true Germanicum ever reverted to septentrionale. The view that the ferns were quite distinct seemed to find favour with the Society.

SINGLE MARIGOLDS.—It is strange that after we have been pulling up and throwing all our single French Marigolds to the rubbish heap that it should now be proposed to raise a single strain. This is an odd taste, because the most enthusiastic lover of single flowers could hardly dare to assume that striped single flowers will compare with good double ones, even if these be of any colour. The Marigold is a massive and in some of its forms almost perfect double flower, but this perfection from the florist's point of view is only found in the striped flowers. For average garden purposes, however, those who have seen the now well selected compact habited strain, which is so wonderfully floriferous, that in these at least single flowers bear no comparison to the best double forms. Nearly all the most perfect striped flowers are found on the tall straggling habited plants; but the dwarf kinds show pure yellow, orange, buff, chestnut, and edged flowers, as well as beautifully striped and mottled ones. In the single Marigold the large and prominent centre cannot under any circumstances be termed pleasing, though the single row of rayed petals if striped are pretty enough. The Marigold, because of its objectionable odour, cannot be classed with flowers for cutting, and it only is as a border flower that it is so decorative.

BEGONIA GLOIRE DE SCEAUX.—A beautiful winter-flowering Begonia of the first order of merit is figured in a recent number of the *Revue Horticole*. It is said to be a veritable hybrid between two very beautiful and distinct species, B. subpeltata and B. socotrana; the former being the male parent and the latter the female. It forms a compact conical pyramid, of vigorous habit, and is very floriferous, producing flowers from October to May. The leaves are unequally cordate, not peltate; and the male flowers of a beautiful rose colour, and 1½ ins. in diameter. It is said to have the peculiar property of never producing female flowers. The plant is destitute of the small tubercles of B. socotrana, but is readily propagated by the numerous buds which it produces.

CYCLAMENS.—The well-known failure on the part of private gardeners generally to produce Cyclamens of the superior order seen in our leading growers' establishments, is one of the wonders of the day, viewed from a purely cultural aspect. Gardeners, as a rule, are good cultivators of most kinds of plants, but nearly always they fail with Cyclamens. Yet those who have been privileged to inspect any of our leading Cyclamen establishments can hardly have failed to come away with the conviction that no plant needing house space can be more easily grown. We have seen the Cyclamen in scores of places, under diverse conditions, and in all the varied phases of existence, from seedlings just coming through to grand plants in 8-in. pots, literally superb masses of foliage and bloom, and yet never gave reason to conclude that there was any special secret about the ordinary routine of culture, or that Cyclamens were more difficult to grow than scores of other greenhouse plants. We find the culture to be now immensely simplified, because the old notion of keeping old bulbs or corms over the summer in a dry state is an exploded one; indeed, the best growers seldom trouble about keeping any old corms for a second blooming,

unless they are of exceptionable excellence. Market growers sow their seed thinly in shallow pans or pots in August and September, and stand these on shelves near the glass in gentle heat. As soon as the little plants are large enough to handle, they are dibbled out into other pans or pots, and from these, during the following spring, are shifted into single pots, getting a final shift into 48's in the summer. Hence the plants simply need good soil, gentle warmth, plenty of light, near the glass, attention in shifting on, and occasional fumigation to keep down aphis. In all private gardens where Cyclamens are desired, a small span house should be set apart for their culture, as a quantity of plants should be raised from seed annually, and they always thrive better alone than in company with other things.

Special Prizes for Amaryllis.—An amateur, anxious to encourage the cultivation of this fine race of plants, offers prizes to be competed for at the Royal Botanic Society's First Spring Show, on Wednesday, March 25th, 1885, in the following classes, all of which are open:—(*a*) For the best seedling. (*b*) For the best six Amaryllis named. Preference will be given to the collection that contains the best proportions of light and dark varieties. (*c*) For the best dark and light varieties respectively selected among the plants exhibited in Class B. Fine form and substance are the points especially aimed at. Colour will not be regarded unless two flowers should, in other points, be considered equal in merit; the better coloured of the two would then receive the higher prize. These prizes will be awarded only on condition that the exhibits are considered to be of sufficient merit; and it is to be hoped that the competition will be a better one than we have had yet for similar prizes offered at South Kensington.

Mushrooms in December.—These are, or should be, plentiful enough in most gardens where there is convenience for growing them, but it is not a common occurrence to find them this month in the open fields, as Mr. Driver has done at Minchinhampton. Our correspondent states that he gathered a nice dish last week, and they proved to be of good quality. Mushrooms have been very plentiful in the neighbourhood of Minchinhampton this autumn, owing to the mild, open weather. We have a note, too, of a fine dish of Mushrooms having been gathered last week near Penrith, one of which measured 9 ins. in circumference.

Experiments in Turnip Singling.—Mr. A. Stephen Wilson, of North Kinmundy, Aberdeenshire, has been conducting some experiments with a view to ascertaining the results of singling Turnips at different distances apart, and as the subject is one that many gardeners, as well as farmers, will be interested in, we give the results as follows:—At the time of singling the intervals ranged between 5 ins. and 8 ins.; and at the time of pulling between 6·2 ins. and 9·7 ins. In the yellow Turnips seven of the eight tests give the greater weights at the lesser intervals, the weights on the remaining test being equal. The two largest intervals at singling, namely, 7½ ins. and 8 ins., give the lowest weights. The smallest interval of 5½ ins. give the greatest weight of nearly 30 tons per acre. The lowest weight is 22 tons from 7½ ins. In the Swedes four of the tests give the best results from the narrow intervals, and four from the wider. The heaviest pair of drills, yielding 35 tons and 33 tons per acre, are from intervals of 6 ins. and 7 ins., and the lightest pair, yielding 29 tons and 32 tons, are from intervals of 6 ins. and 8 ins. All the greater weights are from the 5-in. and 6-in. intervals.

Gardening Miscellany.

We understand that the Council of the Royal Horticultural Society have agreed to the request made by the Floral Committee at its last meeting, that the two sections of the committee should be consolidated next year, a decision which we are sure will give general satisfaction.

Arrangements are being made for holding a great International Horticultural Exhibition in Paris in May next, under the auspices of the National Horticultural Society of France, at which it is expected that prizes to the value of £4,000 will be offered for competition. M. Léon Say, Senateur and late Minister of the Exchequer, has been elected President of the Society, in the place of the late M. Alphonse Lavalleé.

It is stated that after paying all expenses, the Executive Committee of the late Forestry Exhibition in Edinburgh find themselves in the satisfactory position of having a balance in hand of over £300.

Messrs. Thomas Methven & Sons have received a Royal Warrant, appointing them nurserymen, seedsmen, and florists to Her Majesty the Queen at Edinburgh.

At a meeting of the Royal Botanic Society, held on Saturday last, Mr. J. P. Gassiot, Vice-President, in the chair, fine plants of Olea fragrans, Sweet Olive of China, in flower, and of Erythroxylon Coca, the Coca of Peru, were on the table from the Society's conservatory. Professor Bentley made special reference to the Coca, which, although much esteemed in Peru, had only lately been acknowledged in the medical profession of Europe, especially with respect to diseases of the eye.

Mr. A. Finlayson, solicitor, Aberdeen, has received a letter from Major-General Ponsonby, intimating that Her Majesty the Queen will give a prize of the value of £10 to be competed for at the exhibition of the Royal Horticultural Society at Aberdeen next year.

The annual general meeting of the Edinburgh market gardeners was held in Edinburgh on Tuesday last—Mr. John Blackie, Leith, in the chair. The treasurer reported that they had a deposit receipt for £88, and a balance in hand of £18 17*s*. 9*d*. The income of the past year amounted to £60 8*s*. 6*d*., and the expenditure to £41 10*s*. 9*d*. Bailie Lowe, Musselburgh, was appointed treasurer, in place of Mr. John Douglas, who retired after seven years' service.

At the first annual dinner of the Kingston and Surbiton Chrysanthemum Society, held on the 11th inst., it was stated as evidence of the progress made during the last eight years, that while the amount taken at the doors at the first Kingston Show was only £13, the sum taken at the last Show was £132, £30 of which was paid in sixpences in one hour during the evening.

At the annual general meeting of the National Rose Society, held last week, Mr. Edward Morley, Addiscombe, Croydon, the Honorary Secretary of the Society, was presented, on behalf of the members, with a handsome regulator clock and a gold half-chronometer watch.

The Wilts Horticultural Society, the formation of which we noticed in our last, will hold its first exhibition on August 20th next, in Salisbury.

At a meeting of the Edinburgh Botanical Society, held on the 11th inst., the following office-bearers were elected for the ensuing year:—President: Professor Dickson; Vice-Presidents: Robert Gray, Dr. William Craig, W. B. Boyd, of Faldonside, Dr. T. A. G. Balfour; Councillors: Charles Jennir, Alexander Buchan, Dr. Hugh Cleghorn, the Rev. John Macmurtrie, Robert Lindsay, Patrick Geddes, Symington Grieve, Andrew Taylor, William Sanderson, and the Rev. J. M. Robertson; Honorary Secretary: Professor Douglas Maclagan, M.D., F.R.S.E.; Honorary Curator: Professor Dickson; Foreign Secretary, Andrew P. Aitken; Treasurer: Patrick Neill Fraser; Assistant-Secretary: John M. Macfarlane, D.Sc. On the recommendation of the Council, the Society awarded Mr. A. Taylor cordial thanks for his valuable honorary services as assistant-secretary during the past five years, and also voted an honorarium to him.

STANDARD ROSES.

With reference to the average longevity of Standard Roses raised in a recent article, I should like to invite the experience of old rosarians as to the varied effects of scion or bud upon the stock, whether it is not always found that the most robust grower gives the greatest age. It is all very well to say that stocks are often badly lifted, their roots grossly maltreated, and that, so badly furnished with these essential elements of life they soon die; most likely the number of stocks rejected by reason of defective roots is after all, but small, because the men who make a livelihood by obtaining stocks in vast quantities for the trade growers of Roses, know that their bundles will be rigidly scrutinized and all defective ones rejected. That such is the case, shows that, after all, but few badly-rooted stocks are planted by trade rosarians, and further, if these so far root well, that they throw wood and carry fine young growth from the bud the first year, it is evident that no fault can be found with the stocks.

I think it will be found on inspection, that whilst a head composed of a kind that is of weakly growth, always affects for the worse the growth or swelling of the stock, the more free-growing and robust the kind worked on the stock, the more responsive is the stock and the longer does it exist. Probably budders would act wisely in selecting always the most robust stocks for weakly growing Roses, and the more weakly stocks for free-growing Roses, for in each one would act beneficially upon the other, the stock upon the weakly Rose, and in the other the robust-growing Rose upon the weakly stock. Now, the majority of Standard stocks are budded with hybrid perpetuals, and though these, as a rule, are fairly robust, yet, by reason that exists of the need for keeping heads within compass, it is found needful to prune hard and often. Hence the development is checked constantly, and because the head is not allowed to become large and freely developed, the stock also is not excited to effort, and indeed with the roots is apt to remain somewhat stagnant; that in Standard Roses, as in many plants, means presently such a hardening of the woody cells of the stems that the free action of sap suffers, and presently the stocks present the appearance of plants in a state of suspended animation.

On the other hand, a stock worked with some free-growing kind, Gloire de Dijon for example, that will in spite of all pruning, develop a big head, also creates with it a fine stock stem, the root action also is stimulated, and in time the Rose plant becomes a tree. As evidence of the longevity and expansive power of Briar stocks, I may mention that here some worked with Teas, the heads of which are inside a large house, and have ample room for growth, have created very fine sturdy stems, and there is no prospect of either dying for many years to come. Something may be due to the fact that the heads are under glass, and of course protected from severe weather, but most is I am sure due to the capacity of the heads to make almost unrestricted growth. We cannot dispense with hard pruning of Standard Rose-heads as a rule, but because of the necessity we must be prepared to pay the penalty in much Rose mortality.—*A.*

RIVINA HUMILIS.

I have grown this ornamental berried plant successfully for a number of years, and still continue to do so on account of the distinct and striking colour of its berries; and for general usefulness no plant that I am acquainted with will repay the cultivator better for his trouble. Rivinas are best raised annually from seeds, which should be sown early in March. A rich soil suits them well, and they should be grown on into 5-in. or 6-in. pots in a warm pit or stove. The young growths should be pinched two or three times during the summer, and the plants must be kept well syringed to keep them free from black thrip, the Rivina's mortal enemy.

When well grown the specimens are very attractive, the long pendulous racemes of red berries being so light and graceful in appearance, they are well adapted for table or drawing-room decoration, for which purpose I find them very useful. When once grown you will be sure to retain them, as they seed so freely.—*W. Driver, Longfords, Minchinhampton.*

THE PHALÆNOPSIS.

General favourites on account of the remarkable beauty of their flowers, longing eyes are often cast at the Phalænopsids, even by those who have made up their minds to grow only strictly cold-house plants. To such we would say do not meddle with them unless prepared to make some concessions in their favour, for although of late years many have succeeded in growing them to perfection in anything but hothouses, they have never yet proved themselves to be fit subjects for the cold-houses, and those who are wise will not push them too far in that direction.

The main difficulty in the way of Phalænopsis culture under cold-house treatment is the time at which most of them make their growth—viz., from February to October—a considerable space of time during which there is no artificial heat in the cold-house, consequently the plants would not thrive there. Long after it would be imperative to let out the fires as being injurious to the cold-house Orchids, they would be required by the Phalænopsids, for even in summer they thrive best when a little artificial heat is on the house in which they are grown, to assist in keeping the air stirring and to allow of the necessary amount of moisture being given without fear of injury to the plants by the condensed humidity falling back on them through a sudden fall in the temperature outside during the night.

Two things may be made accountable for the death of more Phalænopsis than all the other causes put together, and they are keeping them too cool, dry, airy and sunny in summer, and too hot and close in winter But that they will do well in a low temperature in winter has been proved in many instances, and particularly in that of the fine collection of these plants which F. A. Philbrick, Esq., Q.C., had when at his old place, near Regent's Park, where he grew them in the Cattleya-house in summer and kept them in a very cool one in winter. One very cold winter we visited them several times and found the thermometer between 50 degs. and 55 degs. and the plants waving about by the vibration of the roof, from the strong wind blowing on it. The plants were of course kept fairly dry, and no sign of spot or any other mark of disapproval even exhibited itself on them.

But special culture under extreme measures should only be resorted to by those who adopt it for themselves, and is never to be recommended, and therefore the best temperature in which to grow Phalænopsis will be found to be from October to February, 60 degs. to 65 degs. by night, and 65 degs. to 68 degs. by day, and from February to October, 65 degs. to 70 degs. at night, and 70 degs. to 80 degs. by day, fire heat being gently kept going during the whole of the growing season and a fair amount of air and an abundance of water being given at the same time. In winter, too, the plants do best when kept moist, as they have no pseudo-bulbs to store supplies in, and if kept too dry the damage is irremediable. Although the Phalænopsis likes light, direct sunlight is the worst enemy they have, and they should therefore always be carefully shaded against it.

Phalænopsis-growing is again coming to the front. Messrs. Hugh Low & Co., of Clapton, have houses full of the beauties just coming into bloom, and Messrs. F. Sander & Co. have built an immense new Phalænopsis-house at their grand Orchid establishment at St. Albans, and what is more, they have many new Phalænopsids already in it. At Mr. B. S. Williams', Mr. Bull's, Messrs. Veitch's, and other famous Orchid growing establishments there will also soon be fine displays. Our illustration represents two plants—the fragrant P. Schilleriana in Mr. Holbrook Gaskell's garden at Woolton Wood, where they are well grown in company with the other Phalænopsis in the most shady end of one of the warm houses. Mr. Davies, the gardener, finds them do best either mounted on the ends of tall logs or on upright cylinders, the logs or cylinders being stood in pans of water during the growing season. Many larger plants than those represented are there, and all are in the greatest vigour. Baskets, cylinders, or blocks are certainly the safest for all Phalænopsis, as they admit of the roots getting more air than if in pots, although in the hands of some the last-named receptacle is found to answer well. Sphagnum moss is the only material which has stood the general test for growing them in.

GROUP OF PHALÆNOPSIS AT WOOLTON WOOD.

The best and showest Phalænopsids are :—

P. Schilleriana, flowers rose, leaves mottled (*see* illustration).
P. amabilis, white, centre marked with crimson.
,, grandiflora, white, centre marked with yellow.
,, Sanderiana, lovely delicate pink.
,, Stuartiana, white, lower sepals and lips stained with yellow and spotted with brown.
,, Luddemanniana, carmine, white, and yellow.
,, violacea, cream and violet-purple.
,, Schröderi, pink and crimson.
,, leucorrhoda, white, flushed with rose.
,, casta, white, rose at base of the petals.
,, intermedia (Lobbii, Brymeriana), rose.

The above is a good and easily obtainable selection (except P. intermedia, which is rare). The five first named and their numerous varieties being deservedly the favourites.

Other species of Phalænopsis are :—P. Veitchii, rosy-lilac; P. Lowii, rose and purple; P. antennifera, blush to crimson; P. rosea, pale rose; P. Parishii, light rose and ruby-red; P. Reichenbachiana, creamy white, barred with crimson, lip white and yellow; P. tetraspis, white; P. speciosa, white, stained and barred with crimson; P. Sumatrana, white, barred with crimson; P. Wightii, white, centre marked with violet; P. amethystina, white and crimson; P. fuscata, yellow, barred and marked with brown; and P. Cornu-cervi, greenish yellow, marked with brown. —*James O'Brien.*

PEAS FOR EXHIBITION.

Probably no vegetable has undergone the improvement within the last few years that has characterized the rapid strides that have been made in Peas. Thirty-five years ago, when my first experiences in connection with horticulture commenced, the choice of varieties was very limited, the early varieties then being confined to the Early Frame section, all of them small, white, round Peas, and the later varieties comprising the Blue Prussian class and Knight's tall and dwarf marrows.

About that time my father introduced Excelsior, an improvement on the old Ringwood Marrow, and still retained in the seed-lists. The stock of this Pea, about six bushels, was sold to Messrs. Nutting, the well-known London seedsmen, for eighty guineas. Others turned their attention to improvement by careful hybridization. Hair's Dwarf Mammoth, still a most useful Pea, marked a decided advance in wrinkled Peas, and Fairbeard introduced the still universally esteemed Champion of England, invaluable as a market Pea. Laxton and McLean came to the front, their introductions being received and are still held in marked favour, until now the seed-lists teem with so great a plethora of varieties that it is difficult to make a selection, unless guided by experience, without bewilderment.

In the face of modern improvements, many of the older sorts must be set down as tolerated only from old associations, or the fact that too often weighs with many, that they can be bought cheap, while I fear that many of the newer varieties are sent out merely for the purpose of adding something annually to the "novelty" list, without any great pretention to merit. The encouragement given by local Horticultural Societies has brought an array of exhibition Peas into the market, and it is with these that I purpose to deal at present.

For several years I have taken a pride in growing Peas for exhibition, and the reader may take it for granted that a Pea with exhibition characteristics, namely, size and beauty of pod with quality combined, will combine every table requisite. At least, that is my experience, and in growing for exhibition, I always have an eye to the utilitarian side as well. This year I grew the following list, and I place them in the order of merit to which I consider them entitled :—

Duke of Albany (Abbott's).—A new Pea of 1884, sent out by Messrs. Hurst & Son. It is a wrinkled Pea, bearing a profusion of extra large well-filled pods of a most beautiful dark green colour, borne in pairs for the most part containing from nine to twelve very large Peas in a pod, of most exceptional quality. It is a moderately strong grower, from 5 ft. to 6 ft. high, and branching habit. I purchased a sealed half-pint packet of this variety in March, divided it into three parts, giving two parts to two friends, and sowed the one part I retained in a row about 20 ft. long, in the beginning of April. From this row I obtained prizes

on August 12th, August 21st, and September 6th, and succession produce was gathered up to the middle of October. My two friends were equally successful with their portion of the half-pint. I look upon this variety as the very best of modern introductions, and, as an exhibition Pea, entirely unrivalled. I have not seen a dish of it exhibited at any of the shows I have visited this year, that it has not taken honours.

Stratagem (Carter's).—This is a grand 2-ft. 6-in. wrinkled marrow, possessing all the characteristics necessary in an exhibition Pea. Unfortunately it carries very heavy foliage, which, in a town and manufacturing district where sunshine is more frequently absent and smoke always abounding, tells against its productiveness. In 1883 it was the leading prize winner, but from the drought of this summer and the causes just referred to, it has not done so well, and some of my friends have condemned it. In a clear district, with very thin sowing, I feel disposed to place it in the front rank as a dwarf-growing variety.

Staffordshire Marrow.—This is a 5-ft. Pea, which seems to be peculiar to this district, where it is grown extensively. It was raised by a Wolverhampton amateur, and I have not been able to trace its pedigree. It is a very heavy cropper, nine to ten Peas in a pod, and a great favourite at all Cottager's Shows. This year the schedule of the Bilston Horticultural Society, now the largest in the Midlands not excepting Birmingham, contained a new departure, and prizes were offered for the best dish of pods yielding the heaviest quantity of Peas when shelled fit for table. Both prizes were taken by this variety, the first dish yielding 9½ ozs. of shelled Peas from the pound of pods, which weight just turned the balance of the second dish.

President Garfield (Sutton's).—This is a modern introduction, after the Dr. McLean type, and a very heavy cropper, 4 ft. to 5 ft. high, ten to twelve peas in a pod, and a very strong robust grower. I fear the light colour of the pods will militate against its becoming an exhibition favourite. It is, nevertheless, a good pea.

Telephone.—This is now becoming well known, and has been looked upon as a most useful addition. It is a 5-ft. Pea, and experience has proved it to be of a very hardy constitution. I have seen it do well in situations very little better than pit-bank slag. The pods are very large and well filled. Were the colour of the pods better it would probably hold its own against the Duke of Albany, by which it is fairly superseded.

John Bull.—A 3-ft. Pea, recently introduced with a flourish of trumpets as the longest pod in creation. Whatever may be the experience of cultivators in other districts, with me and in this district generally it must be set down as a failure, being a bad filler and superseded in quality by those already enumerated.

Pride of the Market (Carter's).—Two feet and a half high. A round green Pea, producing splendid green pods, nearly as fine as Stratagem. One of the best of dwarf Peas for general purposes, but scarcely up to exhibition standard.

Evolution (Laxton's).—One of this season's introductions; 3 ft. 6 ins. to 4 ft. high, said to be a seedling from the well-known Omega, with pods twice the size; if so, I have failed to discover its parents' good qualities. The sealed half-pints purchased by myself and growers around me from various first-class houses all producing sports innumerable, so that it would be difficult to say which was the true Evolution, and each sufficiently distinct to have afforded Darwin a substantial proof as to the truthfulness of the great theory of his life. I very much question even if the best types of it which I have selected from my row for trial again next year will much alter the opinion generally formed with regard to it by growers in this district.

Wonder of the Age (Hawkins').—A 6-ft. Pea, and one of the heaviest croppers I have yet seen. From a 25-ft. row I gathered 7½ pecks. It is a marrow of good quality, filling the pods to bursting, but too short in the pods for general exhibition purposes.

Paragon.—Four feet to five feet. The largest podded second early Pea I have yet come across. When better known it must become popular. Where Peas are required for exhibition the first week in July, it will prove an acquisition.

Ne Plus Ultra.—This fine old tall Pea needs no eulogium. It has stood its ground too long to be lightly discarded where it can be grown, but it is not everyone who can find convenience for a 8-ft. Pea, and notwithstanding the dry summer my row fully reached this height. Its quality is all that can be desired and for the latest crops preferable to any other among the many sorts I have tried. My last gathering this year was made the first week in November, from seed sown on May 20th.

I might extend this list, but fear encroaching upon your space. Summing up my experience, I shall for next year's growth specially rely upon the Duke of Albany, Stratagem, Staffordshire Marrow, and Ne Plus Ultra for my winning single dishes, and where I shall require six dishes to a collection, I shall most likely include President Garfield and Telephone, unless any of the new varieties that are coming out this season should be found to eclipse them. So much for sorts, and this is one of the great points—a good sort producing better results even with inferior cultivation than a bad one.

And now a word on cultivation. A correspondent, a fortnight ago, in these columns, said "Muck paid for using in Pea growing." I agree with him, but it must be thoroughly rotted down. I find a mixture of old cow-manure invaluable for Peas on soils liable to burn up, and in every instance I trench the ground two spit deep, working the manure down to the very bottom. When this is done the roots find the bottom in dry seasons, and in wet ones better drainage is the result. Two points in sowing I set down as a *sina quâ non*. First, let the rows be a sufficient distance apart not to overlap each other when fully grown, and to allow full egress to air and sunshine, and where practicable let the rows run due north and south; and secondly, thin sowing. More than half the failures in not growing fine pods and obtaining a plentiful crop is to be attributed to thick sowing. A better crop is to be obtained from Peas 6 ins. apart than 3 ins. from all the stronger growing branching kinds.

The time of sowing must be regulated with regard to the time the produce is required. If this is wanted in July, February sowings with me I find the best. If wanted in August and September, I find the middle or end of March the best, and successions may be continued profitably up to the middle of May. With deep trenching, suitable manure, and mulching in the event of dry weather, I have no fear of mildew, or of obtaining a good crop.—*J. Knight, Bilston.*

THE AUBRIETIAS.

This highly ornamental family of old-fashioned plants belongs to the great natural order of Cruciferæ. The leaves are much smaller, the plants more dense and dwarf, with flowers also smaller and more numerous than in the Arabis. There is another great and broad distinction: hitherto there has been no white Aubrietia, though now a white variety of A. deltoidea is reported; and they are all very much alike in colour—that is, of a lilac-purple or violet shade, differing somewhat in the depth of the shade only. The flowers also vary considerably in shape and size. The first-introduced Aubrietia was deltoidea—or, Three-angled Flower—introduced from the Levant in 1710. The plant grows about 4 ins. high; and the small purple flowers are so closely packed over the silvery-greyish leaves as to hide them beneath a sheet of bloom during the flowering season, which lasts from March till June, the Aubrietias lasting far longer in flower than the Arabis. A. purpurea is a slightly deeper purple than deltoidea, and flowers later and rather longer. The flowers are also of a different form, and a little larger in size, the deltoidea, however, being generally preferred. Aubrietia Hesperidiflora is another purple variety, more like purpurea than deltoidea.

All these, however, will speedily be superseded by two new varieties, A. grandiflora and Campbellii—both wonderful improvements on all previous species and varieties. A. grandiflora is a larger and vastly improved edition of the original species. A. Campbellii is also of a deeper colour as well as of larger size, and is, without doubt, the finest Aubrietia in cultivation. Another variety, Græca, is a better strain of deltoidea. A. Hendersoni is of a deeper violet-purple than either of the others. Other and superior varieties are said to have been recently raised. The white one will be most welcome, as there is no white common flower that quite matches the purple or violet Aubrietia. Even the smallest-flowered Arabis are too large, and also too tall in the stem, to run nicely with them. There are several partially-variegated-leaved Aubrietias, but the variegation is neither so bold, striking, nor constant as in the case of the closely-related plants, the Arabis. The extreme smallness of the leaves, unless the variegation is very striking, as in the case of the Golden Lemon-thyme, is also against its effectiveness; and at present Aubrietias are more grown for their flowers than their foliage. Nevertheless, the variegated variety of A. purpurea—which is boldly margined with white—is frequently used as an edging plant.

The Aubrietias are perfectly hardy, and will grow in almost any soil, though, like most other common flowers, they pay well for a bit of good light loam, with a dash of leaf-mould in it, and fair culture. In good soil, with plenty of water in a dry season, Aubrietias are seldom out of flower throughout the year. On poor dry soil, the bloom is less dense, and the time they last in bloom is very greatly curtailed. From the dense trailing habit of these plants, they propagate themselves with amazing rapidity, rooting their stems as they run, so that the one speedily becomes any number at the will of the cultivator.

As to the best time for dividing Aubrietias, most authorities recommend spring and autumn. Neither of these is the best season, but rather about midsummer. Spring division injures the flower for that season; autumnal division does not afford sufficient time to admit of the plants being well established before winter, and the flower-buds developed and filled for spring blooming. Divide as soon after flowering as practicable, and the plants will get rapidly established, and will have sufficient time to recoup themselves from the check, and bloom the following season as if nothing had happened.

Propagation is also effected by cuttings. Small pieces of half-ripened wood placed under a handlight or in a close frame will root freely. As soon as rooted, harden off by partially removing the glass every day when it is mild, and plant them in the open so soon as hardened off. Any light sandy soil will do in which to root the cuttings. It should be made firm, the cuttings needing the compression to force the emission of roots. Late cuttings should be inserted where they may have protection in winter.

Aubrietias do not ripen seeds very freely, excepting just here and there in warm and sheltered localities. Where they do so the seed should be sown very thinly and as soon as ripe. These plants do not come very true from seeds, but maintain general uniformity of height and colour, and within these narrow bounds the more variety and individuality the better. The genus was named after a French botanical draughtsman, M. Aubriet, and the first Aubrietia was introduced from the Levant in 1710. They now abound in all directions, and hundreds of gardens, large and small, would look poor and stale in the spring if the Aubrietias were withdrawn. They look well almost everywhere, anyhow, in large tufts or wide edgings, in juxtaxposition with such plants as the Yellow or Rock Alyssum and the early Forget-me-not, Myosotis dissitiflora. With alternate patches of these, few plants can equal Aubrietias for the clothing of raised banks or rockeries, or intermixing with choice hardy ferns.—*Popular Gardening.*

POTTING-OFF BEDDING PLANTS.

Where large quantities of plants are required for summer bedding, a very large amount of labour is incurred in potting them into small pots, and afterwards in keeping them well supplied with water at the roots till they are planted out; and as this work has to be performed at the very busiest time of the year, when a large amount of energy and forethought is necessary to keep pace with the daily increasing attention required in every department, I think any good system that tends to lessen such labour is a great boon to all concerned, as it enables them to give more attention to other and perhaps more important subjects.

The system of growing bedding-plants that require

the least labour and gives the best results of any that I am acquainted with, is the following, which is intended to apply more particularly to Pelargoniums, although there are many other bedding-plants that might, with advantage, be treated in the same way. Assuming, then, that the plants have been rooted in boxes and kept in them till the time for potting-off arrives, which is generally in February or March, procure a quantity of turves cut into pieces about a foot square, and three inches in thickness. These can again be cut into twelve or sixteen square pieces, according to the size of the plants they are required for. Then with an old knife cut out a hole in the centre of each piece, keeping the grass side downwards, and taking care that the hole is not made quite through the turf, so that the network of grass (or rather roots) will keep the soil to be used from falling through. The plant can then be placed in the hole in the same way as it would be put into a small pot, and should have some fine soil pressed firmly around it to keep it in position. The pieces of turf that are made to answer the purpose of a pot should then be placed closely together in pits or frames, and have about an inch of soil placed over the surface of them to fill up the interstices and make the whole level.

If they then receive a good watering through a rose and are kept close for a time, they will quickly root into the turves, and the labour entailed in keeping them watered till they are planted out will be very slight as compared with what is necessary when they are grown in the ordinary way. When the bedding-out season arrives, the turves will be found one mass of roots; and if the plants are well planted and are given one good watering, they will grow on with scarcely any check. No trouble will be given with either pots or crocks at planting-time, which is no mean advantage where many thousands of plants are used. —*H. Dunkin.*

TIGRIDIAS.

There are few plants that are so novel and attractive when well-cultivated as the "Tiger Flowers," not only because of their brilliant colours, but also because of their peculiar spottings as well as their quaint forms, which seems to convey the idea that they are a compound of the Lily, the Orchid, and the Iris. Whether grown in pots for conservatory decoration or in the bulb border, they are equally beautiful and gorgeous. As their nature and cultivation is not generally well understood, and as they are frequently lost for want of a little timely attention, I will venture to describe the method of treatment which I have found to be the most successful.

Their native habitat being comparatively dry and warm districts in Mexico, they not only require more natural heat and dryness than is afforded in the open-air in this country to bring them to perfection, but if left in the open ground through the winter, unless the soil be naturally dry they frequently decay, nor do they ripen their bulbs perfectly in the open-air in wet autumns unless planted in a warm position, in which they will increase and succeed for years if a slight protection from frost and heavy rains be afforded during autumn and winter. When otherwise situated, the bulbs should be taken up in the autumn as soon as the foliage turns yellow, they should be cleaned from dirt, then wrapped in a small quantity of dry moss and two or three thicknesses of paper, and be stored in a cool dry room, where they should remain till April, when they may be replanted, choosing a fine day for the operation.

If a little peat, leaf-mould and sand be mixed with the ordinary soil, they will succeed the better. Should rain set in immediately they are planted and before growth commences, they should be protected, otherwise they are very liable to decay. They are most effective when grouped in masses of distinct colours of which there are five—viz., crimson, yellow, orange, white, and violet. Although they do not produce at any one time a mass of flowers, they give a long and continuous daily succession, every flower being a veritable gem of beauty.

For pot culture for the decoration of the conservatory during the summer and autumn seasons they are invaluable, as they associate so well either with the Lilies or Gladiolus. They should be potted in April, placing five or six bulbs in a 7-in. or 8-in. pot, using rich sandy loam, with the addition of a little peat and well-decayed leaf-mould. They should be grown in a cold frame till the bloom spikes appear, when they may be transferred to the conservatory. They will succeed well for two years without being repotted if the pots are laid on their sides in a cool dry place through the winter, similar to the method adopted with Lilies. During growth they are benefited by a liberal supply of water, and when the bloom spikes appear an occasional watering with liquid manure will produce finer and more brilliant flowers. If subjected to much heat or if grown far from the glass they quickly become drawn and unhealthy, and in such condition are subject to the attacks of red spider, which soon destroys their beauty.—*Scribo.*

NOTES ON GARDENS.

Davenham Bank, Malvern.—My summer holiday is usually of the same description as that of most other gardeners, viz., the visiting of other gardens, and this, the seat of J. D. Perrin, Esq., was thus visited at the end of August last. Not then having the least intention of writing my impressions, only mental notes can be given; but they are still so vivid that I don't expect to err greatly in my attempt to describe what I saw. Taken as a whole, I very much doubt whether another example could be found to so well illustrate what an immense variety of gardening it is possible to have within an extremely limited area, for the entire extent of gardens and pleasure-grounds (exclusive of park land) does not exceed eight acres, and yet every department is so arranged that nothing seems lacking or out of proportion, except it be Orchids, and it is evident at a glance that these are the owner's hobby, and, as a matter of course, his gardener's also.

The principal range of houses for the growth of Orchids are span-roofed, and have central beds with side stages, and plants are also hung in every available place on the roof, and without exception all seemed to be in excellent condition, the only fault, if such it may be called, being overcrowding; for spacious and extensive as are the houses, Mr. Jaques would have no difficulty in furnishing, from his present stock, an equal number of new houses to those already devoted to Orchid culture. There was very little in flower at the time of my visit, but this was to be expected at the end of August; but that there would eventually be plenty, the many fine plants of Cattleyas and Lælias were a sure token.

Cattleya Mossiæ, several plants had from 6 to 18 leads; C. gigas, 4 leads; C. Exoniensis, 4 leads; C. Dowiana and C. guttata, 8 leads; Lælia anceps, several with from 6 to 12 leads; Vanda suavis Veitchii, a fine plant having about 15 leading growths, and with 700 or 800 leaves. In the Indian section, Angræcum sesquipedale was very fine; as also Aerides and Saccolabiums of the leading varieties, and Phalænopsis, over 80 plants, all doing well. In the Mexican section, Cattleya citrina was doing well, potted in peat, and hanging up close to glass; Epidendrum prismatocarpum, in pans 20 ins. across, extra good; Odontoglossum grande and O. citrosmum also looked grand in this house. In the cool section, Odontoglossum Andersonianum, O. crispum, O. blandum, O. Halli, O. pulchellum majus, in 24.-in. pans, were very fine. Masdevallia Harryana, M. ignea, M. Lindenii, and M. Veitchii, in pans 12 ins. to 18 ins. across, were in superb condition, as in fact was the entire stock.

Stove plants generally were in fine health, and Palms, Eucharis, Dracænas, Crotons, and Marantas particularly so. Some huge plants of Dendrobium nobilis and D. Wardianum, at the time of my visit, occupied the best positions in the plant stove, and were making grand growth; greenhouse plants were quite on a par with Orchids and stove plants. Ericas and Heaths were, of course, out-of-doors, so that the greenhouse which I should describe as a conservatory was not too crowded, at least not as regards floor space, but the roof certainly was so, but such crowding as most of us would like to see. The house is 40 ft. by 18 ft., and the entire roof was covered with Lapagerias, red and white, each plant having many hundreds of flowers, and such flowers, too, as one rarely sees. They are planted out in good wide borders, the compost being peat and loam in about equal proportions, and copious supplies of clear manure water are given throughout the growing season, but at no period are the borders allowed to get dry; and that they do not, the size of stems, substance, and fine glaucous green colour of the leaves abundantly testify.

Though there is little of second-rate gardening in any department under Mr. Jaques' charge, this Lapageria roof, in my humble opinion, heads the list of excellencies at Davenham. The next surprise was indeed a contrast to the gaiety of the Lapageria roof, viz., an indoor fernery, planted in the natural style with waterfalls, cascades, and ponds. Dicksonias, Alsophilas, and other tree ferns are here quite at home, and the undergrowth includes the common varieties of Adiantum, Salaginellas, and Begonias of the fine foliage section; the latter seemingly enjoy their dark quarters immensely, being vigorous and well coloured. To attempt to describe the general arrangement of rockwork and planting is impossible, and therefore it must suffice to say that it looks as natural as it is possible for any artificial work to look, and the pathways twist in and out so naturally as to give one the idea of extensiveness whilst in reality it is not so.

All the houses and plants mentioned above are situate on what I should call the pleasure-ground portion of the estate, which, as before observed, is of limited extent; but the planting of trees, &c., has been so well managed that a stranger might very easily be led to believe that instead of being quite in the town of Malvern, he was a long way out in the country. There are some extremely fine Conifers that make excellent screens from neighbouring mansions, Abies Douglassi and canadensis, Picea Nobilis and cephalonica, are amongst the best; and by way of flower-gardening proper, there are good collections of herbaceous plants Roses, and a bedded-out garden, the latter being treated more particularly in respect of colour *en masse* rather than artistic designs of foliage plants; and taking into account the size of the place and surroundings, this is doubtless the most appropriate plan of arrangement.

A public roadway intersects the pleasure-grounds and kitchen and fruit gardens, and this is the only blot, an unavoidable one, of an otherwise unique garden. Kitchen-garden crops made one envious, for, notwithstanding the long drought, there were magnificent rows of Peas, Ne Plus Ultra, as well filled out as if the season had been ever so favourable; Celery, Sandringham white and Major Clark's red, were simply magnificent, and the same may be said of Brussels Sprouts, Cauliflowers, Onions, in fact, all kitchen-garden crops showed plainly that in little (Cabbages, &c.) as well as in the greater (Orchids, &c.) Mr. Jaques is equally faithful.

Fruit forcing is done extensively. The vineries are three in number and the produce good, Alicante, Hamburgh, and Madresfield Court being very good. There is what may be described as a glass wall or case over 200 ft. long and divided into three compartments, which is wholly devoted to the cultivation of Peaches and Nectarines, there being at the time of my visit extra fine fruit of Noblesse, Royal George, and Bellegarde Peaches, and Pitmaston Orange, and Elruge Nectarines. Pits and houses for the cultivation of Melons, Cucumbers, the forcing of vegetables and Strawberries are on an extensive scale. Strawberry forcing, as indicated by the robust vigour and number of plants, 1,200, evidently receives the best attention, the favourite varieties being Keen's Seedling, President, and British Queen.

As to hardy fruit culture little need be said, other than that Davenham Bank is in Worcestershire, a county proverbially famous in this branch of horticulture, and that this particular spot is no exception to the rule of ample supplies of Apples and Pears I had ocular demonstration by witnessing several impudent urchins gather and run away with at least part of what would otherwise have found its way into the Davenham Garden fruit-rooms.—*W. Wildsmith.*

Cereus Engelmanni.—This is a very beautiful member of the Cactus family from California, whence it was introduced by Messrs. Haage and Schmidt. It is figured in the *Gartenflora* for December. The stem is erect and cylindrical, with 11 to 13 ribs, and numerous tufts of spreading spines, which are unequal in length and a little curved. The flowers are of a clear bright purple, and 4 ins. in diameter.

The Amateurs' Garden.

Chrysanthemum Culture.—How often is the question asked, "What shall I do with my plants after they have done blooming?" and again, "How shall I strike the cuttings?" In the way of a reply to both questions, I propose to give a few hints upon their culture, which may be useful to amateurs and young beginners. Let us commence with the month of November, when the plants have done blooming. Look at them for a moment: see the suckers thrown up all round the roots, how drawn and sappy they look, through the plants having been placed close together in the conservatory or greenhouse. If these were taken as cuttings and put in at once they could not be depended upon for producing good blooms, therefore the first thing to be done after the plants have ceased blooming is to cut them down to within about 6 ins. of the soil. They should then be placed in a cold frame or stood out-of-doors in a sheltered position, taking care that the frost does not touch them.

After they have been so placed for a few days, the cuttings will be sufficiently hardened to commence operations for next season's display, *i.e.*, if good exhibition plants are desired; but if the plants are only wanted for decorative purposes it will be quite soon enough to commence striking cuttings in February next.

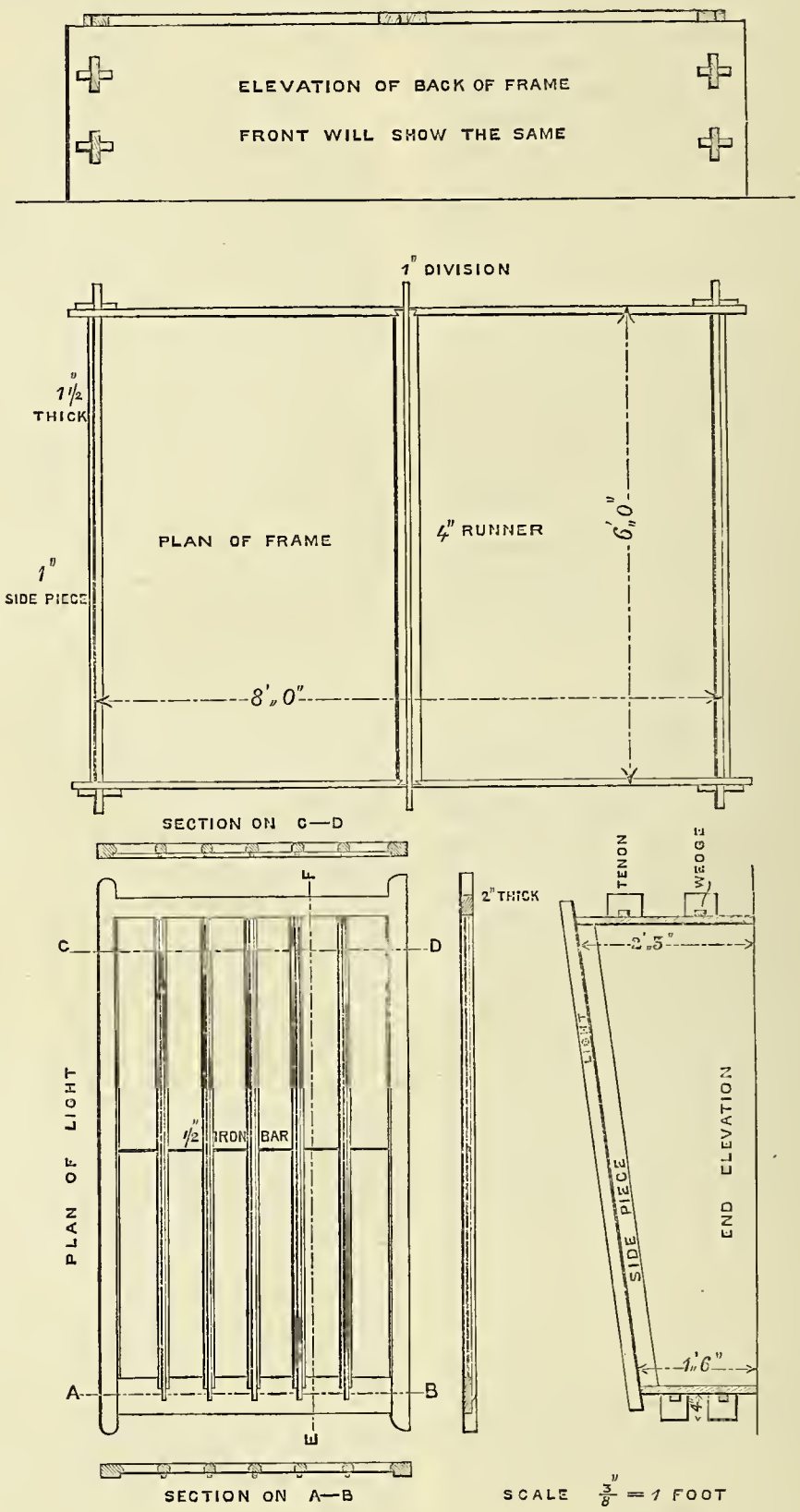
Presuming that the cuttings are required to be put in now, the soil should be got ready for them. It must be remembered that for striking the cuttings a particularly good soil is not required, in fact they may be struck in almost any ordinary garden soil, providing it is not too heavy, with the addition of silver sand, but a good compost for striking cuttings in, consists of equal quantities of loam and leaf-soil, with plenty of silver sand, and if leaf-soil is not to be had cocoa-fibre will do as well. They are best struck in 3-in. pots, and the pots should be perfectly clean and must be well crocked to insure perfect drainage. Fill up the pots nearly to the rims with the soil, and press it down firmly, and over this place a sprinkling of silver sand.

The strongest cuttings should be selected and taken off with a sharp knife, and should be about 3 ins. or 4 ins. long; neatly cut off the lower leaves and then insert four or five around the sides of the pots, press the soil firmly around them and then water and place them in a cold frame close to the glass, and keep the frame shut up close till they are established, covering the glass in frosty weather. When they show signs of having commenced to root, give air pretty freely (except in bad weather) to keep them strong and prevent them from becoming drawn. Nothing more will be required to be done till February, when it must be decided for what purpose the plants are to be grown, viz., whether for obtaining cut blooms for exhibition, or for growing into specimen plants, or for conservatory decoration.

Cuttings of Pompons should not be inserted till February, but cuttings of the single varieties should also be struck now, if large plants are desired, and no greenhouse, however small, should be without a few of these useful varieties. In my next I will give some hints on their general cultivation.—*W. E. Boyce, Holloway.*

Potting-up Wallflowers. — Wallflowers are universal favourites, emitting as they do an odour peculiarly their own, and which, like the Mignonette and the Stock, is generally appreciated, so with such a general favourite, we cannot well have it too long in our presence. Those who have surplus plants left from the autumn planting of the spring garden, I would advise to pot them up into suitable sized pots, and stand them in a cold frame till the middle or end of February, when if introduced to a conservatory or greenhouse, they will soon unfold their blossoms and emit their delicious odour. Dwarf sturdy plants are the best for the purpose, and to get them in such a condition needs the simplest treatment. Seed is sown in April, in a sunny aspect, and the plants dibbled out on an open piece of ground, from which a crop has just been taken, without digging or any other preparation whatever, except clearing of weeds. They do best when planted a good distance apart, as when thick they are apt to get drawn.—*C. Warden.*

The Aucuba-leaved Daisy.—Amateurs and others desiring to make their gardens cheerful and pretty during the spring months should add this charming little Daisy to their list. Its name, aucubæfolia, implies that it resembles a well-known plant in colour, but in the spring season its leaves are much more golden than the Aucuba, while the green streaks in the leaf are an additional charm to it, contrasting as they do with the broader markings of a bright golden hue. It will make a lovely edging for small beds or plots in the spring garden, or groups of it well elevated will have a good effect in any spring garden arrangement.—*W. Hollins.*



Chrysanthemums.—The following is a selection of Chrysanthemums that may be useful to some of these amateurs who are contemplating the culture of these plants, and who may not have seen a collection or have been to a show this season to choose for themselves. Probably it is not all who are aware of the ready means there are of securing a stock of these plants, by purchasing cuttings at this time and onwards for a few months of nurserymen who make a speciality of their culture. Several of the firms who advertise in your columns are known to me as being reliable growers, from whom cuttings as well as plants can be obtained. Cuttings of all the leading varieties may now be purchased at a very reasonable cost, and from these may be had, with proper treatment, flowers and plants of the greatest perfection the first season.

I name only three dozen varieties, for who could do less from about three hundred, but I can answer for their being distinct and good:—Japanese, White: Alba plena, Elaine, Fair Maid of Guernsey; Red: Abd-el-Kader and La Incomparable; Rose: Comtesse de Beauregard and Madame B. Rendatler; Pink: Baronne, de Prailley and Madame Clemence Audiguier; Yellow: Meg Merrilies and Peter the Great. Large Flowering, White: Empress of India and Mrs. Geo. Rundle; Pink: Alfred Salter and Miss Mary Morgan; Yellow: Annie Salter and Mrs. Dixon; Crimson: Dr. Sharp, Julia Lagravere, and King of the Crimsons; Bronze: Barbara and Mrs. Howe; Rose: Fingal and Lady Hardinge. Pompons, Yellow: Aigle d'Or; Orange: Aurora Borealis; White: Cedo Nulli, Madlle. Marthe,

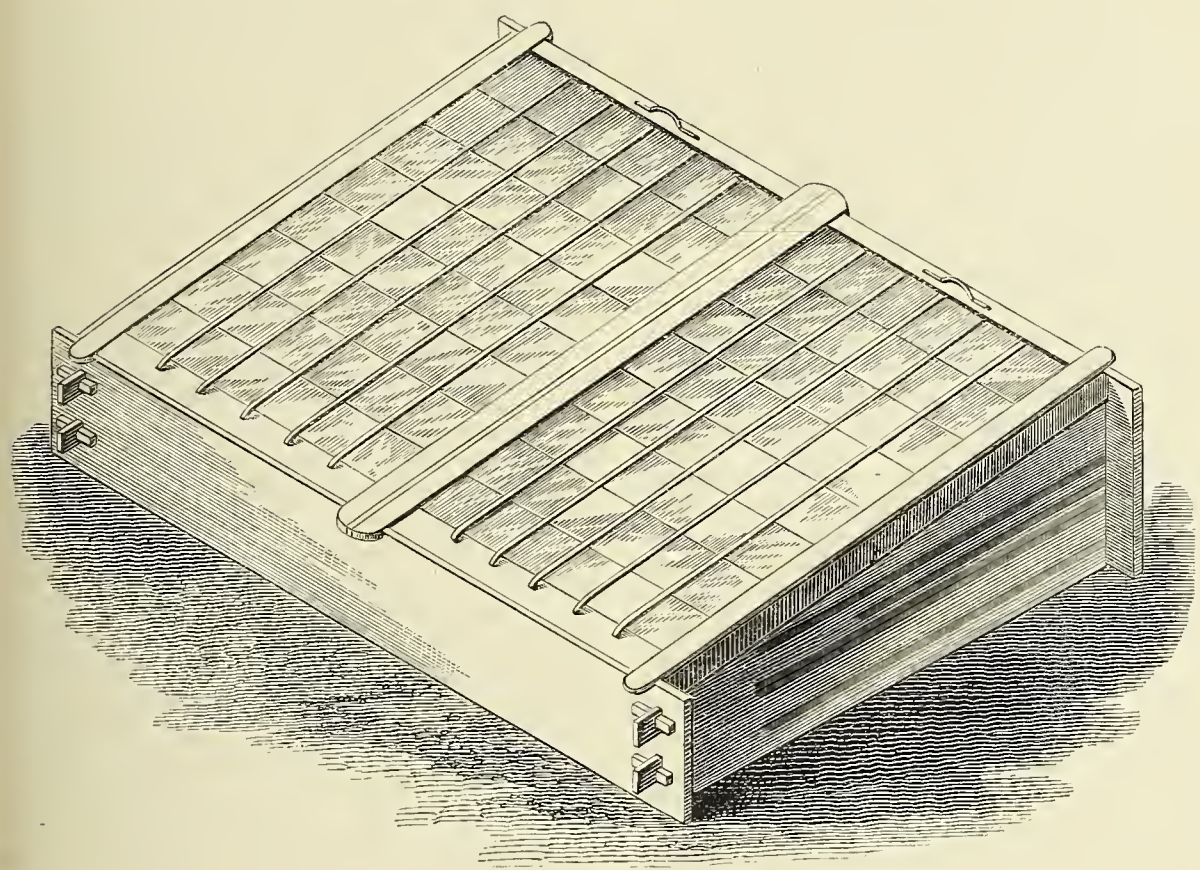
and Mrs. Turner; Lilac: Cedo Nulli and Model of Perfection; Pink: Mrs. Murray, and Oracle, rose-purple. This is but a very short list indeed, compared with the number of good varieties there are to select from, but would probably be sufficient for an amateur to begin with.—*C. W. C.*

AN AMATEUR'S FRAME.

I SEND you a sketch—an isometric view—of a Cucumber Frame, which may be made by any enterprising amateur who is fond of trying his hand at a little carpentering. It is drawn to a scale of three-sixteenths of an inch to the foot, and all the measurements may be taken from it. The frame is made so that it may be easily taken to pieces in a few minutes (when not in use), and laid by to protect it from the effects of the weather. It is made of 1½-in. yellow deal, 8 ft. long and 6 ft. wide, 18 ins. deep in front, and 27 ins. deep at the back; two 9-in. boards jointed together will make the front, and three boards the back; and one board ripped down angle ways, and each piece joined to two 9-in. boards, will make the two sides; each side is allowed to run 4 ins. past the ends of the frame, and the sides tenoned into the front and back, and secured by key wedges driven through a mortice in the tenons. A runner, 4 ins. wide and 1 in. thick, is dovetailed into the top edges of the back and front across the centre of the frame for the lights to run on, and a division piece, 1 in. thick and the same depth as the thickness of the lights, nailed on the centre of the runner. Guides, 5 ins. wide and 1 in. thick, are nailed on the top edges of the sides (outside), and allowed to stand up the thickness of the lights. This completes the frame.

The lights are 2 ins. thick; the stiles and top rail 3 ins. wide, the bottom rail 6 ins. wide and 1¼ ins. thick; the rails are tenoned into the stiles, and pinned or wedged; the top rail has a plough-groove run in to receive the glass, and the stiles and bars rebated. The bars can be bought ready for use at any timber merchant's yard, and all there is to do to them is to tenon the top ends into the top rail, which is morticed to receive them, and the bottom ends let into the bottom rail, the rebated part allowed to run on past the lower edge of the glass and rounded off, the stiles and bars be bored through in the centre, and a ½-in. iron bar put through to strengthen the light; the horns of the lights should be rounded, and iron handles screwed on to the top rail to pull the lights up and down with. The whole should be painted at least two coats of paint—the frame dark brown or lead colour, the lights white, and the handles black.

The following sizes of wood (yellow deal) will be required:—80 ft. 9 ins. by 1½ ins., sides of frame; 42 ft. 3 ins. by 2 ins., stiles and top rails of lights; 9 ft. 6 ins. by 1¼ ins., bottom rails of lights; 80 ft. 2 ins. by 1¼ ins., bars for lights; 13 ft. 5 ins. by 1 in., guides on outside of frame; 6 ft. 6 ins. by 4 ft. 1 in., runner; 7 ft. 2 ins. by 1 in., division; 96 squares of glass, 9 ins. by 7 ins. The wood will cost about 12*s.*, the glass about 8*s.*, the handles and iron bar 1*s.*, and paint 2*s.*—total, £1 3*s.* If any reader of THE GARDENING WORLD should feel inclined to make one, and does not fully understand the details, on applying to the Editor I shall be pleased to give further instructions.—*James Davison.* [We shall be pleased, too, if our correspondent will favour us with some more drawings of such a useful character.—*Ed.*]



AN AMATEUR'S FRAME. SEE DETAILS ON P. 248.

THE WILD CLEMATIS.

ONE of the most handsome creepers of our hedges this past autumn, and even now, within a few days of Christmas, is the Wild Clematis, or, as it is usually called in Surrey and Sussex, the Old Man's Beard. At Muntham, the Marchioness of Bath's place at Findon, on the South Downs, Mr. Conway, the gardener, can show many interesting things, including his iron ornamental cottage in the grounds. He could show, in the early autumn, a long avenue of Figs stretching across the garden, loaded with ripe fruit, such as you rarely see except in that warm, delightful, fertile part of the Sussex coast, within ten miles of Worthing. He could show, in the sheltered dells where the gardens are situated, as many autumnal, but not unwelcome flowers blossoming out of season, as you could find almost anywhere; and several exotic trees of unusual size, Cryptomerias and Taxodiums, and Palms planted outdoors several years ago and growing in perfect health among the other ornamental vegetation of the shrubberies. I shall not attempt to publish a complete list of the tender shrubs and flowers of Muntham, or to describe the Dutch Garden, the long hedges of Yew and tortuous edgings of Box, though one's mind lingers with pleasure over the recollection of so fair a garden, lately visited.

I took up the pen to notice Wild Clematis which hangs in festoons from a height of 60 ft., among a group of Plane-trees at the bottom of the lawn a Muntham, sweeping the grass below. The lianas of tropical forests can hardly be more beautiful; and I have no doubt that the noble owner of this place, in surveying the scene that lies before her windows—the smooth-turfed hills outside her domain and the well-timbered park and ornate grounds around the house—feels a patriotic pride in the humble native plant which shows so grandly on the lawn, and which, at other dwellings in Sussex, lends its beauty to many a simple virgin's bower, and to many a cottage porch. Virgin's Bower, by the way, is another of the names of this common creeper.

The name of Old Man's Beard is said to have been derived from the mischief-making old fellow Puck, that fairy of the "Midsummer Night's Dream," who says, in leading the Clown and his fellows a race through Oberon's domains, "Up and down, up and down, I will lead them up and down; I am feared in field and town." It was he who bewitched the cattle, and earned for several farms in Sussex the name of "Puck Farm," which denotes that a fatal disease of blood poisoning, known locally as "The Puck," or otherwise as "Black Leg," is common on these farms.

This reference to Puck, that ancient fairy, and to the beard he wore as an old man—for he assumed many shapes—may be taken for what it is worth; but there is perhaps no need for a far-fetched derivation of this particular name of the Wild Clematis. Any boy in Sussex who had never heard of Puck, and who happened to be cutting the stem of this plant into lengths for his smoking—what won't boys do and endure in imitation of their elders and teachers!—would perceive the likeness of the twisting stems and twigs of the plant, and of the white cotton-like or hairy material enveloping the seeds, to an aged beard.

The other name of Virgin's Bower has been also fetched from Scandinavia, much further than the occasion required, just as we import German waters which are bottled and labelled and sent over here, our own being far better. Freyja, the Northern Goddess of beauty, love, and fecundity, is supposed to have rested in a bower of Clematis, as did the same goddess under her southern name of Venus, and also the Virgin Mary, when she too sought repose in a similar bower on the way to Egypt. But although so many plant-names are undoubtedly connected with the several heathen goddesses, and others with the Virgin Mary, to whom all flowers were, in fact, dedicated by her votaries of the Middle Ages, a more homely and an English origin for the name in question may content us. It was in our Augustine Age of Literature, in the time of Shakespeare, that the name Virgin's Bower was first applied to the Wild Clematis, when the old herbalist, Gerarde, so named it, and described it as making a bower fit for maidens. It is believed that the particular virgin he referred to was Queen Elizabeth. But the Clematis bower, though fit for queens, is just as well suited for their subjects, and let us not "think foul scorn" to quote the Virgin Queen herself, that humble and happy rustics may "breath out the tender tale" in virgin's bowers formed of Clematis.

It may be planted so as merely to shade and conceal a seat within, or it may be trained over a home-made rustic summer-house, so as to convert the plainest and most artless building into an object of interest and ornament. I would, therefore, venture to suggest to those who are fond of contriving this kind of simple garden architecture, whether the Wild Clematis might not be introduced into their designs rather more freely than it has been.—*H. E.*

DR. REGEL.—We (*Gardeners' Chronicle*) learn that Dr. Regel, the editor of the *Gartenflora*, is about to sever his connection with that journal. In an address to the readers of the *Gartenflora*, he states that it is now thirty-three years since his first botanical work appeared, the *Flora Bonennsis*, which he carried out in association with his long since departed friend, J. Schmitz. Dr. Regel takes his farewell with cordial thanks to all his colleagues and friends for their assistance, and expresses the hope that the *Gartenflora* may have abundant support, and that the circle of its readers may constantly widen. Dr. Regel still retains his post as Director of the St. Petersburgh Botanic Garden.

FRUITS.

Pear Culture at Templeville.—How to get the most produce from the least possible space is a problem that has exercised and doubtless will continue to exercise the brains of many an ardent aspirant to success and fame, in this age of keen competition, in all matters connected with horticulture. A good example of success in this direction and one which is well worthy of being recorded, may be seen at Templeville, the residence and property of Mr. G. T. Unthank, situated just outside the boundary of the old city of Limerick. Pears and Pear-culture are the hobby of the owner, but let it not be thought the only one; Apples and Strawberries come next in estimation, while Gooseberries, Currants, &c., receive a fair amount of attention. Cherries and Plums are not to be depended on, and have been entirely given up. Not to mislead anyone who may perhaps think I am writing up some nobleman's or other large garden, I may say that the owner would be most correctly described as an enthusiastic amateur, one who sends his produce to the market, and who is his own head-gardener.

While a young man, Mr. Unthank had opportunities of travelling, that are unfortunately not possessed by gardeners as a rule; the meagre wages paid to young men not allowing them to spend much in travelling expenses. Being naturally of a shrewd and intelligent disposition, and anxious to benefit by every possible circumstance, while spending some time in France and the Channel Islands, he could not but notice the different methods of culture to those he had been accustomed to see at home, and which he in due time profitably turned to account. On returning home the needed impetus was given, on comparing the vast difference between the Pears growng in his own garden and those grown in France, now nearly forty years since.

The walls were at that time covered with Pear-trees of the kinds most generally grown at the time, but the produce of some of them were so inferior both as regards quality and quantity that it was so far from a pleasure or profitable pastime to attend them, that Mr. Unthank commenced experiments by trying pyramids. This, as regards furnishing him with Pears, proved a failure, but showed unmistakably that if fruit was to be had, some other plan must be tried. To the walls he at once saw plainly he must look if he was going to have Pears in prime condition. Well, nothing daunted, he determined to set the initiative, and try the oblique cordon system, and forthwith purchased some of the leading kinds then grown by the late Mr. Rivers, on whom he always relied for trustworthy information respecting the quality of new Pears and their supposed hardiness, &c. By continually buying what seemed to be a sterling variety, and discarding those that experience had proved were the least adapted for his purpose, or that were unsuitable to this climate, and re-grafting the old horizontal-trained trees with approved kinds, he has been enabled to furnish the walls with such varieties as the greatest epicure would be sure to appreciate.

The owner is each year rewarded by the results of his untiring energy. Perhaps the shape of some of the trees are not quite up to many a gardener's idea of symmetry; many of them have at some time or other been pyramids, and some of them standards; the produce obtained from them, however, more than compensates for a little irregularity of training. I have never seen better examples of productiveness and quality in any garden it has been my pleasure to visit. I do not say this in disparagement of any one, far from it, as it will no doubt strike the thoughts of many an intelligent professional, that seeing that the owner can do what he likes, and too often does, though in the majority of cases not for his own good, the garden comes under different management.

Let it not be supposed that the walls have at any time been bared. The old horizontal trees referred to previously were cut in a few branches each season; some of them are worked with several different sorts, while others are worked with only one variety. The oblique cordon is, however, pre-eminently the favourite method of training, and for new or untried kinds rightly so, as a great quantity can be tried in a comparatively little space. Many of the trees at Templeville are not more than 18 ins. or 20 ins. apart. Some would object to this system on account of first cost, but considering the disappointments experienced through some varieties not succeeding in different localities, it has much to recommend it, and particularly where space is limited. Besides, in some seasons any known variety may fail to yield a crop, or even a part of one. Then, by having a greater selection the failure is in a measure obviated. The little room taken up by this system or by the branching vertical cordons, which is another method that has much to commend it to small growers, enables the cultivator to grow a much greater variety of sorts, and consequently enables him to meet with more certainty his own or his employer's demands.

Before enumerating the varieties found to give the best results it is only right to say that Mr. Unthank's fruit is eagerly sought after, a circumstance which goes far to prove the successful character of his enterprise in this direction. Indeed a gentleman, sometime resident in Guernsey, told him that even in that favoured clime he had not tasted Pears equal to those he had obtained from Templeville, a testimonial of which Mr. Unthank is still not a little proud.

The aspect of this garden is what sailors would term south-south-east, to which it has a gentle slope, and the walls are about 16 ft. in height in the highest places, the ground being undulating. The soil is a heavy loam, resting on a limestone formation. I have no doubt but that the walls were built from limestone dug from the garden, for nowhere in the neighbourhood is it far below the surface.

In the following list I do not profess to name by any means all the varieties grown, but, as far as my memory serves me, only the kinds grown in quantities. Doyenné du Comice is, above all others, the favourite, but it has not this season been so fruitful as usual; Durandeau comes next in the owner's esteem, and he grows it on every aspect, the north proving the least suitable, though high coloured and creditable examples can be grown even in this position. Glou Morceau, which, by-the-bye, is rather uncertain in this locality, has this season been better, *i.e.*, freer from cracks than ever it has been before—in fact, at the time of my visit, September, I did not see a blemish on one of them. By this I infer that it likes drier and warmer summers than we get here. Joséphine de Malines is perhaps grown more largely than any other variety on account of its high quality and late-keeping propensities; this variety was nearly a failure this season. Doyenné Boussock is largely grown, as is also Beurré d'Amalis, which never fails to give a crop, and is certainly one of the best autumn Pears. Beurré Diel is largely grown. Louise Bonne of Jersey, of high colour and of large size, is grown extensively, and is one of the owner's favourites. I have never seen the latter so fine as it is here, which, in a measure, may be accounted for by the fruits being judiciously thinned while still in a small state.

Beurré Superfin and Madame Treyve are both grown in quantity, the last mentioned being a good early Pear. Beurré Giffard is the earliest grown in quantity, although St. Swithin is being worked up as fast as possible. Concerning the latter, it may not be out of place to say that it always remains green in appearance, and that it will not keep more than from three to seven days after picking. Clapp's Favourite, a variety of recent introduction from America, is finding great favour. Beurré Bosc has this year proved a failure, which is unprecedented. Williams's Bon Chrêtien is only sparingly grown. Nouvelle Fulvie is much thought of, and will in time be largely cultivated. Chaumontel, grown on horizontal-trained trees, had the appearance, if I may use the expression, of ropes of Onions, so thick and bulky were they on the west wall, and they have since ripened all that could be desired. This variety, though, is not much esteemed by the owner. Triomphe de Jodoigne, a very large Pear, is sparingly grown and will in time be dispensed with altogether. Winter Nelis is not grown so much as its high quality would lead one to expect, but Mr. Unthank considers it too small in size. Pitmaston Duchesse is well represented, it is a variety that may be considered by many as too large, but when one sells by weight, which is perhaps the fairest method, no one looses whether the fruits are large or small. Fertility, another good autumn variety, fully bears out its name as far as productiveness is concerned for late use. Marie Benoist is much appreciated, and isb eing propagated as fast as possible; the owner has had it in good condition in June. Strange to say, Marie Louise is not grown at all.

As I have given a list of those that succeed, I will now mention a few popular varieties that have been, or will be discarded altogether. Beurré Bachelier, Beurré Clairgeau, Beurré Hardy, Beurré d'Rance, Beurré Sterckmans, Passe Colmar, Dr. Trousseau, Ne Plus Meuris, &c. It will doubtless be noticed that the varieties grown are nearly all large-sized or approaching thereto, and which find the most general favour. In closing, I think it only right to say that notwithstanding the owner's lengthened experience, he is as ready to listen to any suggestion as the greatest novice would be, and is equally as free to impart information to anyone that asks his advice or opinion. He is always ready to show any practical man his trees, so that if anyone who reads this would like to see for himself I am certain he will receive, as I have done, a courteous and hearty welcome.—*E. Dumper, Summerville, Limerick.*

Mildew on Vines.—Mr. Temple having so ably dealt with this subject at p. 216, it may perhaps not be considered an inopportune time for me to state my experience with the same. In the year 1879, that cold and wet season which many of us will not soon forget, I was called upon to give an opinion as to the treatment of some vines which were attacked with mildew shortly after the Grapes were set, and while they were as small as very small Peas. The bunches in many cases were quite white, and to many the case would have seemed hopeless. I myself thought it would have proved much more serious than it did. I was satisfied that the cause, in a great measure, was cold and damp, and there was no doubt of the roots being damp enough, as they were in an outside border. As the case was turned over to me, to be treated as I thought best, I mixed a handful or two of sulphur in a can of water, getting it well damped before filling up the can. This was kept well mixed with the water by forcing each alternate syringeful into the can and the other on to the vine, taking care to damp every part. The fires were then set going, and care taken to keep up the necessary temperature. Care was also taken not to open the ventilators too wide, to admit of too great a volume of cold air, as this, coupled with the general lowness of temperature, I believed to be the cause of the attack. These Grapes subsequently ripened and coloured well, and it was surprising what few traces of the mildew could be seen, only in fact, a few rusty specks, nothing like so bad as I have sometimes seen result from an operative's hair rubbing the berries while thinning. The next case of mildew I had to deal with occurred during the past dry summer, on some very old vines planted on the back part of one of the vineries here. The roots, as is often the case with very old vines that have been left undisturbed for a length of time, had left the inside border to ramble at their own sweet will outside. It appears that the past dry summer found them wanting moisture, and this, coupled with a humid atmosphere, brought about by the wasp-netting placed over all the ventilators, had caused the Grapes to mildew just at the point of finishing. But in this case it did no serious harm, as it affected only those berries which were inclined to shank or did not finish well.—*C. Warden.*

Plectranthus Fœtidus.—Until recently a solitary specimen of this beautiful plant was known. This was obtained by Sir Joseph Banks from Endeavour Bay, Tropical Australia, during Captain Cook's first voyage, and is preserved in the British Museum. Seeds, however, have been obtained and raised at the Edinburgh Botanic Garden. A plant sent to Kew in 1883 formed a conspicuous object in the Palm-house during last spring. This we learn from *The Botanical Magazine*, where it is figured at t. 6792. It forms a bush 3 ft. to 5 ft. high, with broadly cordate, coarsely crenate leaves, 4 ins. to 6 ins. long, and a sparingly branched inflorescence, some 2 ft. to 3 ft. long, with beautiful cobalt-blue corollas. The calyx is very villose with white hairs, giving the spikes the appearance of being clothed with snowy wool.

FLOWERS.

Seasonable Work in the Plant-houses.—Many of the Bouvardias will now have done flowering, and some of the sorts, if dried off and cut back at once, will give a crop of flowers again early in the spring. The plants should not be cut back until they are quite dry in the pot, and no water must be given for at least a fortnight after the plants are pruned, and then they should only be slightly sprinkled until they begin to start into growth. The following sorts will be found amongst the best for spring flowering:—B. Jasminoides, B. longiflora flammea, B. rosea occulata, and B. Dazzler. Ferns require a little extra attention at this time of year, especially the denser growing sorts, which are liable to damp if the old fronds are not removed as soon as they begin to decay. Although care must be taken not to wet ferns overhead at this season, yet they should never be allowed to get too dry in the pot. All kinds of hard-wooded greenhouse plants require great care in watering at this season. Where plants are standing on a dry stage they will sometimes become dry at the bottom of the pot when the surface appears moist, and although an overdose of water is very damaging, yet it is equally damaging to allow any kind of hard-wooded plant to become too dry in the pot. The present is a good time to get any plants that require tying attended to. In tying out Ericas, Aphelexis, Dracophyllums, and, in fact, all kinds of hard-wooded plants, the fewer sticks used the better it is for the plants.

Tree Carnations.—Now and then these are to be met with in gardens in fine condition, but in every case when this is so, I always find the plants in light airy houses or pits, where there is gentle heat and free ventilation, without which latter the shoots of the Carnation soon draw and become too weak to bloom. The finest I have seen were planted out on a slightly fermenting bed of leaves, and for top warmth had a pipe running round the pit, which generally had a little air on, and the quantity of flowers these plants yielded, when compared with others in pots, was something astonishing. When pursuing this mode of cultivation, the best way is to plant the plants out in good soil, and so let them have their summer growth in the open, and then lift them with good balls in the autumn, when, by replanting them on a slight hotbed, they soon get fresh hold and hardly feel the removal. Those who would have them good next year should begin propagating now, as it is only by getting early-struck cuttings that strong plants can be grown. The way to induce the cuttings to root is to insert them in sandy soil around the edge of a well-drained pot, and then stand them in the propagating-box, or on a shelf, with a sheet of glass supported above them, to prevent them from flagging. Later in the season it is a good plan to dibble them in on a dung lining, under shelter of a handlight, where, with the warmth below, they strike quickly, and seldom damp off.—*Alpha.*

Allium macranthum.—This is well figured in the December number of *The Botanical Magazine*, t. 6789; where it is described as one of the finest Alliums yet brought into cultivation. It is a native of the Eastern Himalaya, and was brought home alive by Mr. Elwes, who obtained it in an excursion to the Chumbi Valley. Sir J. D. Hooker had previously brought home a dried specimen, which he collected in 1848, in the Lachen Valley, Sikkim, at an elevation of 13,000 ft.; consequently it will probably prove hardy with us. It is a robust plant, with numerous broad linear leaves 1 ft. to 1 ft. 6 ins. long, and scarcely any bulbous rootstock. The scapes are several to each plant, 2 ft. to 3 ft. high, each bearing fifty or more bright mauve-purple flowers in a loose globose umbel.

Salvia paniculata.—This is a handsome South African plant, which has recently flowered in the Cambridge Botanic Garden, under the able management of Mr. Lynch, who obtained it from the Botanic Garden at Ghent, some four years ago. A cutting was struck and planted out against a wall, where it grew to 6 ft. or 7 ft. high, and produced large and loose panicles of large pale lilac-blue flowers. The leaves are comparatively small, measuring 1 in. to 2 ins. long. It was introduced to cultivation by Phillip Miller in 1758. It grows wild in sandy places at Worcester, Clan William and on the east side of Table Mountain, and belongs to a group of twelve species, which, with the exception of S. canariensis, from the Canary Islands, is peculiar to the Cape of Good Hope. It is figured in the December number of *The Botanical Magazine*, t. 6790.

Solanum capsicastrum.—It is a good plan to take off the green points of the berried Solanums at this time of the year, and insert them as cuttings, placing them in a warm house till rooted, when they should be removed to a cooler house, or pit, and be potted up with the ordinary bedding plants in spring, and planted out in an open and sunny position out-of-doors, in the end of May or beginning of June. With me winter-struck cuttings have a considerable advantage over those rooted in spring.—*C. W.*

Propagating Cinerarias.—A correspondent writes as follows:—"I had last year what is said by some of my gardening neighbours to be a very fine strain of Cinerarias. I took seed from a few of them, sowed it in August, and have now in a frame about one hundred fine young plants that will bloom in March. If there are among them any varieties of special merit, how can I best propagate them other than by seed?" Let us state that when the plants have done flowering, the decaying flower-stems should be cut away to within 3 ins. of the surface soil, the plants placed in a shady situation out-of-doors, and, if necessary, protection be given from continuous rain. Here they throw up growths or suckers from the roots, and it is these that make the best cuttings—much better cuttings than growths put forth from the stem. These cuttings should be put into pots of light sandy soil, and place them in a cold frame, shading from the sun if necessary. When they have rooted, they should be potted off into small pots in a compost made up of turfy loam, leaf-mould, and a fair quantity of silver sand. The pots can then be put into a frame, keeping them close for a few days until they have produced root action, sprinkling them overhead in the morning, and drawing off the lights during midday when the weather is favourable, in order to dry the foliage, and prevent the appearance of mildew.

When the roots have reached the sides of the pots, the plants must have a shift into, say, 5-in. pots, the compost the same as before, but at this stage adding some good rotten cow-dung. On fine mornings, when it is warm and drying, a sprinkling should be given overhead, drawing the lights off on favourable occasions, and looking well after the appearance of green-fly or mildew. In about six weeks or so a further shift will be required, say, into the next sized pots; and, indeed, it may be remarked that frequent shifts are best, because if the roots become in any way pot-bound, it is apt to drive the plants to bloom prematurely. If mildew appears during the autumn and winter, a little flour of sulphur should be sprinkled on the under sides of the leaves, doing this occasionally until the mildew is conquered.

The best place for the plants during the winter is an ordinary frame heated with hot water, but it will be necessary to apply it only when frost is severe. The Cineraria is a somewhat hardy plant, and does not require a great deal of fire-heat, and any plants that are wintered in the frame with the Cinerarias should be of a character that will not require a large amount of artificial warmth during the winter.—*Quo.*

Forget-me-Nots.—Both the blue and white varieties of Myosotis dissitiflora, are excellent subjects for spring decoration, whether it be in the room, the conservatory, or the greenhouse. Plants that were left over from the spring bedding, if potted up into 3-in. or 4-in. pots according to their size, and placed in a cold frame till the middle of February, then introduced into a greenhouse or conservatory, will soon throw up their innocent and ever welcome flowers.—*C. W. C.*

VEGETABLES.

Forcing Potatos.—In most gardening establishments a daily supply of young Potatos from the beginning of March is expected as a matter of course and quite as indispensable in the dining-room as Asparagus, Seakale, and French Beans. Bearing this fact in mind, no time should be lost in getting the first batch of the most forward tubers of some good early variety of the old Ashleaf kidney type either into boxes of leaf-mould or singly in 3-in. pots in the same kind of soil to start them into growth, or, at least, to thicken as well as increase the growth they have already made. With this object in view the boxes or pots (we prefer the latter for the reason that the tubers or plants experience no check through being transplanted) containing the Potato-sets should be put in an early vinery or Peach-house, near the light, to prevent them from making a weakly growth.

In the meantime, if there is no hot-water pit at command for this purpose, a cold pit affording sufficient depth for 3 ft. or 4 ft. thickness of fermenting leaves and soil, as well as 15 ins. to 18 ins. head room for the plants to complete their growth without coming in contact with the glass, should be got ready for planting the Potato-sets in, when they have made 2 ins. of growth. Oak or Chestnut leaves to the thickness indicated should be put into the pit, or pits, and be trodden firmly together; making allowance for the same subsiding a little. This done, place a couple of inches thick of rotten dung over the leaves, following this with 5 ins. or 6 ins. thick of light garden soil, in which to plant the Potatos in rows 1 ft. apart and 9 ins. asunder in the row. Turn them carefully out of the pots, so as to disturb the soil and roots as little as possible in the process of transplanting, and plant them the same depth in the bed of soil as they were in the pots.

When the haulms have attained to a height of 5 ins. or 6 ins., earth them up by putting 3 ins. or 4 ins. thick of soil between the rows and plants. Give plenty of air on all favourable occasions, with a view to inducing the plants to make a sturdy growth. Potatos thus grown are not likely to require much water at the roots, but should the soil get very dry, which under the circumstances is very unlikely, they should have sufficient tepid water given to moisten the soil. A covering of mats or other protecting material must be put on at night to exclude frost. In order to maintain the supply of young Potatos, pits should be planted at intervals of three weeks—more or less frequently according to circumstances—in the manner indicated.

We fancy we can hear some of our practical readers say, "We have sent young Potatos to table at Christmas, why wait till March? Why not ripen off some of the young tubers in June, and plant in some spare pit or frame, about the middle or end of August?" Our reply is that this is very true, and very easily accomplished too, where plenty of space is at command to keep up the supply. It is all very well to be able to send a dish of young Potatos to your employer's table at Christmas, but before doing this, the question should arise—can, or shall I be able to maintain the supply? If not, wait until you are able to continue the supply of the same, whether it be Potatos, Asparagus, French Beans, &c.—*H. W. Ward.*

Chou de Burghley.—This excellent Cauliflower-flavoured Cabbage has been doing us good service the last five or six weeks, and is likely to do so for some weeks to come, after which the supply will be supplemented by a series of miniature heads, which, the stems first beheaded, are now producing freely. In short, this is a variety which every gardener having a variety of palates to please should grow, and depend upon it that once Chou de Burghley finds its way to the dining-room, there will be no room there afterwards for "Chou ordinaire." Gardeners should take care not to omit Chou de Burghley from their seed order next month.—*H. W. W.*

THE

Orchid Growers' Calendar.

Winter Treatment of Orchids.—Wide as the knowledge of Orchid culture has now spread, I fear that much suffering and loss is inflicted on the plants by what is called drying off during the season when they are not perceptibly growing, but when the root points of many of the species on examination would be found to be active and in a condition which rendered the presence of moisture necessary. It must be borne in mind that the course adopted by us of restricting the supply of water given to the plants and lowering the temperature in which they are kept during the resting season is quite a cultivator's scheme, advanced for the purpose of preventing the plants from making more than the proper amount of growth in the year, and, consequently, keeping them in their regular seasons of growth, rest, and flower, and not for the purpose of imitating, as many believe, the climatic conditions of the country from whence the plants come.

That this is the case is evident when we consider that a great number of Orchids receive their severe annual check, and not only have to rest from growing but even to struggle for bare life during the hot season. Were these conditions imitated when the plants are being grown under glass the end would soon come, but common sense steps in and suggests that what is really required is to check the growth and keep the plants to their seasons, and this is found to be done to perfection when the watering is restricted and the temperature lowered, while at the same time as much air as may prudently be admitted is allowed to pass through the ventilators day and night, and particularly through the bottom ones. But all these things want thoughtful consideration, like all the other operations connected with Orchid culture. Some are much more adroit than others in taking hints and carrying them out successfully, and for that reason we often see difficult plants thriving to perfection under the care of some of our small amateurs whose only stock of knowledge on the subject is gained from hints supplied by others which they sensibly work out, adapting them to their own circumstances.

There is no disguising the fact that drying Orchids off in winter, or at any other season, when they may not be growing, is out of date, so far as a hard and fast adherence to the rule goes, and that a departure from it, when carefully carried out, is always beneficial, deciduous Dendrobes perhaps being the only things benefited by a thorough drying while at rest, and even with these in some houses a complete withholding of water is injurious.

Cattleyas and Lælias, which used formerly to be recommended to be kept dry in winter, are now found by our best growers to succeed much better when watered in winter as in summer, but of course only when they require water (just as they are getting dry), and consequently not so frequently in winter as in summer. R. P. Percival, Esq., of Birkdale, who is one of our best Cattleya growers, is the most liberal of all with water in winter, and he is of opinion that if the plants are potted in good fibrous peat which will not get sodden, and grown, as his are, in cool airy houses, there is no fear of injury from any reasonable amount of good rain water, and at the same time, when it is given, the bulbs will be found at the starting time so plump and stout that they will be in just the proper condition to at once give the necessary force to the coming new growth, instead of having to plump themselves up, as they do when they have been kept short of water. William Lee, Esq., of Leatherhead, too, finds these plants do best when watered as they require it all the year round, and that the oft slain C. Schilleriana, C. Walkeriana (bulbosa), C. Acklandiæ, Lælia pumila varieties, and other small growers are very free-growing if placed on blocks suspended horizontally, or in shallow baskets without much peat about them, placed in a cool house, and watered liberally summer and winter.

The Odontoglossums, Masdevallias, Oncidium macranthum, and other occupants of the cold house, meet with better treatment generally than the warmer house-plants, and it is not a common thing now to see any attempt at drying them in winter, but wherever such attempt is made, its ill effect is evident in the shrivelled bulbs and thin sickly leaves of the plants. Where the potting is carefully done, it is next to impossible for any reasonable man to overwater the occupants of the cold house, but where notions of drying off for a lengthened period creeps in, mischief quickly follows by the plants becoming sickly and infested by insects as they generally are when lowered in condition.

Phalænopsis having their resting time in winter, should be carefully watered, as the plants are liable to spot if kept too wet at this season. Still, as they have to be kept in a temperature of 60 degs. to 65 degs. at night, and 65 degs. to 75 degs. by day, and as many of them have flower-spikes to bear or push up, they must be carefully watered all the winter, but not allowed to get sodden. Vanda tricolor, V. suavis, V. Cathcartii, V. cœrulea and many other Vandas are now grown cool, and in a temperature between that of the Odontoglossum-house and the Cattleya-house they are safe, and found to thrive well in a temperature of 50 degs. to 55 degs. by night and 60 degs. by day, and in such a temperature they keep plump without much water in winter. But everyone cannot give them just the cool place they like, and consequently if they have to be put in a warm house, plenty of air must be admitted and water more liberally given. The Saccolabiums and Angræcums, being necessarily in a warm house, must not be allowed to suffer for want of water, but wherever they have from necessity to be kept colder in winter, then prudence dictates that a smaller and more carefully administered supply of water should be given.

There are a host of things which one would like to particularize, but it may suffice to say that I advise amateurs to carefully observe each plant and be guided by its condition whether of growth or inactivity, and by the character of the temperature of the house in which it is, as to the quantity of water to be given at any season, and not to let the drying-off notion, which has been guilty of the death of thousands of good things, to get too firm a hold on them. Houses differ very much in their capacity for keeping plants while dry, but the cooler the temperature in reason, the less water will the plants require while at rest. In a high temperature one thing is certain, and it is that after a given point it extracts moisture from the plants themselves, causing them to shrivel, and this is a sign that should always be watched for and dealt with, as it indicates one or both of two things, viz., that the plant is in too high a temperature, or that it is being kept too short of water and air.

Year by year we gain over fresh species to the cold-house and thus rescue them from being killed by heat, and now let us turn our attention to saving others from death through being dried up; but at the same time let the work be done discreetly, for such things as Dendrobes, Thunias, Calanthes of the vestitas ection, and many other things want a distinctly dry treatment while at rest in order to insure their flowering well.

In conclusion, I would observe that one of the best axioms in Orchid culture is, "A twelvemonth's work, and no more in a year," and if this be always kept in mind and the plants worked so as to accomplish it, rest being given of sufficient character, but not so severe as to cause shrivelling even in the slightest degree, soon good progress will be made with many plants now considered difficult to manage.—*James O'Brien.*

ORCHID NOTES.

Dendrobium macrophyllum.—This is a very fine Orchid from Manilla, and one of the easiest to cultivate among the Dendrobes. I have it growing in fine condition in baskets, in a mixture of peat, crocks, and sphagnum, and in a temperature of from 55 degs. to 65 degs. Whilst growing it requires an abundance of water, but after growth is completed water is given very sparingly, just enough given to keep it from shrivelling. The leaves fall just as it begins to show its buds. The flowers are borne on drooping stems, 2 ft. to 2 ft. 9 ins. in length; they are of a pleasing pink colour tinged with rose, and have a strong odour of Rhubarb. It is an Orchid that ought to be in every collection on account of its easy culture.—*Hamilton.*

Vanda Cathcartii.—This most distinct Vanda is an evergreen species, resembling Renanthera in appearance. The stems attain several feet in height, and produce from the leaf axils, its drooping racemes each bearing four or five large roundish concave flowers. The sepals and petals are pale yellow, striped with transverse lines or bands of reddish brown, and the lip is bordered with yellow. It flowers at different seasons of the year, and lasts for several weeks.

We find this species does well in a pot, as it is tall growing and requires a stick to support the stem. Some sphagnum-moss may be used, with charcoal intermixed, as an inducement for the roots to cling to it, and, moreover, it helps to keep the moss open. The pots should be three-parts full of broken crocks in order to secure perfect drainage. We find the species grows well at the cool end of the East India-house, with plenty of light but shaded from the burning sun. It requires to be kept moist during the summer season, as it throws out roots up the stem, and requires sustenance; the moisture should be applied with a fine rose syringe.

This plant requires most cautions washing if there should be any insects upon it. We have seen the foliage turn perfectly black through carelessness in this matter, and the leaves often get broken off owing to want of attention when cleaning the plant.—*The Orchid Album.*

Platyclinis uncata is a graceful little Orchid from the Philippine Islands which is flowering at the present time. The plant grows about 6 ins. high, producing erect lanceolate leaves. The scapes are also erect, equalling the leaves, and bearing from the apex a drooping raceme, 4 ins. long, of small pale pea-green flowers, which are arranged in two rows along the raceme. There are a few other species of this singular and graceful genus, of which P. glumacea is the best.—*Orchis.*

FLORICULTURE.

Chinese Primulas at Audley End.—In few private establishments are double-flowered Primulas more successfully grown than in Lord Braybrooke's garden at Audley End. Perhaps we shall also be not far from the truth if we say that in few gardens indeed are the double varieties grown successfully at all. They are, it is true, not the easiest plants in the world to propagate, nor will they grow into handsome plants or yield an abundant crop of flowers, without much care and attention, but then, are they not worth any amount of trouble and care that can be bestowed upon them? The answer, in our opinion, must certainly be in the affirmative. There is no plant that will give a gardener such a continuous supply of bright and beautiful flowers from October to May.

Mr. Vert, who so ably presides over Lord Braybrooke's gardening establishment, and it is an extensive one, is an enthusiast in Primula cultivation, and an adept especially in flowering the double ones, as perhaps we ought to say he should be, for was he not with Mr. Gilbert, at Burghley, when his famous batch of fine varieties was sent out, and at that time at all events Mr. Gilbert did grow good Primulas, as we hope he does now.

The secret of the successful cultivation of the double Primula, in Mr. Vert's case, may be stated in a few words. To get stock, plants must be grown on purpose to provide cuttings, by not allowing them to flower, and in all stages of their growth they must be carefully watered. Water must under no circumstances be allowed to get into the crown, or the plants will speedily turn yellow and die off. Any one who can grow the single-flowered varieties can grow the double ones too, if they will only attend to these two points in their management. Mr. Vert puts in the cuttings in May, taking them off with as much care as possible and inserting them in light soil in a close propagating frame. From the moment the cuttings are put in they require, as before remarked, very careful handling as regards moisture, but given this condition, all goes well, and they soon make roots. From this stage they are grown on with the seedlings of the single varieties, all being potted in a mixture

of good loam and well-decayed manure, and allowed plenty of drainage.

Mr. Vert grows about one thousand plants altogether of the double and single-flowered varieties, and, as before noted, keeps up a good display from October to May. At the present time a span-roofed house in the kitchen-garden at Audley End is worth a journey to see, such a wealth of charming flowers does it contain. The house is 40 ft. long and 12 ft. wide, with a path down the centre, and the Primulas arranged on either side, with a showy mixed group of such free-flowering plants as Salvia Bethelli, Schizostylis coccinea, Eupatorium Weinmannianum, Libonia floribunda, Cyclamens, Heliotrope White Lady, &c., at the end opposite the door.

The leading double-flowered varieties now producing fine masses of blooms in 48 and 32-sized pots are Marchioness of Exeter, the finest pure white, but apt occasionally to produce striped flowers; Mrs. A. F. Barron, ground colour blush white, striped with rose, a flower of beautiful form, with some of the pips as much as 2 ins. in diameter; Lord Beaconsfield, bright rose, assuming a lilac shade as the flowers get age; Prince of Wales, semi-double, rose; and the older, double white, double lilac, and rubra-plena. The double lilac is a pretty flower, but for cutting in quantity the old double white is the favourite, and justly so.

Of the single-flowered varieties the highest praise is bestowed on Mr. B. S. Williams' Alba magnifica, a grand flower both in size, shape, and substance; and Queen of the Whites stands next, a flower of fine size and nicely fimbriated. Mont Blanc, one of Mr. Bull's new varieties is also much liked, a good pure white. Rubra magnifica is very fine in colour, so also is Coccinea, a good rosy-purple. Holborn Blue gives a shade of colour that is both new and bright, but hardly a blue yet. Carminia alba punctata is one of the pretty spotted varieties, with a fine, bold yellow eye; and Chiswick Red and Swanley Red are both well done, the former being the dwarfest grower and the deepest coloured of the two.

CHRYSANTHEMUM CULLINGFORDI.

Chrysanthemum Cullingfordi.—At the November meeting of the Floral Committee, Messrs. Cannell & Sons, of Swanley, exhibited this variety, which possessed the rare merit of pleasing all who saw it, and which won its First-Class Certificate with the greatest ease. The form of the flower is well shown in the above illustration, placed at our service by the Messrs. Cannell; while its colour, a rich deep crimson, with the underside of the central florets of a lighter shade, is distinct from, and much brighter than that of any other variety grown.

CHURCH DECORATIONS.

Suitable Flowers for the Present Season.

Possibly for all seasons and times in the above kind of work, white flowers are more sought after than those which are coloured. From the demands that have been made upon us from time to time, we have long come to this conclusion, one which we think also to be a correct view to take. White flowers should be a semblance of the doctrines promulgated in all our churches. At all times those flowers should be chosen for this particular kind of decoration that can be relied upon to remain in fairly good condition for a few days at the least. It often takes the whole of the day previous to any special occasion in which to arrange all the groups and designs that have to be carried out, and frequently longer than that. The flowers, therefore, should be of known durability and persistency in remaining fresh over the services for which they are intended. In order the further to attain to these ends, it will be advisable to get all the other kind of work done previous to the flowers being finally fixed. These, too, in all possible cases should have their stalks inserted in water, receptacles for which, we feel sure, could easily be contrived in very many cases where they have not hitherto been employed at all. The gain would soon be obvious to all interested in the matter, and would therefore recommend itself.

For positions where it is not desirable for any such receptacle to be seen, contrivances we think could easily be invented wherein some little water at least could be placed for the retention of the flowers in a fresher condition. A zincworker could, without much extra ingenuity, contrive for such things to be fixed without either being seen or causing any detriment to architectural designs or injury to the surroundings. To give patterns of such would hardly meet the case in a condensed article like this, neither would such if given be found of any great value, so that the exigencies of each particular case had better be well studied and then carried out accordingly. Where it would be impossible to use any water, zinc troughs could still be utilized by filling them with damp moss to partially secure the desired ends, forming at the same time (if the moss is green and fresh) an excellent background for the flowers and foliage, hereinafter to be arranged. Where it is immaterial whether the receptacle in which the flowers are to be arranged is seen or not, then why not let such be seen when precaution is taken to use only such kinds of vases as will not clash with or mar the surroundings in any way? In using such receptacles, where possible, we think there is a wide field for extension and improvement upon the present state of things. It would not be a bad idea if some of our glass and pottery manufacturers were to turn their inventive ingenuity towards the production of such material. The expense at the first in the purchase of these vases would soon be amply made up for in the more satisfactory results that would be sure to follow.

Flowers of a bold and distinct character are much to be preferred for all Church Decorations, those that are small, though at the same time they may be both handsome and elegant, are not calculated to produce the desired effect, unless used in considerable quantities. For instance we should avoid the use of Bouvardias, unless in set designs, where a mass of flower would of course tell with effect. On the contrary, take some few flowers of the Calla Lily (Richardia æthiopica) and what could be used with greater appropriateness? The spikes of the Amazon Lily (Eucharis amazonica) are also most suitable, so also are the individual flowers, but for bold designs we prefer to choose this Lily when the last flower is just about to expand, there should then be two fresh flowers besides the bud expanding. Both of the flowers we have named are now obtainable, and there are also many others that are very suitable, White Camellias for instance, but in order to avoid disappointment from the petals falling prematurely, it is by far the better plan to spend a little time in wiring them or in applying some florist's gum with a camel's hair brush between the undermost of the petals, those being the first in all probability that will fall; a little should also be applied over the scales that enveloped the flower in its earlier state as a bud, which will help to hold it together in that direction with the stem. When dealing with fully expanded flowers, the gumming process is the best to follow, for oftentimes when attempting to thrust two or three wires through them in order to hold them together, they will fall to pieces without much warning. Half expanded blossoms it will be the best to manipulate with wire, as when thus treated, they will last much longer.

Of Chrysanthemums there will still be a few kinds left in good condition, chiefly among the whites and yellows; these will be found very useful, the long stiff stems standing them in good stead for making an effective display. With these there is no foliage (not even their own) that harmonizes so well as that of Mahonia (Berberis) Aquifolium, when the shoots of the latter are chosen with that peculiar bronzy-crimson tint suffused over the dark-green ground of the leaves. This foliage has also the great merit of durability, and we have often wondered why it is not more sought after than it has hitherto been, as it fully deserves extensive trials. White Azaleas can also be had in goodly quantity, and the old white (A. indica alba) is much the best for use at this season, as it can generally be had with longer pieces of the wood attached to it than in the case of some other kinds. Roman Hyacinths and Paper White Narcissus will be very useful, as though somewhat small they can both be turned to a very good account. Of the former, in fact, the spikes need not be cut at all if the bulbs and a few roots can be embedded into some fresh green moss; when, however, the spikes are taken from the plants it will be found a very good plan to push a slender wire up the stem, this will help to hold the same erect should it be arranged without the end being placed in water.

Blossoms of the White Cyclamen are another useful adjunct, and will be found to last extremely well, needing no previous doctoring to keep them together. Gardenias would be useful, but are at this time of the year rather expensive material, and the same remark will apply to Lilies of the Valley. Tuberoses might possibly be had, but then the entire spike would be required and in that way there would be a sacrifice of buds in many cases. Double white Primulas would, however, be a useful addition, so also the single whites if each of the flowers are gummed previous to use. White Van Thol Tulips could be used, like the Roman Hyacinths if wired. This enumeration of white flowers in particular will give a good selection from which to choose, one kind more, however, ought, we think, to be added, and that is Helleborus niger, or the Christmas Rose.

Among coloured flowers useful at this season, there is not, we think, anything to equal the

showy bracts of Poinsettia pulcherrima, dwarf-grown plants of which can be easily utilized, whilst the taller stock of plants will furnish extra large examples that will do good service for special purposes. Scarlet Van Thol Tulips will also be very effective and telling when intermixed with the white variety. Red and pink Camellias will also yield an abundant choice from among the earlier kinds. Blossoms of Epiphyllum truncatum, in two or three shades, could likewise be turned to a very good account; whilst the long racemes of Euphorbia jacquiniæflora would be extremely valuable when blended with white Azalea or other light-coloured flowers. The scarlet and other shades of Pelargoniums could each be made available, being at the same time easily obtainable; the gumming process needs be followed, however, with the single kinds.—*Grapho.*

PLANTS FOR FORCING.

In the generality of cases, plants intended for forcing are left unpotted till it is time to start them, which is a bad plan, and is much against them, as it is impossible for them to break strong without having made fresh roots, which they cannot do if lifted out of the ground and put right into heat at once, where the excitement causes the buds to move and twist before there is a sufficient flow of sap to feed and support them; under which unfavourable conditions the flowers are sure to be small and poor, when they soon fall from the plants.

Among the subjects most useful for forcing, Rhododendrons and Ghent Azaleas are, perhaps, the most valuable; and, fortunately, these suffer less from late removal than most others, as, with ordinary care, they may be got up with close compact balls without feeling much check from removal. Although most kinds of hardy Rhododendrons and Azaleas force readily, there are some earlier and better adapted than others, as those of the Nobleanum and altaclarense type which open their blooms naturally in March or April, and being of bright colours make a fine show. The way to treat them after digging them up is to trim the ball according to the size of the pots intended to hold them, when the plants should be potted firmly in peat, taking care to ram it tightly round them, and after this is done, the next thing is to water them, that the soil may settle closely and unite with the other containing the roots. The flowers of Kalmias are lovely, and plants of these are good for forcing, and may be managed in the same way as those mentioned above.

Taking those of a deciduous nature, Roses stand pre-eminent, but these should always be grown in pots, as when well-established, they bloom so much better than when they have been disturbed. Those who are not so fortunate as to have them in the desirable state referred to, should lose no time in lifting as many as may be required, in doing which, it is important that every root and fibre be secured, that they may lay hold of the new soil quickly, and thus be able to feed and nourish the plants. In making choice of these, only those which are healthy, young, and vigorous should be selected, as good results cannot be obtained from starvelings, that have only weak shoots and buds, for if the flowers are not already there, they cannot be brought out in the forcing. In preparing the plants after lifting and potting, all that is necessary is to thin out, or cut clean away the weak growths, and only to shorten the others a little by pruning back to the most prominent bud.

For early work, Tea Roses are the best, and these should be started first and the perpetuals after, but it is quite time enough for either after the turn of the year. Weigela rosea and Lilacs are valuable for forcing, and when these are potted it is advisable, where it can be done, to plunge them and all fresh-moved things intended for the same purpose in a bed of fermenting leaves, the gentle heat from which will set their roots moving and get them in advance of the tops, a point that will tell much in favour of the buds, as the warmth will assist them in swelling gradually while the plants are out in the open. Lily of the Valley is in favour with all, and where the blooms of this are only wanted for gathering, the best way is to lift the roots in masses or large clumps, as then they are not much disturbed, and if placed in light rich soil on a hotbed made in a heated pit or house, it is surprising how freely they bloom. If wanted for pots, unless the crowns are unusually strong it is necessary to shake them out and sort them, picking out only those that are fat and plump, as the pointed ones give nothing but leaf. For pot culture, imported clumps are the most preferable, as they are generally superior to home-grown, and yield much finer flowers.

The same remarks apply to Spiræa japonica, and when these and the Lily of the Valley are obtained and potted they should be stood in a cold frame and covered with cocoa-nut fibre and kept close to give them a gentle start before being drawn from and placed in strong heat, where they ought to have damp moss over them till they are well on the move.

Solomon's Seal, though not very showy as regards its blossoms, affords some of the choicest bits of greenery it is possible to have, as when forced the handsomely-formed leaves come of a delicate tint, and the shoots arching over in the graceful way they do are most charming. The roots of this Convallaria are about the size of one's thumb, and any of these may be dug up and potted, when all that is required to start them is a little warmth, as they force readily and quickly come into use. Beautiful as the Dielytra is in beds or borders, it is doubly so when brought on in heat, as both foliage and flowers are lovely, and those who have clumps for taking up are fortunate. The clumps, if large, may be divided, as they will bear cutting through.—*Alpha.*

AN AMATEUR'S STORY.

ONLY A ROSE LEAF.

CHAPTER I.—THE INTRODUCTION.

A family party had gathered once again about Farmer Jackson's hospitable hearth. There was no chair vacant. Part of the homely yet wholesome viands remained on the old oak dresser in case a chance visitor dropped in. The big old table was moved back, and another huge log put on the ingle, when the farmer, glancing across at a thin, pale man, who sat beside his daughter, said, "Now, Edward, ye mun tell us your tale again." "Well, sir, I'll try if you desire it; but perhaps some one will tell us a more amusing story. The only claim it has to be a Christmas tale is that it brought some of us glad tidings of great joy." "Ah! ah! my lad, all of us," said the farmer's wife.

"Well, it's thirty years since I first came to Appleton—thirty years the tenth of last September. It was a glorious evening, and the curfew was calling the tired reapers from the cornfields yonder. Your men were shouting as the last big load rocked on the creaking waggon as it went through your gateway to the rickyard there. Yet, notwithstanding, the shouting and the hurrying to and fro of loaded waggons, and the white-walled cottages and broad landscape steeped in golden light, I missed something, and yet scarcely knew what it was till I got as far as your gate here. Not a farmhouse or cottage in all the long broad road except yours had a flower-border; even the front gardens were either littered over with Potato haulm or planted with winter greens. To me, all my life accustomed to the companionship of flowers, they seemed desolate and forlorn in the extreme. But when I'd got as far as your garden-gate I paused a moment to refresh my eye and steal a whiff of Roses and Mignonette. The borders were all aglow with colour—Stocks and Asters, Heliotrope and Geraniums, and Marigold, Musk, and Myrtle." The farmer's keen grey eyes glistened as he glanced across significantly at his daughter.

"It always seems to me as if a little flower-border by the path to the door gives one a welcome greeting. I'm sure this border did. I stood perhaps two or three minutes gazing at the flowers, when the eye unconsciously wandered along to the big bay window there, where there was a charming group of plants. I can remember them all this minute as if I saw them still. In the centre was a tall chimney Campanula—a white one, on each side of this a blue one, with its stately pyramid of a hundred clustering bells; then between were Geraniums, rich brown and sulphur Calceolarias, Heliotrope, Cactus, and half-a-dozen pots of Musk, emerald velvet cushions with golden studs! But"—and here the speaker's cheek was flushed somewhat, and there was an unwonted flash in his dark brown eye—"I then saw reaching modestly over the back row of flowers to give a plant some water, a face that made my heart beat. Yes, I'm not ashamed to say so; and even now, when the brown tresses show here and there threads of silver, still it beats. It suddenly withdrew, however, and I wended my way to the Rectory to deliver my letter of introduction. But the face haunted me still, and still I hope it will till mine and it sleep our long sleep together. Ah! there are faces one would like to recall and cannot, and faces one don't want to recall, but cannot help it. At this moment I see them both; one here, beautiful, loving, and tender don't blush, darling; the other some of us remember; I do too well, though its long since dead and gone.

"Further down the village on the left, by the picturesque old church, is the road to the Rectory, which stands, you know, surrounded by stately Elms. I was appointed here as schoolmaster, and had to deliver my letter of introduction. The butler ushered me into the presence of the great man, who, after reading the letter, initiated a conversation with the view, I presume, to discover if I could talk in English. Young and sanguine, unabashed by the presence of the church dignitary, for such he was, he was compelled to listen to my diatribe on the want of taste and appreciation shown by his parishioners in the matter of flowers. The grave and stately man looked askance, it seemed, at the priggish pedagogue who had come to train the rising generation of Appletonians. He then stepped across to his writing-table, and in a few minutes handed me a note to my father-in-law, Mr. Jackson. After a few minutes' conversation he gave me the necessary instructions as to opening the school on the following Monday, and then in tones low pitched, grave and hesitating, warned me against speaking to, even much more being seen to walk with, Miss Jackson. It is unnecessary to assure you how implicitly his solemn injunctions were obeyed. Polly and I have been married these five-and-twenty years; to-morrow is our silver wedding. Perhaps you will see now how it came about."

CHAPTER II.—MY GARDEN.

The buildings and school-house were new; the architecture of the style most in vogue in rural districts where endowments originally bequeathed for the education of "poor scholars" are utilized by the trustees of the said endowments for the benefit of themselves and their friends. One might call it the "red square and bare" order, assimilated to what is ungraciously characterized as the "streaky bacon" order, only that this particular example had none of the white courses of brickwork typical of the fat. The premises, yard, and garden stood on a portion of Appleton Common, a wide expanse of Heather, Gorse, and Bracken dotted here and there with groups and single trees of the Scotch Fir, here apparently indigenous. As it was understood that I should occupy the cottage, which was partly furnished, it was necessary for a time to take in lodgers; or, rather allow them to take in me, which was eventually the case!

The garden, or rather the garden in embryo, was my great attraction; there was a wall on the east of it, and the cottage front faced south. The miserable condition of Appleton gardens had moved me considerably, and I had resolved to do what was possible to open the eyes of the villagers to their terrible negligence in this respect. Within the first two months, with the help of a fine young fellow, a labourer who assisted occasionally in the Rectory garden, my bit of the common gradually assumed a civilized aspect, and a young friend, the son of a nurseryman, sent me a large bundle of fruit-trees—curious specimens they were of misdirected energies, but mostly of good varieties; of course these were unmercifully headed back, and taught to grow up in a straightforward manner. The hungry, lean-bacon architecture was gradually covered with creepers, Roses, of course Glorie de Dijon, and on the front

with a White Muscadine Vine; Jasmine and Scarlet Trumpeter Honeysuckle found a place, and the cottage, notwithstanding its terrible and forbidden ugliness, was gradually covered with leaves and blossoms. Here I must express my thanks to Messrs. So & So and So & So for their kindly presents of seeds of the better varieties of Peas and other vegetables, and also some packets of Pansy, Polyanthus, and Sweet William—these I shared with the villagers, who looked round in the evening for the purpose of a little chat about gardening matters. Through my influence and teaching, it is said, these labourers considerably improved their positions, and added many little comforts and enjoyments to what was formerly a sad and uninteresting existence.

There is one matter, however, in which I had committed these poor fellows to illegal acts. I admit the impeachment, and sometimes glory in the misdeeds. Mr. Jackson there, no doubt, was cognizant of the mischief, or he would have made stricter inquiry as to a number of missing hurdles. Poaching, they say, is terribly exciting work, but what think you, my friends, of a formidable gang of a dozen or more strong and determined fellows armed with stout cudgles at their fell work on the common there? Night after night this desperate gang of land-grabbers stole acre after acre from the common, and acre by acre the Furze, and Heather, and Bracken disappeared, and crops of wholesome vegetables took their place. Holly is indigenous, as you know, in the neighbourhood, and that very first winter I sowed a peck of berries in my garden; the hedges now, you see, are nearly 4 ft. high and 3 ft. through, too thick for Lord Fitzhittem's hounds to scramble through, or Farmer Gatelesse's pigs.

That first winter, too, saw some rows of Briars in my garden, and also in several of the labourers' gardens. A lesson or two taught the men how to bud, and Appleton labourers have since taken prizes at Beeminster Show.

Polly and I, too, was fond of Roses, and occasionally we might have been seen in the evening Beeminster way comparing notes. All is well again now, but I often look back to the days when we criticized the Roses. Time flew quickly by, the common gardens still grew mysteriously, and in proportion as they grew the villagers enjoyed more comforts, and their little homes and their surroundings grew more attractive. But gradually a change came o'er the spirit of the scene, and yet it seemed I had no enemy—it seemed only. Friends and neighbours grew more cool and reticent; even my new lodgers, so kind and attentive at firs-, would scarcely speak to me. The poor farm lads and men were still friendly, and regular in their attendance at the night-school. They would walk miles to sit at the desks and fumble and stammer over the dog-eared books, or, with great chilblained fingers, attempt to write with pen or pencil. Now and then we tried to sing a glee or two; but it was hard work, and there were no Roses, and I was forbidden Mr. Jackson's." Here the farmer turned his face a moment, and something tickled his nose. "So with a bad cough and restless nights, and no sympathizing friend to speak to, I nearly broke down. Two circumstances saved me—one trivial enough, simply the refrain of an old song. I had put out my lamp previous to going across to the night-school, when, sharp and clear on the keen and eager air, accompanied by a measured tramp, came the glee I had taught my night-school—

"'Faintly as tolls the evening chime.'

I listened till the stalwart lads drew near. They it was who were tramping from a distant village to learn the 'rudiments of letters,' enlivening their march with the chorus of the Canadian Boat Song. A drowning man, they say, will catch at a straw. This was my straw—nay, the golden thread that bound me to Appleton some time longer—that was an envelope with a Rosebud enclosed, and with it a text, written, it seemed, with a trembling hand, 'Hope thou in God.' Thou wilt keep him in perfect peace whose mind is stayed on Thee. 'Polly.'"

(To be concluded in our next.)

Yucca gloriosa.—It is not often that this handsome plant is seen in flower in the open-air near London in the month of December, but Mr. Thomas N. Cox has a very fine specimen in full bloom in his garden at 15, Harefield Road, Brockley.

ANSWERS TO CORRESPONDENTS.

Wall Nails.—*T. S.*—To get the old nails from the shreds, put a shovelful—any old iron shovel will do—over a good furnace fire, and let them remain there until they get red-hot. When they have cooled and you have sorted them, heat the nails again red-hot, then drop them into a mixture made of half-a-pint of turpentine to one ounce of blacklead that has been thoroughly mixed together. When taken out shake them up well in an old bag to dry them.

Skeletonizing Leaves.—*Dot.*—Some five or six years ago a very useful and cheap little book on this subject was sold by Mrs. Kaye, of Didsbury, near Manchester, and you may possibly be able to get it now.

Grafting Wax.—*Knifeman.*—Melt in an iron vessel four parts of resin to two parts of tallow and one of bee's-wax. There are many other ways of making it, but perhaps this will be the simplest for you.

Names of Plants.—*G. E. Parr.*—1. If a climber, Rhynchospermum jasminoides. 2. Rhaphiolepis japonica. 3. Polystichum aculeatum. 4. Not recognized. 5. Libonia floribunda. 6. Gesnera zebrina. 7. Onychium japonicum. 8. Maranta zebrina. 9. Amaryllis vittata. 10. Maranta bicolor. 11. Gymnogramme tartarea. 12. Maranta regalis. 13. Probably a Salvia, but flowers necessary for determination.

Communications Received.—W. H. W.—W. D.—J. H.—E. B. (many thanks).—W. J. I.—T. S.—J. Brown.—W. E. B. W. C. C.

Trade Catalogues Received.

James Carter & Co., 237, 238, High Holborn, W.C.—Flower and Vegetable Seed Catalogue for 1885.

William Kerr, Dargavel, Dumfries. — Choice Seed Potatos.

NOTICES TO CORRESPONDENTS.

The Editor *begs to inform his readers that special attention will be paid in the columns of* The Gardening World, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired but simply as a guarantee of the writer's bona fides. No notice whatever will be taken of anonymous letters.

Secretaries of Horticultural Societies and Nurserymen and Seedsmen will greatly oblige The Editor *by sending him their Schedules and Catalogues as soon as published.*

LONDON SEED TRADE.

December 17th, 1884.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report that to-day's market presents little improvement, and that most buyers evidently intend waiting until the new year. Alsike and White Clover are considerably cheaper, and the former article is now worth buying, dealers are commencing to lay in a stock, White Clover is also selling at moderate rates. Finest English Red Clover continues scarce, and medium qualities are neglected, but not easier; lower grades are selling at low rates. Blue Peas unchanged; Bird Seeds easier.

COVENT GARDEN MARKET.

December 18th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Kent Filberts and Cobbs, per 100 lb.	60 0-62 6
— Nova Scotian, per barrel	10 0-13 6	Pine-apples, Eng., lb.	4 0- 6 0
— Extra samples	20 0-	Pears, French, p. doz.	1 6- 3 6
Grapes, per lb.	1 6- 4 0	St. Michaels	5 0-10 0

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	0 4-	Horse Radish, bundle	3 0- 4 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	1 6-
Brussels Sprouts, ½ sve.	2 6- 3 0	— Cos, each	0 2-
Cabbages, per dozen	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	2 6- 3 6
Cauliflowers, English, per dozen	3 0- 4 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 9- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	0 6- 1 0
		Turnips, per bunch	0 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Pelargoniums, per 12 sprays	1 0- 2 0
Azalea, 12 sprays	1 0- 1 6	—scarlet, per 12 sprays	0 6- 1 0
Bouvardias, per bun.	0 9- 1 0	Pinks, various, 12 bunches	–
Camellias, 12 blooms	3 0- 8 0	Poinsettia, doz. heads	3 0- 9 0
Carnations, 12 blooms	1 0- 2 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	4 0-12 0	Primulas, Chinese, bun	4 0- 6 0
— large, 12 blooms	1 0- 2 0	Pyrethrum, 12 bun.	–
Epiphyllums	0 6- 0 9	Roses, outdoor, 12 bunches	–
Eucharis, per dozen	4 0- 8 0	Roses, indoors, p. doz.	2 0- 6 0
Gardenias, 12 blms.	9 0-18 0	Roses (French), per doz.	0 9- 1 6
Heliotropes, 12 sprays	0 6- 1 0	Stephanotis, 12 spr.	–
Hyacinths, Roman, doz. sprays	1 0- 1 6	Tuberoses, per dozen	2 0-
Lapageria, white, 12 blooms	2 0- 3 0	Tulips, per doz.	1 0- 1 6
Lapageria, red, 12 blms.	1 0- 2 0	Violets, doz. bun.	1 0- 1 6
Lily of the Valley, doz. sprays	2 6- 5 0	— French, doz. bun.	1 6- 2 0
Marguerites, 12 bun.	4 0- 9 0	— Parma, doz. bun.	5 0- 7 0
Narciss, Paper White	2 6- 3 0	White Jasmine, bun.	0 6- 1 0

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Hyacinths, Roman, doz.	10 0-12 0
Chrysanth., dozen	6 0-12 0	Lilium, various, per doz.	–
Cockscombs, dozen	–	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-15 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	3 0- 9 0	Pelargoniums, scarlet per dozen	2 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	–
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	9 0-15 0
Epiphyllums, doz.	18 0-24 0	Solanums, dozen	9 0-15 0
Evergreens, in var., per dozen	6 0-24 0		
Ferns, in var., dozen	4 0-18 0		

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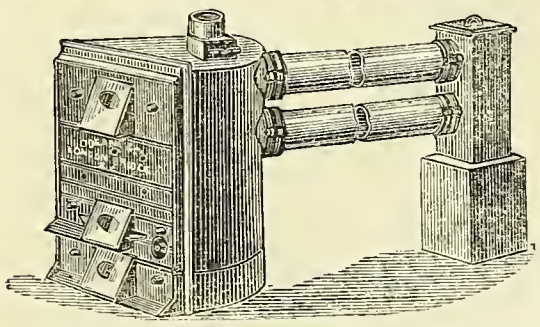

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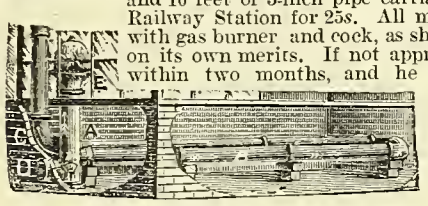

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Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex. Saturday, December 20th, 1884.

THE GARDENING ILLUSTRATED WORLD

No. 17.—1884. SATURDAY, DECEMBER 27TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

VERY large importations from the Cape, California, the Caucasus, and the United States just to hand. For particulars see WARE'S New Offer of these and other NEW, RARE, and CHOICE BULBS. Gratis and post free on application, Halo Farm Nurseries, Tottenham, London.

PLANTS AND ROOTS FOR FORCING.—Azaleas indica, Ghent and Mollis, Lily of Valley, Spiræa and Dielytra, Lilacs, Rhododendrons and Kalmias, Laurestinus; Liliums and Bulbs in variety; Asparagus and Seakale; extra strong Vines, Roses (Teas and H. P.'s). Our stock of the above have all been specially prepared for early forcing, and are this year extra fine. Catalogues free on application.—IRELAND & THOMSON, Edinburgh. Nurseries: Craigleith, Comly Bank, and New Golden Acre, Granton Road. Seed Warehouses: 20, Waterloo Place.

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THE GOVERNOR, 18*s.* per dozen. GLOIRE DE NANCY, 9*s.* per dozen, good white. Usual Discount to the Trade.
CROSS AND STEER, Salisbury.

LOOK HERE. The produce of Dobbie's Select Seeds gained 10 First Prizes, 9 Seconds, and 3 Thirds at the Great International Flower Show, Dundee, 1884.
DOBBIE & Co., ROTHESAY. Catalogues in January, 1885, for three penny stamps, containing lists of Seeds and Plants, Election of Pansies, the secret of growing Leeks, Onions, Asters, Marigolds, Phloxes, Pansies, &c., with remedies for prevention of Pansy disease.

BENNETT'S SAFETY LIGATURES for Rose and Fruit Trees, consisting of copper wire, and the part in contact with tree is covered with indiarubber. Price per doz.; No. 1, 11*d.*; No. 2, 1*s.*; No. 3, 1*s.* 2*d.* Of all Nurserymen, or of
W. E. BENNETT, Patentee, Condover, Shrewsbury.

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The Advertiser being the most extensive cultivator of Raspberries in England, special care will be taken to select Canes most suitable for a vigorous growth and an early fruiting. Lowest cash terms on application to
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ZONAL GERANIUMS for early Spring Bloom. Nothing can excel these easily grown plants for the decoration of the greenhouse or conservatory all the year round. One dozen strong plants in twelve of the choicest varieties, true to name, selected from a collection of over 100 sorts, 2*s.* 6*d.*, free per Parcels Post.—J. F. DACE, Florist, High Street, Leyton, Essex.

CARTER'S RASPBERRY CANES, 3*s.* per 100, or 25*s.* per 1000, strong and well rooted; plant now. —T. MAY, St. Paul's Cray, Kent.

GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 oz. to the gallon of soft water, 4 to 16 oz. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*

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Scotch Florists' Flowers.

R. B. LAIRD & SONS (Successors to Downie & Laird) are now sending out strong plants from their unrivalled collection of PANSIES, VIOLAS, PENTSTEMONS, PHLOXES, CARNATIONS, DELPHINIUMS, &c., &c. Descriptive Priced Catalogue may be had free on application.

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GOLD MEDAL STRAIN from our Prize Plants. New crop now harvested. Sealed packets.
CHOICE MIXED, from single varieties, 1/- and 2/6 per packet; 5/- extra large packets; double varieties, 2/6 and 5/- per packet.
COLLECTIONS, 12 named varieties, separate, 7/6
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THURSDAY NEXT.

32,000 Tuberoses. Important to the Trade.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on THURSDAY next, January 1st, 34 Casks of Double African Tuberoses, very fine bulbs. One cask in a lot, each containing about 1,000 bulbs.

THURSDAY NEXT.

10,000 Lilium auratum.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on THURSDAY next, January 1st, 10,000 unusually fine bulbs of Lilium anratum from Japan, just received in splendid condition.

THURSDAY NEXT.

Lilies, Roses, and Bulbs.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on THURSDAY next, January 1st, 1885, at half-past twelve o'clock precisely, 10,000 unusually fine and fresh Bulbs of Lilium auratum, received direct from Japan, 32,000 splendid Bulbs of Double African Tuberoses, 400 Standard and other Roses of the best sorts (from an English Nursery), a choice assortment of hardy English-grown Lilies and Bulbs in all the leading varieties, 2,000 Lily of the Valley, 500 Double Scarlet Anemone fulgens, and other roots.
On view morning of Sale, and Catalogues had.

FRIDAY NEXT.

Cattleya maxima, dark Peru variety.
Odontoglossum retusum.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. F. Sander to SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY next, January 2nd, 1885, at half-past twelve o'clock precisely, the above, together with a very large consignment of other Orchids.
On view morning of Sale, and Catalogues had.

The Fallowfield Collection of Orchids.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION at their Central Sale Rooms, 67 aud 68, Cheapside, E.C., on TUESDAY, January 6th, a further portion of the above valuable collection of Established Orchids.
Fuller particulars will appear next week.

TUESDAY NEXT, SALE No. 6805.

5,000 Lilium auratum from Japan, &c., &c.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on TUESDAY next, December 30th, at half-past twelve precisely, an Importation of 5,000 Lilium auratum, just received from Japan in fine condition; 5,000 Tuberoses, from South Africa, 2,000 Tigridia grandiflora, a quantity of Lilium colchicum from the Caucasus, Lilium Humboldti, Lily of the Valley, Helleborus in fine condition, English-grown Lilies, 2,000 Gladiolus Gaudavensis, Dutch Bulbs, &c.
On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT, SALE No. 6806.

Roses, Fruit Trees, Bulbs, &c.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY next, December 31st, at half-past twelve o'clock precisely, first-class Standard aud Dwarf Roses to name; Pyramid and Dwarf-trained Fruit Trees of sorts, in great variety; Ornamental Conifers, Border Plants, Gladioli, a few choice Lilies, and a large assortment of first-class Dutch Bulbs.
On view morning of Sale, and Catalogues had.

THURSDAY NEXT. SALE No. 6807.

Ærides Sanderiana.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY next, January 1st, at half-past twelve precisely, by order of Mr. F. Sander, a very grand importation of this New and very magnificent Ærides; a probably new Cattleya from Columbia; a small but fine lot of Ærides Reichenbachiana, very rare and fine; Odontoglossum roseum; Oncidium Phalænopsis; a very fine batch of Odontoglossum miniatum; and a plant of a new and superb Odontoglossum in the way of coronarium, of which drawing will be shown, together with many other importations.
On view morning of Sale, and Catalogues had.

A Rare Opportunity for Nurserymen.

TO BE SOLD by PRIVATE TREATY, owing to the death of the Owner, Elm Grove Nurseries, Newry, Ireland.
The Nurseries are well stocked, and for nearly fifty years the Proprietors (Messrs. M. Grant & Co.) possessed a splendid business.—For particulars apply to THOMAS J. MARRON, Solicitor, Newry, Co. Down.

LOVELY LILIES AND IRIS.

WM. GORDON has still the finest Collection of these. Buy of the Importer. The three lovely Lilies, Lilium album Krætzeri, Lilium Melpomene, Lilium Brownii, for 5*s*. 6*d*., six for 9*s*., post free. Over thirty varieties of Japanese Iris, all Hybrids, in all hues and beautifully marked, perfectly hardy, the admiration last season of all who saw them. Six varieties for 9*s*.; twelve for 15*s*.; the thirty varieties for 30*s*. Lilium Humboltii, each 1*s*., 1*s*. 6*d*., 2*s*. 6*d*. Lilium auratum, these surprise all my customers, specially imported Bulbs, 6*d*., 9*d*., 1*s*., and 1*s*. 6*d*. each. Special terms to the trade.—WM. GORDON, Nurseries, Twickenham, Middlesex. See previous Advertisements.

TO ADVERTISERS.

ADVERTISERS are requested, in order to save time, to address all Letters relating to Advertisements to THE PUBLISHER; and Advertisements for the current week's issue must reach the Office not later than the first post on Thursday Morning. "Stop" Orders cannot bo received after the same hour.

17, CATHERINE STREET, STRAND, W.C.

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WE have now published our GENERAL CATALOGUE of Vegetable and Flower Seeds, containing, also, all the best Novelties of the Season. It may be had on application. All our Regular Customers should already have received a Copy by post; any not having done so will oblige by letting us know.

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Hooper's—The Covent Garden Seed Warehouse
Splendid Seeds and Bulbs at low prices
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Cuttings of very finest varieties, 1*s*. 6*d*. and 2*s*. per dozen.
Rooted plants do. do. 2*s*., 3*s*., ,, 4*s*. ,,
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12 Stove plants of elegant foliage, 6*s*., 12*s*.
100 Stove plants of choice collection, 42*s*., 63*s*.
12 Maranta, 6*s*., 9*s*.; 12 Crotons, 6*s*., 9*s*.
12 Dracænas, 6*s*., 9*s*.; 12 Dieffenbachias, 6*s*., 9*s*.
12 Eucharis amazonica and candida, 6*s*., 9*s*., 12*s*.
12 Nepenthes (Pitcher Plants), 42*s*., 60*s*.
12 Begonia, beautiful foliaged varieties, 6*s*., 9*s*.
12 Cape Jasmines and Stephanotis profusa, 6*s*., 9*s*.
12 Maiden-hair Ferns, 4*s*., 6*s*., 12*s*.; 12 sorts, 6*s*., 9*s*., 12*s*.
25 Ferns, choice sorts, 10*s*.; 25 hardy sorts, 10*s*.
100 Greenhouse plants, sorts, 42*s*., 63*s*.
12 Abutilons, choice, 6*s*., 9*s*.; 12 Bouvardias, sorts, 6*s*., 9*s*.
12 Palms, elegant aud graceful varieties, 6*s*., 9*s*., 12*s*., 18*s*.
12 American Blackberries, choice sorts, 6*s*., 9*s*.
12 Carnatious and Picotees, 4*s*., 6*s*.; 12 yellow do., 12*s*.
12 Tree or winter-blooming Carnations, 6*s*., 9*s*.; yellow flowered, 1*s*. 6*d*.
12 Clove Carnations, white and crimson, 4*s*.
12 Pinks, 3*s*.; choice collectiou, 4*s*. 6*d*.
12 Greenhouse Rhododendrons, sweet scented, 9*s*., 12*s*., 18*s*.
12 Oranges, Lemons, Shaddocks, and Citrons, 21*s*., 42*s*.
12 Azalea indica, choice, covered with buds, 18*s*., 24*s*.
12 Camellia, choice sorts, 18*s*., 21*s*., 24*s*., 30*s*.
12 Clematis, choice sorts, 12*s*., 18*s*.; 12 Choice Roses, 6*s*.
100 Hardy Herbaceous Plants, 21*s*., 30*s*., 40*s*.
12 New Giant, St. Bruno Lily, 6*s*.
12 New white-flowered Lavender, 9*s*., each 1*s*.

BULBS, CARRIAGE FREE, REDUCED PRICE, end of the season, to clear out. All choice varieties.

12 Hyacinths, 3*s*., 4*s*., 5*s*.; 12 Lilies, 4*s*., 6*s*.; 12 Scilla, 1*s*.
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100 Tulips, 5*s*. aud 8*s*.; 100 Narcissus, 5*s*.; 100 Ixias, 10*s*.
100 Ranunculus, 5*s*.; 100 Anemones, 5*s*., 8*s*.
100 Gladiolus, 6*s*., 10*s*.; 100 Snowflakes, 5*s*.
12 Anemone fulgens, 1*s*. 6*d*.; ditto double, 1*s*. 6*d*.; new white Bride Anemone, 1*s*. 6*d*.
12 Tiger Lily, 1*s*. 6*d*.; 12 Longiflora Lily, 3*s*. 6*d*.
12 Large white Lily, 2*s*. 6*d*., 3*s*. 6*d*.; 12 Iris, various sorts, 6*d*. to 1*s*.

1,000 beautiful hardy Flowering Bulbs, 21s.; Half the quantity, 11s. 6d.

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MAIDA VALE NURSERY, LONDON.

REMARKABLY CHEAP OFFER.

6 Camellias, full of buds, 1½ ft. high, 5½-in. pots ... 10*s*. 6*d*.
6 Azalea Indica, full of buds, 5½-in. pots ... 9*s*. and 10*s*. 6*d*.
6 Azalea Mollis, full of buds ... ... 6*s*. and 7*s*. 6*d*.
6 Ericas or Epacris, full of buds, 5½-in. pots ... ... 7*s*. 6*d*.
6 Bouvardias, full of buds, 5½-in. pots ... ... 7*s*. 6*d*.
6 Rhododendrons, full of buds (8 to 12 buds), named sorts 12*s*.
6 Tea Roses, 2 ft. high, 5½-in. pots ... ... 6*s*. and 7*s*. 6*d*.
6 Sweet-scented p'ants, Jasminum, Gardenias, &c., 5½-in. pots 9*s*.
12 Spiræa japonica, large clumps ... ... 3*s*. 6*d*.
25 Choice Greenhouse Ferns, different sorts, 4-in. pots 10*s*. 6*d*.

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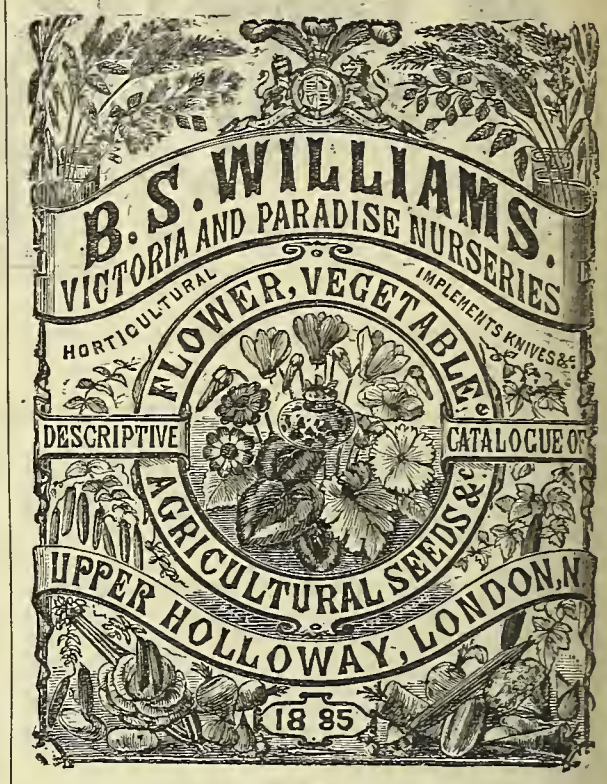

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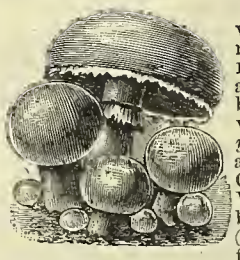

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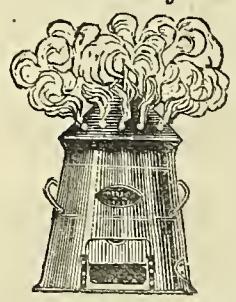

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Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, DECEMBER 27TH, 1884.

CHRISTMAS.—Artists of a certain sentimental stamp are very fond of depicting their ideal Christmas season as one of frost, snow, real hard winter weather, and from out of its pitilessly bitter associations wreathing an ideal fireside or home circle of all that is joyous, luxurious, and comfortable. The pictures are beautiful enough in their way, because they deal with or depict only the bright side of life, supported by plenty and riches. The real existence in poverty and suffering of the poor at any time is anything but an idyll; but with such associations at Christmas as artists will delineate and some literatists describe, the condition of the really poor is miserable indeed, and shows how hollow a mockery is the ideal Christmastide. Were artists of this class to set about delineating a gardener's Christmas, no doubt they would represent him also ice and snow-bound, his tools hanging in perfect order on the walls, his fires well banked up, and himself seated in one of his hothouses stripped to his shirt sleeves, heedless of the intense frost, the falling snow, and the fierce cold blasts without, literally glorying in his surroundings of heat and luxuriant plant life. 'Tis true the customary roaring fire with its yule log must, in this case, be omitted; but a gaily painted lanthorn may emit a brilliant light, and to complete the picture, of course the jolly gardener must be smoking a long pipe, and indulging in the contents of a big mug of something strong. How many gardeners are there who would feel flattered with the picture or admit its truthfulness; indeed, we have but sketched it, that some other Christmas ideals might be exhibited in their true and extravagant aspect.

It is not possible even now as we go to press, on December the 23rd, to assert that Christmas Day will not be a green one, literally mild, soft, and possibly spring-like in its temperature and surroundings. It seems just now much more probable that some such weather will predominate, than that frost and snow will reign over the customary festivities. Perhaps it may rain all the day, but though the yule log and the cheerful fireside is as acceptable then as in time of frost, yet no poet however facile, or artist however inspired, could hope to depict a jolly Christmas under such deplorable conditions. The poetry of life is obliterated when heavy rains prevail. We have no doubt most of our garden readers will find the coming Christmas to be of a very prosaic order. Beyond, perhaps, being called upon to furnish some customary decorative material, calls that become onerous by oft repetition, it will doubtless be that few will find Christmas differing one iota from non-festive periods, or if they will, perhaps think Christmas a nuisance. Let the season be what it will, garden work must go on; the requirements of the garden are inexorable, and will have attention. Happy, after all, are those who have much, or at least enough, to do at this season, as compared with the state of mind of thousands who are perforce idle, and hungry too. For the sake of those we could wish that festive seasons were less disturbant of the routine of life. Happily, gardening is less subject to these spasmodic operations of custom than many other vocations are, and work must go on with regularity and despatch. Blest with plenty to do, and willing hearts to labour, we can congratulate our readers on their good fortune, and thus heartily wish them all a happy and prosperous New Year.

CHRISTMAS GREENERY.—We have often wondered from whence comes the huge heads of evergreen boughs which find their way to London markets just prior to Christmas, and still more as to where they go, for customers must be found for all this material otherwise it would not be brought so far and in such quantities. There is an explanation of the demand for Spruce Firs, for let the season be what it may, Christmas-trees seem to be an established portion of the festive institution, and one that will only die out with an absolute failure to supply the needed trees. Few only who are aware of the extent of the requirements of Evergreens in this direction would imagine how great is the demand, and sometimes how difficult it is to meet it, especially in the case of large specimens, for sometimes big fellows are wanted that cannot be picked up any day. We heard an inquiry for one just recently 15 ft. in height, and we may be sure that such a giant was intended to furnish attraction for a large party of little ones. Happily the supply of Spruce Firs may easily be found equal to any demand, and there is land enough in the kingdom now lying useless that might not unprofitably grow myriads of Christmas-trees for the delectation of millions of little ones at Christmastide. How much of interest would attach to the ultimate destination of these numerous branches of Laurel and other greenery! Perchance some decorate a superb church; others, perhaps, adorn a paupers' dining hall, and whilst again some will add a seasonable aspect to a refreshment bar, others will be found adorning a religious love feast or a Good Templar Lodge. Who grows these loads of shrubs, and whether for profit or for private gratification it will indeed be hard to say. Certainly Laurels must indeed have immense recuperative power if they can oft give up so much growth.

TOMATOS AND INSECTS.—"A curious statement, deserving the examination of botanists at home, comes from Cape Colony, where (says *The Colonies and India*) it is alleged that insects are observed to shun lands on which Tomatos are grown; and the culture of the Lycopersicum esculentum is accordingly recommended in all cases where it is possible to grow it—under fruit-trees, for instance, since the Tomato will thrive in the shade of other trees, which few other plants will do—for the sake of the virtues attributed to it as a prophylactic against the inroads of insect pests. The popularity of the Tomato as an esculent is sufficiently great to repay the trouble of planting on a large scale, even if its supposed virtues prove to be a myth; and any surplus supplies might easily be preserved in tins and shipped to this country. It will be interesting to know whether the Tomato has been observed to exercise any such effect on nsects elsewhere—in Canada, for instance, where the fruit is so popular—or whether it is only in warmer climates, like that of the Cape, that its peculiar powers are brought into play. Much the same power was once attributed, we believe, to the common Broad Bean, but we are afraid this plant does not 'live up to' its character."

DECIDUOUS TREES.—Whatsoever of winter beauty there may be seen in deciduous trees certainly is now very prominent. All are leafless and in the dull winter light, or especially when lit up by the winter sun against a background of cloud, the fine spray showing myriads of tiny branches, a beautiful network of nature's execution is seen in singular beauty, and offers a pleasing recompence for the absence of foliage. Of this, for the time of year, we have plenty in evergreen shrubs and, not least, in the deep green Scotch and Douglas Firs, and in the many other conifers with which most good gardens are enriched. Really few would care to live in an eternal surrounding of greenery in which there was no change, no variety, but all was of one monotonous heavy hue. Firs, with their dense shade and darkening tints, seem cool and fresh in summer, but in winter in the sombre light of the short days, they are the reverse of cheerful, though compensating by granting much acceptable shelter. But the charm and beauty that deciduous trees give even in winter far more than compensate for any apparent lack of usefulness in that season through absence of leafage. We should not see, for instance, in periods of hoarfrost or, perchance, of snowfall, such wondrous silvery tracery, such fairylike structures of hoar and wood as the trees then give to us. But anywhere deciduous trees, especially the noble spreading Oaks, the lofty Elms, and the grand Beeches, are magnificent, and not least when their huge limbs are rocked and swayed in the storm. Happily then their leafless condition is their safeguard and strength. Were they then clothed as in summer how many might fall prostrate.

GRAPE-GROWING AT LONGLEAT.—Mr. G. Open, The Stalls, Longleat, Warminster, requests us to publish the following statement:—"In your issue for November 1st, p. 134, a correspondent states that 'Mr. Taylor planned and superintended the erection of the large range of vineries.' Mr. Taylor deserves all credit for the growing of the vines, but he had nothing to do with either the planning or superintending the erection of the structure. This was done by Mr. Buckenham, the resident clerk of works, who was instructed early in 1869 to design the vineries, subject to the approval of Mr. Meredith, of Garston, who never made a single alteration in the plans. The work was carried out by the estate workmen under the immediate superintendence of Mr. Buckenham, who also designed and erected the three ranges of forcing-houses in 1864. There is also an error as to the dimensions of the vineries, the exact length is 216 ft. 2 ins., the width 31 ft. 6 ins. The trellis is not curvilinear, but straight. The vines were planted in 1870." [Our correspondent had not, we feel sure, the slightest intention of saying anything to the prejudice of Mr. Buckenham. He was doubtless unaware of the facts as now stated.]

THE NATIONAL AURICULA, AND CARNATION AND PICOTEE SOCIETIES (SOUTHERN SECTIONS).—The Honorary Secretary, Mr. Douglas, informs us that arrangements have been made with the Council of the Royal Horticultural Society, to hold the next Exibitions of these Societies at South Kensington as before, the Auricula Show on April 21st, and the Carnation and Picotee Show on July 28th. The 21st of April is not a committee day of the Royal Horticultural Society, and an effort was made to fix the Exhibition for April 28th, but failed, owing to that date having been previously appropriated by the Council of the Royal Botanical Society of Manchester. A meeting of the committee of both Societies will be held, by permission, in the Conservatory, at South Kensington, on Tuesday, January 13th, immediately after the various committees have completed their work. The principal business will be to pass the rules for Exhibitors, and to arrange and sanction the printing of the schedules for 1885.

Gardening Miscellany.

The meetings of the Fruit and Floral Committees of the Royal Horticultural Society, in 1885, have been fixed for the following dates:—January 13th; February 10th; March 10th and 24th; April 14th and 28th; May 12th and 26th; June 9th and 23rd; July 14th and 28th; August 11th and 25th; September 8th; October 13th, November 10th; and December 8th. The Scientific Committee will meet on the same dates, except during the recess, August to October.

The volume of *The Botanical Magazine* for the current year is dedicated to Mr. John Ball, a former President of the Alpine Club.

Mr. Ireland, sent us from Headfort, Kells, on December 17th, a bunch of lovely Anemones gathered that day amongst frost and snow!

Messrs. James Carter & Co.'s *Vade Mecum* for 1885, the first of the new Season's Catalogues to hand, besides being profusely illustrated with woodcuts of innumerable flowers and vegetables, contains coloured plates of various choice strains of florist's flowers, and of the new Sukreta Potato, which was awarded a First-Class Certificate at the last International Potato Show; and which it appears was named Sukreta, after a village in India, where the raised was severely wounded during the mutiny.

Messrs. James Veitch & Son's admirable new catalogue of vegetable and flower seeds which came to hand last week, contains illustrations and descriptions of several novelties which this firm will send out during the ensuing season.

The Christmas Number of *The Gardeners' Magazine*, published on Saturday last, is by far the best sixpenny worth of seasonable literature that our contemporary has yet issued. Both illustrations and text are excellent. It is published at 4, Ave Maria Lane, E.C.

Mr. William Priest, who lately left New Battle Abbey Gardens, has been engaged as gardener to the Earl of Eglinton, at Eglinton Castle, Irvine, in succession to Mr. Gray.

Messrs. Sutton & Sons, of Reading, have received a Royal Warrant appointing them Seedsmen to Her Majesty the Queen, after being honoured with Her Majesty's commands for thirty consecutive years.

The *Agricultural Gazette Almanac* for 1885 (Vinton & Co., 30, Hampstead Road), besides containing much information that is interesting to agriculturists only, includes much that is useful to gardeners who have charge of land or stock. We note that its price has been raised to a shilling, but it is worth the money; and we also see an announcement in its pages that *The Agricultural Gazette* is to be reduced in price to twopence.

CHARLES W. SHAW.

We deeply regret to record the death, on Monday morning last, of Mr. Charles W. Shaw, editor of *Gardening Illustrated*. Mr. Shaw's condition had for a considerable time been the cause of great anxiety among his friends, but he bore up so bravely against his malady—consumption—and had rallied so often, that few thought his end was so near. We ourselves and many others who knew him intimately, and who appreciated his quiet, unassuming and kindly ways, have lost in Charles Shaw a warm personal friend.

Mr. Shaw began his gardening career at Teddlesley Park, Lord Hatherton's seat in Staffordshire, and served afterwards as a journeyman in one or two gardening establishments in the north of London. Subsequently he became foreman at Cobham Park, Surrey; at Netley Castle, near Southampton; and lastly at Sherborne Castle, Dorset, under Mr. Pragnell. About ten years ago he left Sherborne to join the staff of *The Garden*, and on the foundation of *Gardening Illustrated* he became the editor of that paper, the success of which, in a very great measure, is due to his sagacity and industry, and the sound practical knowledge which he brought to bear on its pages. Though for some months past physically unequal to much labour, Mr. Shaw kept on working until the 18th inst., and may literally be said to have died in harness. He has left a widow and one child to mourn his loss, and many warm friends who regret his early death.

THE MISTLETO.

The Mistleto (*Viscum album*) is familiar at Christmas in the Midland, Southern, and Eastern counties of England, but it is said to be little known in the north or in Scotland. There are not a few conflicting accounts of the origin of the name Mistleto. Some think that this parasite is named from the mistle-thrush, instead of that early songster being named so from feeding on its viscid berries in winter. By others it is held that Mistleto is derived from the Anglo-Saxon (Mistolan) bird-lime, from *mistle*, and *tan*, a twig. It is also held that the word is derived from *mist*, excrement. What other connection there is or can be between *mist* and *mistleto*, it is difficult to see. The name is the same, viz., mistel or *mistil*, in all Germanic languages, and its root is this view of it, *migh*, mingree. Whatever may be its position now, the Mistleto was in former times a mystic plant, and as an old writer says, "It is not a matter of surprise that a plant of such peculiar aspect, and which occurs in such a remarkable position as the Mistleto, should have awakened the attention of various races, and exerted influence over their religious ideas. It played an especially important part among the Gauls. The Oak was sacred with them, their priests abode in Oak forests, Oak boughs and Oak leaves were used in every religious ceremony, and their sacrifices were made beneath an Oak-tree; but the Mistleto, when it grew upon the Oak, was peculiarly sacred and regarded as a divine gift. It was gathered with great ceremony, on the sixth day after the first new moon of the year; two white oxen which were then for the first time placed in yoke, were brought beneath the tree; the sacrificing priest (Druid) clothed in white garments, ascended it, and cut off the Mistleto with a golden sickle; it was caught on a white cloth held beneath, and then distributed among the bystanders. The oxen were sacrificed with prayers for the happy effects of the Mistleto. A beverage was prepared from this, and used as a remedy for all poisons and diseases, and which was supposed to favour fertility. A remnant of this seems to exist still in France, for the peasant boys use the expression, 'au gui l'au neuf,' as a new year's greeting.

"It is also a custom in Britain, to hang the Mistleto to the roof on Christmas Eve; the men lead the women under it, and wish a Merry Christmas and a Happy New Year. Perhaps the Mistleto was taken as a symbol of the new year, on account of its leaves giving the bare tree the appearance of having regained its foliage."

The Mistleto is said to be the only true parasitical plant indigenous to Britain, as at no period of its existence does it derive any nourishment from the soil, or from decayed bark, like some of the fungi, &c. There is but one species, and it is an evergreen. "The branches are numerous and forked, covered with a smooth bark of a yellowish-green colour. The leaves are entire, tongue-shaped, and produced in pairs upon very short foot-stalks. The flowers are male and female in different plants, which accounts for some large bushes of it never bearing berries; axillary, and in close, short spikes. Neither male nor female flowers have a corolla, the parts of fructification spring from the calyx. The fruit is a globular smooth white berry, covered with a viscous substance; these berries appear in winter. The root insinuates its fibres into the woody substance of the tree, and thus derives nourishment from the plant. The whole forms a pendant bush of from 2 ft. to 5 ft. in diameter. It grows on various trees, chiefly fruit-trees, or on the thorn, oak, maple, ash, and even pines." Such is a popular description of the plant.

The means by which this singular plant is propagated is still a debatable point. Old Gerarde says, "This excresence hath not any roots, nor doth increase himself of his seed, as some hath supposed; but it rather cometh of a certain moisture and substance gathered together upon the boughs and points of the trees, though the barke, whereof this vaporous moisture proceeding, bringeth forth the Mistletoe." But it seems to be held by some that the field-fare, mistlethrush, and blackbird are the principal agents concerned; but whether by rubbing the superfluous seeds adhering to their beaks on the bark of trees, or by passing them through their bodies, remains, and is likely to remain, matter for doubt and discussion. "Germination having taken place, the Mistleto maintains its singularity. While the young root of almost any other plant descends, that of the Mistleto first rises upwards, and then bends over till it reaches the body of the substance to which the seed is attached. The extremity of the radicle having affixed itself to the bark, if more than one has sprung from a single seed, the embryos separate from it, and become distinct plants. When the Mistleto germinates on the upper side of a branch, the shoots bend upwards; if on the under side, they descend; and when on the side of a perpendicular trunk, spread horizontally. The roots penetrate through the bark, between the inner bark and the soft wood when the sap is most abundant, and as the tree advances in age become embedded in the solid wood, absorbing the ascending and returning sap, and preventing its circulation, and then the parasite flourishes until the tree itself decays."

The Mistleto can be propagated by artificial means. When the Rev. F. D. Horner resided at Kirkby Malzeard, Ripon, he obtained many patches of Mistleto on his Apple-trees by rubbing the berries on the under side of the bark of a young branch, the viscid matter surrounding the seeds causing them to adhere to the wood. Others have successfully adopted the same course. It is said that January is the best time for the operation; but the operator must be prepared to have the seeds removed by prying birds. During the summer following the operation, each seed, if it germinates, will throw out two claw-like members, which attach it firmly to the bark. In this state it remains until the next April, when the first pair of leaves commence development. He that attempts to propagate Mistleto in this way must needs be patient.—*Quo.*

A NEW NEMOPHILA.

One of the finest new annuals that was exhibited in 1883 before the Floral Committee was the subject of the accompanying illustration, Nemophila atomaria atro-cœrulea, which was exhibited by the raisers, Messrs. James Carter & Co., who include it in their list of novelties for the ensuing season. Those who like, and who grow the light blue Nemophila insignis—and who does not?—will welcome this variety for its deep ultramarine blue colour, which is rendered all the more striking by the pure white centre and zone of black purple. The plant has a neat spreading habit of growth, and is remarkably floriferous. Its beauty and great usefulness for the flower-garden in providing a colour not at all common in other flowers, have been well recognized by all who have seen it, including the members of the Floral Committee, who awarded it a First-Class Certificate.

CHRISTMAS FLOWERS AT SWANLEY.

Vivid recollections of previous winter feasts of flowers at Swanley tempted us on Saturday last the most unpleasant day in town that Londoners have experienced for some months, to journey down to "The Home for Flowers," in the hope and expectation that if the weather was as bad there, there would, at all events, be something worth seeing to repay us for the pilgrimage, and we were not disappointed. If any brother florist has a touch of melancholy let him repair to Swanley at once. The trip will cure him, or we are very much mistaken. Since the Messrs. Cannell have pitched their tents, or rather, we should say, built their little village of glass, at Swanley, they have always had a grand display of flowering Pelargoniums to show their winter visitors, but this year it is, if anything, finer than ever. The principal show-house, that containing the single-flowered varieties, and which, like all the other houses in the nursery, is a span-roofed structure and 100 ft. long, is literally crammed with flowers, and such flowers! The summer bloom is as nothing compared with the present show. The trusses all round are as large, the pips are, if anything, larger, and the colours for brightness and intensity are quite incomparable.

Conspicuous among the pink-coloured varieties is Constance, one of the very best in the section; Edith Little is a very pleasing flower, a soft shade of blush, with a white blotch at the base of the upper petals; a gem. Evening Star, of a similar shade, is also very fine. Aurora Boreale, a light scarlet, suffused with salmon, is also A 1; so also is Edith George, pink

with a shade of red, and remarkable for its large truss. Kate Farmer, rosy salmon, quite deserves the four crosses placed against it in our note-book; and Favourite, soft cerise scarlet, is thoroughly well named. Dante, a rich magenta, with a fine orange blotch on the upper petals, is very rich in colour. Mrs. Naish holds a good position among the whites, and is noted as a very strong grower. Mrs. Barriff, salmon-pink now—an intense salmon in summer, is a wondrously free winter bloomer, and throws its large showy trusses well above the foliage. Clytie, crimson, shaded with magenta, is also noted as specially fine; but what shall we say in praise of Ferdinand Kauffer, the most intense magenta-purple of all? It is a pearl amongst pearls. Eurydice is a pink with a purple shade, in every way first-class; and of Mrs. Lord, it may be said that the flower, not the lady, is perhaps the deepest crimson. Omphale is very pretty, a soft shade of salmon; Crimson Gem, crimson with a white eye, is notable for its fine shape and neat habit; Ida Walker is one of the finest crimsons; and Imogen, in the salmon-coloured section, is also first-rate.

NEMOPHILA ATOMARIA ATRO-CŒRULEA.

Zelia is a specially fine winter bloomer, producing splendid trusses of rich crimson blossoms. Cato is a very good scarlet; Emperor, bright crimson-scarlet; Mrs. Gordon, bright crimson with a white eye, quite a beauty; and Herminus, scarlet, shaded with magenta, must also be included amongst the most select. The latter, in addition to being a very fine flower, is also a most profuse winter bloomer. The new Lady Chesterfield, sent out last spring is the deepest coloured of the salmon shades; and Lord Chesterfield, crimson, shaded with purple, can be recommended as a fine exhibition variety. The demands on our space will not permit of a larger selection being made, but before we leave the single varieties we must mention the new white, Queen of the Belgians, which was also sent out last spring, and of which one side of a house here is full of plants carrying a rare crop of flowers, fine in form and remarkably pure. It is one of the best of growers and a very free bloomer.

In the house devoted to double-flowering varieties there is a very fine batch of the new double white, La Cygne, which in summer and late into the autumn comes very pure, but is a little green just now; Comte Rampon, a fine soft scarlet, is noted for its grand trusses; and Madame Léon Dalloy, a double white, is one of the best to grow for cutting. Aglaia, a crimson, heavily shaded with purple, is a good winter flowering variety. Magenta King and M. Gelein Lowagie, light orange-scarlet, and Lord Mayor, pink suffused with purple, are also flowering most freely.

The Messrs. Cannell have some new varieties to send out next spring which are expected to make a noise in the floricultural world, several of which are now in bloom. Henry Cannell is considered the most intense crimson in colour that has yet been seen, with extra large pips and immense trusses. Swanley Gem is a rosy-salmon with a white eye and also of large dimensions. W. E. Gumbleton is a deep crimson with a shade of violet in the centre and a small white eye, and the counterpart of Henry Cannell as regards habit and size. Kentish Fire is a most intense scarlet, and considered an advance on everything of this colour. The new doubles include Mrs. Cordon, a very pretty rosy-salmon, not so double as many, and all the more valuable on that account as a winter bloomer, the semi-doubles not being so liable to damp off as the more double ones. James Murkland is an American novelty, raised by Mr. Thorpe, whom many will remember as a member of the late firm of Bell & Thorpe, of Stratford-on-Avon. It is also a very neat semi-double, a flesh-tinted white in colour, flushed with rose in the centre. In summer it is a mottled salmon. Belle Nancéienne, another mottled salmon, is a grand flower in summer, but does not shine as a winter bloomer. James Vick is another of Mr. Thorpe's seedlings, a deep salmon self-coloured semi-double, of very neat habit, and good alike in winter and summer.

The houses devoted to Primulas are also very gay with plants in bloom, and will be finer still when some specially well-grown specimens intended for flowering a little later on come into bloom. The carefully selected varieties grown are arranged in separate batches, so that the special merits of each are more clearly brought out than would be the case if a mixed arrangement was adopted. Swanley Blue is the first lot to come under notice, and very bright and pretty it is. Swanley Purple represents a very fine purple strain; and Swanley White is also of the best. Emperor is a pretty carmine flower; and Swanley Giant a very good purple, a very strong grower, and producing large blooms. Princess of Wales is a lovely shade of blush pink, and throws the trusses well above the foliage—the neatest-habited variety of all. Swanley Red needs no comment now, it is so well known; but Queen of the Whites, among the fern-leaved varieties, certainly claims a word of praise, so fine are the individual blooms; as does also Mr. Tomkins' now well known variety, The Queen, which is still one of the finest. There are also some novelties here, of which great things are expected by-and-bye. These are a Swanley Red with fern-leaved foliage; a carmine-flowered variety, and a blush ground flower, prettily spotted and stripped with purple, both also fern-leaved.

Cyclamens are also now largely and well grown at Swanley, and will soon be in rare form. Of Chrysanthemums there have been some three or four houses' full, but there are only a few left in bloom. These, however, are of the general utility order of merit, and worthy of more than a passing word. Mrs. Charles Carey, is a white Japanese, a very strong grower, with bold, handsome foliage, and always one of the latest to bloom; Virginale, a white Anemone-flowered Japanese, with a yellow centre, is very pretty, and very popular with the market growers as a late bloomer. Star of Whyke is, perhaps, the most valuable of all for cutting; a pompon of medium size, and what a florist would call a thin flower, pure white, charmingly pretty in a cut state, and the most free to bloom of any Chrysanthemum known. There are some plants here that have provided flowers throughout the show season, and are still in full bloom.

Many other winter flowering subjects are also grown here; there is something of note to see in every house in the nursery, but we think we have said enough to convince anyone that a trip to Swanley in winter will not be made in vain.

HORTICULTURAL SHOWS.

[The following paper on "Horticultural Shows and their Influence," was read at the September meeting of the Notts Horticultural and Botanical Society by Mr. N. H. Pownall, of Lenton Hall Gardens, Nottingham. Mr. Pownall states the case vigorously from the negative side of the question, but we do not think the majority of readers will agree with him.]

My subject for this evening's paper has been chosen at very short notice, and was suggested to me by our Society's late unfortunate Show experiences. This matter being uppermost now in most of our minds, caused the subject of Shows in general to suggest itself at once to me as being one that was likely to provoke a lively discussion; and I particularly wanted a long and a lively discussion for this great reason, that a long discussion would justify me in making my paper a short one, and as I had only seven days' notice in which to get it ready—that was a consideration of great moment to me. To ensure that lively discussion, or at least do what I could to make it sure, I decided to take up the question of influence on its negative side, my sympathies lying that way, and I also decided to pitch the keynote of my arguments somewhat high and sharp, in order that those who cared to follow might be inspired to join in the discussion with spirit and earnestness.

There is certain to be a majority on the affirmative side against me; indeed, when I have got through I shall most probably stand alone in the position I have taken up. To begin, perhaps I had better define what I mean by a Horticultural Show. It is an aggregate collection of garden produce of whatsoever kind, brought together in a public place to be judged on its merits by competent judges, and afterwards inspected by those who care to do so—a charge being made at the entrance, sufficient with the subscriptions and entrance fees to clear expenses and give prizes, with perhaps a surplus over to meet future and contingent expenses. In broad terms, that is a Horticultural Show. There are, however, Shows and Shows. There is the ideal Show and the real Show, with manifold diversities of each. The ideal Show might be described as being one where the ordinary gardening produce of a neighbourhood was contributed by those willing to compete, thereby to signalize (1) the superiority of stocks and varieties; (2) excellence in cultivation; and (3) skill in preparing and setting up.

Briefly stated, those were the foundation principles which guided the promoters, the managers, and competitors of the ideal Show. The friendly, neighbourly rivalry was strongly emulative of a keen search after better varieties of stocks and produce, a better system of growing that produce, and better ways of dressing and preparing it for the table. The influence of a Show like this was altogether good. The community felt the influence for good in that a more general and persistent industry of the people was stimulated, and out of this industry of the people came—in one phase of it—a better food supply. From this centre, good influences struck out like bright rays, covering a wide area. This was the ideal Show, the sentimental Show, the theoretical Show, and the nearest type was, perhaps, an old-fashioned village or parochial Show.

The ideal country Show was, of course, only an enlargement of this base. The town and country magnates sent, to encourage gardening and make a festival, the *ordinary* occupants of their glass-houses and gardens, the local nurserymen did the same, and gentle and simple met together in a happy neighbourly way, and enjoyed their *fête* day in leisurely fashion, and with innocent gratification, everyone feeling better for the Show all around. The influence for good of a Show like this was scarcely to be overestimated.

The real Show is, so I shall put it, the opposite of all this. It is an accumulation, drawn together at some distinguished place, of all things connected with gardening that are ultra, extraordinary, sometimes eccentric, always (to be) exciting; where everything has been specially grown, forced, drilled, trained into its highest particular exhibition development; where, speaking of plants, they are of that shape, state and condition, which, Mrs. Grundy says, is fashionable; where fruits are staged that have been grown to an abnormal and often unserviceable size; and with respect to flowers, when they are set up that have been unnaturally, artificially, made stiff, firm, and semi-monstrous by dexterous manifestations (a sight which, to unsophisticated eyes, is sad and offensive); and where what is striking and rare is considered to be more worthy of encouragement than what is useful. The fact is, money is the end and object of the real Show, from first to last; money the promoters want, money the exhibitors want, money everybody wants. The question always is how many prizes representing so much money, the competitor can, by skilful manœuvering get, hold of; and how many thousands of people they can attract past the paying place, is the chief consideration of the how's officers. These are, in effect, the mainreasons or motives which actuate all those who are connected with the real Show; and benefits to gardeners or gardening in a professional, scientific, or knowledgable sense is never once thought of. The Manchester commercial school's criterion is theirs, "the worth of anything is as much money as it will bring."

And so, out of this what comes? What is the influence of a Show like this? Why, its influence on the gardener is sometimes to turn a decent man into an intolerable nuisance (for a time at least), for, if a prize taker, it makes him vain-glorious, conceited and unbearably talkative about his splendid successes and triumphs to every person he meets—in fact, an unendurable bore; if a prize loser (or rather not a prize winner, for losers never rightly lose, its bad judgment that's against them, partiality, favouritism, and all the rest of it), but if he does not get prizes, the man becomes wretched, dissatisfied, indignant, hurt, jealous, morose, a martyr, clamorous over his wrongs to every one whom he can buttonhole, and so insufferable as to make every friend he has feel that they would rather meet anyone else than him. On the man, as a man, the influence is pernicious. On the man, as a gardener, the influence is equally baneful and injurious, in that an unhealthy state of excitement is kept up in his mind—so that he cannot settle to real work—and in the garden generally, in the preparation of the things to show, a wrong standard is set up to work to, the powers of the place being drawn out towards what is showy—*prize-winning*—rather than to what is useful. This false, artificial standard of judgment so grows upon a man and a place that much mischief often comes to him from its extreme development. The more prizes he gets, as a rule, the more he wants, his selfishness is intensified, and he becomes blind, as it were, to the sure effect which is the result of too much showing—Ruin!

What is the influence of the real Show on the Society which gets it up? Well, speaking generally, it parts with its real objects and principles, "doing good to horticulture," and, for the time, turns itself and all its powers into that of showman. To get people to come to the Show, extra attractions of music, fun, frivolity, Punch and Judy, tight-rope performances, questionable songs and dances, and other music-hall fascinations have to be resorted to, in order that money may be wheedled out of the pockets of much-desired visitors. Is not, I say, the influence bad and unwholesome of a Show like this, which turns into showmen the officers of a Society which is largely an educational body, as all real horticultural societies are, or should be, teaching its members their duties, and how best to perform them, and so elevating them individually and professionally.

The evil influence does not end here; the Society, if successful on its Show day (and it depends on the weather), draws a lot of money into its exchequer, and this fulness of gold acts prejudicially on the officers, as sudden prosperity generally does on humanity: weakens their heads, demoralizes their judgment; makes them think that good times have come to them and never mean to go away again. That "to-morrow shall be as yesterday; yea, and much more abundant," and so very often their easily got money is spent on fads, fancy schemes, or wild speculations, and they are only brought to their senses when they have to draw up the annual balance-sheet. If the Show is unsuccessful, as in our fickle climate it so often is, then their comes to the officers a cruel experience; their expenses are reckoned in pounds, and their income in shillings, or even pence, and they are compelled to stand almost as beggars, hat in hand, either elegantly or silently pleading their poverty.

I ask, Can this be right? Is this the outcome, the influence either way, of the present day real Show? If so, the sooner it is given up the better.

The great question then is, Do Shows—the real Shows—benefit horticulture; do good to gardeners and gardening? If not, why continue them? How to make them good, useful, and full of beneficial influences, then, is the main question to consider. Let each man ask himself the question and speak accordingly.

MUSHROOM CULTURE.

When Mushrooms are required either in large or small quantities, the want of such a convenient place to grow them in as a Mushroom-house should not in the least deter any one from attempting their cultivation, as we have some time since given up the system of growing them in houses in favour of beds, made up in greenhouses, in sheds, and out-of-doors. Short straw and manure, or droppings collected from the stables, forms the bulk of the material used for making Mushroom beds, and if to this is added one-third of turfy loam or even common garden soil, and the whole is thoroughly mixed together, so much the better. As soon as a sufficient quantity has been collected together, it should be turned over every day till the rank heat has passed off, and the whole looks a mouldy mass neither too dry nor too wet, but a medium between the two. The manure from cattle fed with green food or Carrots I believe will not produce Mushrooms, but the manure from stables, in which fern is used as litter, is as good for producing a crop as where straw is used. One year I had no other to use, and I felt there was no alternative but to give it a trial, and to my surprise I found it produced excellent crops. Peat moss when used in stables, I am told, makes excellent material for forming beds with, and to swell the bulk for beds outside I have frequently used some of the half-decomposed leaves and manure from Melon frames, and with success.

Mushrooms are grown with great success in caves around Paris, and it has been said of the Frenchmen that they grow them better than any gardeners in the world; but I think this would hardly hold good at the present day, for who succeeds better than Mr. Barter, in the Harrow Road, London, or Mr. R. Gilbert, of Burghley, with the outdoor system of culture? Get together the manure, &c., and prepare it as above described, and then select the site for the bed, which should, for convenience, be in the frame ground, and if it has a southerly aspect, for winter growing, so much the better. The base of the bed should be about 3 ft. wide, and, when completed, about the same in height, tapering to the top. A few sticks are set in the ground to mark the edge of the bed, and the manure is wheeled and tipped between them, and thoroughly trod down. This is continued until the bed is brought to about half its height, when that which has rolled beyond the stakes and the trimmings will be found sufficient to top it up. Sticks should be thrust into the bed for drawing out occasionally to ascertain the temperature, and when it is found to have passed its greatest heat, and the sticks tell that it is steady, the bed may be spawned. Fresh spawn should be procured from some respectable firm, for although we are told it will keep good for years, I prefer that which has not been long on hand. Break the bricks into six pieces, and insert them 1 in. under the surface of the manure and 1 ft. apart, flat side outwards; cover them up, and make the bed as firm as possible. After the bed has been spawned it will be ready for soiling over, but if the surface has become dry between the time of making up and spawning, it should receive a good watering.

The whole surface of the bed should then be soiled over, and for that purpose I have found ordinary garden soil to answer the purpose well. It should be sufficiently moist to adhere and form a smooth surface when beaten with the back of a spade, and when finished should be at least 1½ ins. thick. The whole should then be covered with litter and that which has been rejected when preparing the manure will be found to answer well. After a time the bed should be examined, say in three weeks or a month, and have some dry hay shaken over it, on which place the litter again, leaving it a foot or more in thickness. In wet weather if some mats or shutters are at hand to throw off the heavy rains, it will help them a great deal.

I have never failed with any beds treated as I have described, although the time of their coming in is somewhat uncertain. I have never seen such fine Mushrooms obtained under any other system of cultivation as many we have gathered have turned the scale at 8 ozs., and I can think of no better way of describing them than in the words of Mr. R. Gilbert, viz., "Umbrellas compared with small parasols," the latter being those grown inside. It is usually recommended to make beds out-of-doors in September and October, but I find they may be made with success from then till it is unnecessary to make them at all, choosing for the spring ones, a shady spot.

Beds may also be made up in sheds or under the stages in a greenhouse, or indeed in many places which will readily suggest themselves, but if made under stages it is necessary to put something over them to carry off the drip. These beds are usually made flat or nearly so, and from 18 ins. to 2 ft. deep, keeping the manure nice and compact by means of boards along the sides. The soil used and the precautions taken as to heat are the same in both cases; but either in a shed or greenhouse it would not be necessary to put more than a few inches of dry hay over the surface to prevent it from becoming too dry.

Mushroom beds, either indoors or out, require water sometimes, and when water is given it should be applied warm, and a slight coating of hay or straw be left over the surface while the water is being given, especially if the Mushrooms are coming up. I have frequently seen button Mushrooms turn brown and fail to develop after a watering, even with a very fine rose, but I have never seen the same result follow when a slight coating of litter has been left on the surface.—*C. Warden.*

The Captain Strawberry.—Mr. Laxton describes this new variety as being a "very large and handsome, glossy scarlet fruit of good flavour, ripening early in June; very prolific, flesh firm, and an excellent traveller; this variety is also more perpetual than any other sort, the first crop coming in before Sir Joseph Paxton, and a second crop after it; fine large fruit continue also to follow up to October. For market and general purposes it is unequalled, and is altogether the most remarkable Strawberry of recent introduction."

HOTBEDS.

How to make and use them.—Antiquated as this subject undoubtedly is it is but very imperfectly understood by many amateurs who would like to raise their own Cucumbers, cuttings, &c., did they but understand the mode of procedure. Therefore, being cognizant of the want of knowledge on this subject on the one hand, and the willingness to learn on the other, I shall endeavour to show those readers of The Gardening World who, perhaps, may hitherto have failed how they may succeed. The first step to be taken is to throw together to heat a good heap of stable dung and leaves, using rather more of leaves than dung. This should be turned over twice within ten or twelve days to sweeten and to allow of the rank steam escaping therefrom before making into a hotbed. The ground on which the hotbed is to be made should be higher than that surrounding it, so as to prevent the lodgment of water under the bed. Where this is not the case half-a-dozen faggots placed underneath the bed would answer the same purpose. Make the bed a few inches larger than the frame which is intended to be placed upon it, and sufficiently high (6 ft.) to allow of its subsiding, which will be to the extent of rather more than one-third its height when finished. As the work proceeds beat the dung and leaves together with a five-pronged fork, and place a few layers of old Pea-sticks across, and along the bed for the purpose of conducting the heat supplied by the linings to the interior of the bed.

When the frame is placed on the bed, put inside it a shell, which should be 6 ins. shallower than the frame. This shell can be easily made by measuring the interior of the box and making it an inch less all round, and, as I have before stated, 6 ins. shallower, and nailing the battens on the outer side of the shell, so that when it is fixed in the frame there will be a clear space of 1 in. between the shell and the frame, thus supplying a means of admitting top-heat as supplied by the linings, made up at intervals more or less frequent according to circumstances. Let there be sufficient fermenting material (hot dung and leaves) put inside the frame to make the depth at the back part correspond with that of the front; after which a couple of inches of short dung, and then (if the bed is intended in the meantime to raise Melon and Cucumber plants, &c., in) 4 ins. or 5 ins. thick of dry leaf-mould or sawdust. But, on the other hand, if the hotbeds are intended for producing early Potatos, Carrots and Radishes, and for raising young Cauliflower, Cabbage, and Lettuce-plants in, 9 ins. thick of light garden soil should follow the short dung. This, like the leaf-mould or sawdust referred to above, should be in the frame a couple of days to become slightly warmed before planting the Potatos or sowing the seeds in it.

How to use Hotbeds Profitably.—Early Potatos now starting into growth should be planted in rows 1 ft. apart, and 7 ins. or 8 ins. asunder in the rows, and be subsequently treated as advised at p. 257 in your last number. Carrots (Early Nantes Horn is the best for early use) should be sown thinly in shallow drills (about 1 in. deep) 1 ft. apart, and between these rows of Wood's Frame Radish may be similarly sown. The soil should then be closed over the seeds and be patted with the back of a spade, to make it moderately firm. If steam is likely to arise in the frame sufficient air should be left on day and night to allow it to escape. A pinch of Cauliflower, Cabbage, and Lettuce seeds may also be sown thinly and broadcast in each light without in the least interfering with the growth of the Carrots and Radishes, as the young plants should be removed for transplanting under handlights in warm corners or in beds prepared for pushing them on as soon as they are large enough to handle. The Radishes, too, will be removed for salading as they become fit for use and before the Carrots require the space occupied by the former for developing their growth. These frames should always have sufficient air admitted to prevent their contents from making a weakly growth, and the linings should be made up sufficiently often to maintain a little warmth in the beds, so as to keep the roots active and the plants on the move.

If a surfacing of soil is put over the short dung, Asparagus-roots can be packed closely together thereon, covered with 4 ins. or 5 ins. thick of light mould, and then watered with tepid water to settle the soil. Air must be admitted to the frame as soon as the "grass" comes through the soil to encourage a sturdy growth in the same, and it will grow to perfection, Cucumbers and Melons can also be well grown in hotbeds by those who understand their management, and those who do not may learn to do so by reading attentively and following the instructions given, as occasion requires, in these columns. A few seeds of Telegraph Cucumber and High Cross Hybrid Melon may now be sown singly in 3-in. pots half filled with light mould, and covered with a little of the same, as soon as there is a hotbed ready to plunge the pots to the rim in, afterwards covering them with a square of glass, which should be removed as soon as the young plants appear through the soil, and which, when they have made a couple of inches of growth, should be top-dressed with soil which has been in the frame a couple of days before being used to get warm. By the time the plants have attained to the size stated further instructions respecting their after treatment will be given. In conclusion, I need only say that, after the crops of Potatos and Carrots have been taken, Melons, Cucumbers, and Vegetable Marrows may be grown on the hotbeds thus vacated. *W. H. W.*

NOTES ON GARDENS.

Norman Court, Wilts.—This fine establishment, which is situated about nine miles south-east of Salisbury, and about five miles from Romsey, is the seat of W. Baring, Esq. The mansion is a large square building in excellent preservation, and is surrounded by a park of considerable extent, beautifully undulated, and well wooded. The pleasure-grounds, which surround the mansion, and consist of a good portion of velvety lawn, are on the south and north side. On the east side is the principal flower-garden, which is intersected by gravel walks, forming a series of squares, with glass verges along the edges of the walks. It is well sheltered on the east by some thriving specimens of the rarer kinds of Conifers, and on the north by a dense shrubbery. There is also another flower-garden at the west end, but this is on turf, and is now furnished with the usual spring bedding subjects.

There is also a good portion of shrubbery and woodland walks attached, which must afford considerable comfort and pleasure in the heat of summer. On a high wall, close by the last-mentioned flower-garden, are some grand specimens of Magnolias, both of grandiflora and conspicua, the latter of which flowers most freely, and is invaluable for cutting in the early spring months. So much prized, indeed, are its deliciously sweet white blossoms, that I wonder it is not more often met with.

The glass in this part of the garden might justly be said to consist of four conservatories, but in reality there is a corridor, a conservatory, a stove, and a fernery. The two former at the time of my visit, were gay with Chrysanthemums and other flowering plants. The conservatory which is span-roofed, contains a central bed with a walk around it, and the centre group consists of Palms in excellent health. A wall which flanks one side, as also the pillars which support the roof, are well clothed with such climbers as Rhynchospermum jasminoides, Bougainvilleas glabra and spectabilis, Marèchal Niel Rose, Heliotropes, and Begonia fuchsioides, which makes an excellent pillar-plant here, and is almost always in flower. The stove which is a lean-to structure, has the roof thinly clothed with such climbers as Stephanotis floribunda, several varieties of Dipladenia, Bougainvilleas, Jasminum Sambac flora-plena, and others. The front stage is well furnished with a good assortment of small decorative plants, such as Palms, Cocos Weddeliana, Kentia australis, Geonoma gracilis, Dracænas and Crotons in variety, Pandanus Veitchii, Acalyphya macrophylla, and many other useful subjects. The edge of the stage is beautifully clothed with Panicum variegatum, which hangs gracefully down for a yard or more, and effectually conceals the hot-water pipes from view. On the back stage there is a good collection of Orchids, many of which are now throwing up their flower-spikes, in all manner of quaint forms. Towards the other end of the house is a good assortment of general stove subjects, consisting of some of the subjects before mentioned, but larger plants; as well as some good specimen plants of Marantas and Alocasias, a splendid plant of Anthurium Andreanum, and last, but not least, some enormous specimens of Eucharis amazonica, which are pictures of health and vigour, and though there were no flower-scapes then on them, on removing the leaves on one side, an abundance of evidence was found that numbers had been cut but a few days previously for decorative purposes. The fernery, which is comparatively new, and is furnished with ferns principally planted out in rockwork, also contains some good specimens of Adiantum farleyense in pots and baskets, and a very large specimen plant of Asparagus plumosus.

The remainder of the glass houses, and there are a considerable number of them, are situated in the kitchen-garden, some mile or so from the Court. The principal range here consists of a large span-roofed greenhouse in two divisions, and which is filled with a variety of subjects, among them being Salvias, Chrysanthemums, perpetual flowering Carnations, amongst which were some large plants of Souvenir de la Malmaison, Poinsettias, Imantophyllum miniatum, Impatiens Sultani, double and single Primulas, and beautiful berried plants of Solanum capsicastrum, and many other subjects too numerous to mention. Continuing the range is the late vinery, where a goodly quantity of Grapes were still hanging. Adjoining the vinery and on the north side is the Cucumber-house, in which Cucumbers are grown in the summer months, and where I have seen myself some grand crops. The pit or house is now filled with bedding plants. Two more vineries in another block complete this line of glass, one of which is the early or Hamburgh-house, and the other the Muscat-house. In one of these two houses was a fine group of well-flowered Chrysanthemums, and in the other an assortment of greenhouse plants, amongst them some fine plants of Richardia æthiopica.

At the back of the two last-named vineries are the fruit-rooms, packing-shed, and potting-shed, &c. Above these and adjoining the gardener's house is a Peach-house in two divisions, the occupants of which produce excellent crops of fine fruit, as many can attest who have seen the Barrington Peaches from this range, at the Southampton Show held in August. On the same line, and next to the Peach-house, is a Rose-house, the roof of which is covered with such varieties as Marèchal Niel and Catherine Mermet. Roses in pots are also grown beneath them on the stage. In front of the principal range of which the greenhouse forms a part are several lines of hot-water heated and cold pits, in which are grown Pines, Gardenias, Eucharis, and many other subjects, also quantities of Violets, principally Marie Louise. A Fig-house completes the glass structures, and this, as well as all the other fruit-houses, is fully furnished with plants, thus making a double use of them.

The kitchen-garden lies in a good position so far as the declivity of the ground is concerned, and it gradually slopes to the south, and is backed up by a plantation of Spruce Firs, followed by an Apple orchard of standard trees. The principal garden is completely enclosed by walls, on which some excellent and fruitful Pear-trees, as well as other kinds of fruit-trees are growing. It is rectangular in form, intersected by several walks and borders under the wall about 6 ft. wide. By the sides of the walk in the principal quarters are some excellent fruit-trees, pyramid and bush, of Apples and Pears. There is also some ground devoted to vegetables on the lower division, where the glass is situated, and on one side of this division, that is, outside the wall, there is an excellent Rose-garden, probably containing as many as fifteen hundred plants; dwarf ones in front, backed up by standards on Briar stocks. This garden must afford an abundance of flowers for cutting in summer.

Although this garden is favoured in some respects, it is nevertheless a cold and late garden for vegetables, the ground being of very strong texture, though for all that it bears some excellent crops, which it would be difficult to surpass. In conclusion, I may add that the condition of everything throughout the garden reflects the highest credit on the gardener, Mr. F. Thomson.—*C. Warden, Clarendon.*

Osteo-carpus rostratus.—A pretty little Solanaceous plant from Chili. The leaves are linear and whitish-green in colour, and the Convolvulus-like flowers are indigo-blue. It is figured in the December number of the *Gartenflora.*

The Amateurs' Garden.

Window Fern Cases.—I cannot help thinking that a brief note of my experience in this direction will prove useful to many; certainly if it but spares one individual a tithe of the trouble and expense it has cost me it will not have been done in vain. Well, then, about four years ago I took a great fancy for one of those pretty window fern rockeries and desired to have one fitted up outside a large window in one of my rooms. I at once sent for one who I had heard mentioned as being clever at such work in order to consult him about it. In due time drawings were furnished and agreed to, and the work was speedily executed, leaving me in possession of a very nice, roomy case (unheated, of course), with prettily arranged Tufa rockery, with water dripping over it into the miniature lake beneath.

So far, so good; but now the trouble begins. The maker of the case planted it in due time, and very pretty it looked when just finished, but in less than a week the greater part of the plants had died or withered. Summoned to explain the cause, the artist floundered through a number of vague explanations, and wound up by saying that the things would no doubt pick up in a short time. But they did not "pick up," and, on the contrary, more followed the lead of their departed companions. I again sent for the maker, and finding that he knew even less about ferns than I did, I ventured to suggest that the plants were not suitable, and that in my opinion gold and silver ferns and such like were not suitable subjects for the work. At length we agreed that it should be planted again, more care in the selection being taken. The second planting was done, but a similarly melancholy result took place, and renovation after renovation had to be made. I was heartily weary of it, and my costly fernery in place of being a pleasure was a sort of standing joke against me among my friends. Had it not been for an unconquerable dislike to being beaten I would gladly have had the thing removed.

But as I went on I perforce gained some experience, and as I generally touched on the topic of ferns whenever I got in company with any one likely to know about them, I got, with the aid of books, a little knowledge about, and a great love for, those charming plants. In time, too, by finding the continued good health of a few ferns, I got to know that it only remained to make a proper selection and the object for which I longed would be attained. Meanwhile my fernery was always a source of trouble and annoyance, always costly, and at best but a shabby affair. I consulted one authority after another, but only succeeded in finding out two or three good plants, until in a lucky moment I put the question to one who not only knows plants well, but combines with that knowledge a thoughtful study of Nature's ways. To my question, "What shall I plant in my window fernery in order to keep it pretty all the year round?" his few words of reply, "Plant principally Japanese ferns, adding only such others as you have proved to be suitable and you will have no trouble with it in future," was oracular, and as I now know it furnished me with that key to the situation which I had long thought to exist.

My friend further gave me a list of plants, most of which I soon obtained at a very reasonable rate, as I found that they were many of them largely cultivated by the market growers. My window fernery was again replanted in April, 1883, those of the plants only being retained which had proved by their good behaviour that they were worthy of it, and with the finish of that work all my troubles with my window fernery ended. Since that time it has been nothing but a pleasure to me and to my friends, and instead of being the frequent tax on my purse which it formerly was, it has not since cost me a shilling, except for a desirable plant or so added. Thus proving the difference which exists even in such small matters between doing things on right instead of on wrong principles.

Apart from the constant trouble and expense consequent on frequent replantings, nothing like the perfect grace which the plants gain in time by their own natural growth and mingling can ever be attained where they are frequently disturbed. Nothing can exceed the beauty of the climbing Lygodium japonicum, with its flat finely cut barren fronds, and its curiously crimped and notched spore-bearing ones, as they twine all over the sides and top of the case, hanging down gracefully here and there among those planted beneath. Before getting this fern no plant of any kind could be got to go over the tops, and now its beauty is such that the whole case might better be devoted to this one plant than filled with the things which occupied it before.

For brevity sake I may as well enumerate the best plants in my window fernery, as to them neither hot weather nor cold seems to come amiss, and to advise all who are troubled in this matter to try them. They are:—Onychium japonicum, Cyrtomium falcatum, C. caryotideum, C. Fortunei, Lastrea opaca, L. aristata variegata, L. Sieboldii, L. erythrosora, Pteris serrulata, and Polystichum setosum are the very best things; they are all Japanese, and with them I have used the Japanese Aspidistra, Cordyline vivipara, which sends out its growths on gracefully hanging twigs; the variegated Ophiopogon, and the green and coloured forms of the creeping Tradescantia. Also thriving well and without giving trouble are Pteris cretica, Davallia canariensis, Pteris longifolia, the British Maiden-hair, Adiantum Capillus-Veneris, the British Hart's Tongue, Scolopendrium vulgare (which I find does best when seedlings are planted), and several other ferns whose names I do not know, and which I have selected on account of their fronds resembling in texture those of my favourite Japanese varieties; indeed I believe them to be natives of that country. Clinging over the rock, too, are the Ficus repens and F. minima.

Had I but received in the first place that information which ultimately brought me such a cheap and perfect success, I should have been saved no end of trouble and disappointment; I am therefore sure that many of your readers will be benefited by my encroachment on your valuable space. I may say that my window case is open to the room, and receives no more heat than what it gets from it.—*Madeline.*

The Management of Plant-houses in Winter.—I once heard an old gardener say that as a rule "fire to exclude frost should not be started till it is actually freezing." He held that the object should be just to keep pace with the frost, and not to drive the thermometer up to 55 degs. and 60 degs. Further, he contended that the highest point at which the thermometer should be kept when the fire is banked up for the night is 42 degs. or 40 degs., or even 38 degs. is a better standard, and which the practical cultivator might be pretty certain to adopt; but at 42 degs. no positive injury can be done, and will, perhaps, all things considered, be safer for the amateur gardener. But many amateur gardeners act differently to this: they, on the first indications of frost, get up a brisk heat early in the evening, say 60 degs., by seven o'clock; then they bank off the fire for the night, leaving the internal atmosphere to go down to freezing point by the morning. Those who do this can readily understand, if they reflect upon their acts, why it is their Cinerarias are infested with fly, and the Camellia buds fall from their stems, and they are made to suffer other perplexing losses. Fire heat is of great value for the purposes of excluding frost and drying up damp; but it is injurious to apply it when it is not wanted, and this not a few amateurs are apt to do. Really, a house is better without it than with it, except in the case of frost, or a prolonged interval of wet damp weather.

A writer whose testimony is at least worthy of respect has stated that it "should be remembered that from 6 degs. to 10 degs. of frost *outside* will do little harm to the occupants of the greenhouse; in fact, they would endure the thermometer going down to freezing point in the house better than they would a sudden rise in the heat, as the latter calls into action many important organs of the plants, and which are as suddenly arrested in their progress by the fire being left to go out early, and so they get a chill, which, if frequently repeated, must tend to weaken them, and may sometimes kill them outright." It is, no doubt, very comfortable for the amateur gardener to make up a fire every afternoon when the wind blows from the east, because he can then go to his own fireside, and feel safe if frost should come. But what if no frost should come? Would not the plants in the house have been better without the fire? and ought there not to be in the morning something like regret that he did not wait till eight or nine o'clock in the evening to see what the weather was likely to be? for the results are that firing has been needlessly consumed, and the plants positively injured.

There is the not less important matter of the employment of fire heat for the exclusion of damp; we may say that when it is judiciously applied it helps much to keep the occupants of the house in a healthy condition. As a general rule, once a week will be enough for the purpose, and there are many fine dry weeks through the winter that would not require it, if only an ordinary amount of care be used in the watering. When the fire is lighted for the purpose, the day should be fine, that all ventilators may be opened, so as to admit a free circulation of air among the plants. Such, then, are a few suggestions and words of advice for amateur gardeners. That The Gardening World may become a means of adding to the successes and pleasures of this very numerous class of plant-lovers, is the earnest Christmas wish of *Quo.*

Chrysanthemum Culture: The Single Varieties.—Having on p. 248 given directions for striking cuttings, I will now give a few hints upon the culture of the single varieties. These are without doubt a most useful addition to the varieties of Chrysanthemum, and being easier to grow than the large flowering sorts, they should become great favourites with all who grow Chrysanthemums for cut blooms or other decorative purposes. They possess a good variety of colour, they are the most free blooming varieties we have, and can be had in flower from October to January.

If large plants are wanted for supplying a quantity of cut blooms, the cuttings should by February be ready for potting, and this should be done as follows:—Shake them out of the cutting-pots, and repot them singly into 3-in. pots, returning them again to the frame and keeping them shut up close for a few days, after which air should be given on every favourable occasion. The soil for this potting should contain a larger proportion of loam and less sand than before. In a few weeks the roots will be seen to have taken to the new soil, and as soon as the young plants are established in these pots they should be pinched to induce them to throw out side shoots. As soon as these appear they should be potted into 6-in. pots and again be returned to the frame for a few days, when, if the weather is favourable, they should be placed in a sheltered position out-of-doors. When the shoots are about 4 ins. long, they should be again stopped, and if the plants from this last stopping produce enough breaks, they should not be again pinched, and in any case those required to bloom early should not be pinched after the beginning of June. Those required to bloom later may be pinched until the last week in June.

These early-flowering plants should receive their final potting early in June, and the remainder be potted by the first week in July. The size of pots should be 24's or 8½-in., which size will be found quite large enough to bloom them in. When potting, the soil should be pressed down very firmly, and a stick should at once be put to each plant, to which they should be firmly secured to keep them from being broken by the wind or rough weather. Nothing further will be required, except to keep them constantly supplied with water, and to syringe them overhead on hot days.

Single Chrysanthemums also make good plants for borders, as they flower well out-of-doors. For this purpose they should be planted out-of-doors early in April, but they should first be potted singly, according to the directions above given. They will require due attention as to stopping, as directed for those to be grown in pots; but as they derive a large amount of moisture from the ground, a great saving of time is gained when they are planted out. They can, if desired, be taken up and potted in October; a good watering should then be given, and they can be taken into the greenhouse or wherever they are to bloom.

Good plants can also be had for ordinary decorative purposes from cuttings struck from February to May, if they are grown on as above described. They can then be had in bloom in 6-in. pots, which is a very

convenient size for small conservatories and for general decorative purposes.

The following are a few of the best varieties :—Alba, white ; Carduusifolia, maroon ; Coachman, pearly white, very good ; Gus Harris, rosy-lilac, a very pretty variety, of dwarf habit ; Henry Irving, soft rose, with silvery shading. This is a very free-flowering variety, and can be had in bloom as late as January. Miss Cannell, white ; Mr. Toole, yellow ; Mrs. Wills, large and good ; Magenta King, Miss Beckwith, and Mrs. Langtry. In my next I will give a few directions as to the large-flowering varieties.—*W. E. Boyce, Holloway.*

JAMES DOUGLAS.

We have the pleasure this week to present our readers with the portrait of a practical gardener, whose achievements as a cultivator and exhibitor of all kinds of garden produce ; combined with his voluminous contributions to the periodical, horticultural literature of the day, have made his name a household word among his brother gardeners, amateur and professional alike. The gardening experience of our friend dates from the time when he was a small boy at school, when fancy led him to attempt the cultivation of Pansies, on which subject he obtained sufficient information to enable him to make a creditable start from *Chambers' Information for the People.* Achieving a fair measure of success with the Pansy, the young florist next took the Pink in hand, and soon became proficient in its propagation out-of-doors in a partially shaded place ; and he attributes much of the success he then obtained to always waiting for a rainy day to take off the pipings. His skill as a propagator of this favourite old flower spread beyond the boundary of his own garden, and he still retains a vivid recollection of the delight he experienced when a noted local gardener paid him a visit and begged some pipings of him.

In 1852 he left school, and commenced to work in a nursery at Kelso, where he became acquainted with a green-edged Auricula, for which, so great was his admiration for the flower, he would have freely given all the money he possessed. At any rate, it did not become his property, but it did make him an Auricula grower, with what results most of our readers are doubtless as familiar as we are ourselves. Three years later the nursery boy was apprenticed to Mr. Tom, at Newtondon, near Kelso. Here he was first initiated into the arts and mysteries—dare we say it—of preparing plants and flowers for exhibition, for Mr. Tom was a Dahlia and Hollyhock grower of some repute, and a very successful exhibitor as well. Like all the old Scotch gardeners of his time, he had, too, a perfect knowledge of the cultivation of hardy fruit-trees, and was specially skilled in the management of those grown against walls.

JAMES DOUGLAS.

At Newtondon, Mr. Douglas stayed three years, and then went to The Raith, near Kirkaldy, as a journeyman, under the late Mr. Crocket, who was also a good gardener, but somewhat eccentric in his ways. He was extremely fond of propagating all kinds of trees and shrubs ; indeed, he followed his hobby too keenly, and ultimately his mind gave way. After the first year, the young journeyman became foreman, with charge of the houses. At that time the nearest neighbouring gardener was Mr. John Laing, then gardener to the Earl of Rosslyn, at Dysart, now of the Stanstead Park Nursery, Forest Hill. It was, we are assured, a great treat to a gardener, young or old, to visit Dysart in those days, for Mr. Laing had scored a great success in raising a new type of Holyhock. He crossed the typical English and Scotch flowers in vogue then, and obtained varieties superior to both. Mr. Laing also grew Chrysanthemums at Dysart better than they had ever been done in Scotland before ; indeed, Mr. Douglas asserts that he has never seen any better since, and that he will never forget the three blooms of Golden Queen which Mr. Laing exhibited in Edinburgh the year it was sent out, and in which year also he cleared off all the first prizes.

Coming south when he left The Raith, in 1861, Mr. Douglas was sent by Messrs. Veitch to Busbridge Hall, near Godalming, where Mr. Kitson was gardener, then as now. At Busbridge, florists' flowers were not grown, and nearly all his leisure time was spent in the study of botany and in collecting specimens of British plants between Godalming and Guildford. In 1863, Mr. Douglas entered the service of Francis Whitbourn, Esq., his present employer, as head gardener, and Loxford Hall soon became a noted place for good gardening. While at Loxford, or since he has been at Mr. Whitbourn's new place at Great Gearies, Mr. Douglas has never made any one thing a speciality, but, on the contrary, has exhibited all kinds of horticultural and floricultural produce. From ten to fifteen years ago, he was a very successful exhibitor of fruits, his first entry into the competitive arena being with a single Pine Apple, which gained the first prize, a silver gilt medal of the Royal Botanic Society. In June, 1870, Mr. Douglas was an exhibitor of fruit at the great show of the Royal Horticultural Society, at South Kensington, and came out of the contest with flying colours. As many will remember the ten classes for fruit that were open for competition on that occasion, brought out a really splendid display, and Mr. Douglas was successful in winning no less than five of the first prizes.

Since that time, Mr. Douglas has been a successful grower and exhibitor of Chrysanthemums, Gladioli, Orchids, Hyacinths and other spring-flowering bulbous

plants, Herbaceous plants, Auriculas, Carnations and Picotees, &c. He has long been known to have a great liking for the fascinating work of hybridizing, and raising new varieties, and has taken many First-Class Certificates for new flowers. Amongst other things, Mr. Douglas raised many good new varieties of Gladiolus, and was in 1872-73, awarded certificates for Day Dream, Gwendoline Morgan, Mary Kinnear, and Rosy Morn. The seedlings were propagated and grown on year after year, but finding that they degenerated in quality, he threw them all away. His seedling Aquilegias, A. californica hybrida, and A. cœrulea hybrida, created a small sensation when they were first exhibited in 1877, and have since become very popular garden flowers. Fruits and vegetables have also had Mr. Douglas's attention, and his Cucumber, named by the Fruit Committee, Tender and True, from the Douglas motto, "O Douglas! Douglas!! Tender and True," has deservedly gained a wide popularity. The Loxford Hall Seedling Strawberry, has also taken a good position as one of the best very late varieties.

Mr. Douglas is now working in an old field; he has been trying for some years to score a success with Auriculas, and that he has succeeded in so doing every florist knows. Many of his varieties have obtained First-Class Certificates, and he has besides had the honour of winning "premiums" at two separate Shows of the National Societies with his own seedlings. The Orchids even have not escaped him, and we may mention that he has now in flower a batch of Seedling Cypripediums. Let us hope there may be a few gems at least amongst them to reward him for his skill and patience.

Besides well and faithfully fulfilling the duties he owes to his employer, Mr. Douglas has been and still is a most industrious worker in the horticultural vineyard. He is a frequent contributor to the horticultural papers, and four years ago wrote and published a book on *Hardy Florists' Flowers*, which is still the best work obtainable on the subject. For a number of years past he has served as a member of one or other of the Royal Horticultural Society's Committees, and as a frequent judge at its exhibitions; his services as a censor are much in demand both at metropolitan and provincial shows; he is now a member of the executive Committee of the Gardeners' Royal Benevolent Institution, and Honorary Secretary of the National Auricula and Carnation and Picotee Societies, Southern Division. Into the merits of the unfortunate dissensions that have lately arisen in connection with the management of these Societies it is not our intention here to enter, but in common fairness we think it only right and just to say that, while Mr. Douglas has for several years worked hard with Mr. Dodwell, as co-Secretary and as an exhibitor, to make the exhibitions of both Societies popular and successful, and by such means to extend their usefulness, he has never been accorded the smallest share of the credit of their success, though a large measure of it is his just due.

Pot Strawberries. — Up to the present, the weather has been so mild and favourable that there has been no need to house Strawberries in pots, which no doubt have benefited by being out, as it generally happens that the foliage gets red spider, and often mildew, which parasites have ere this both been washed off or destroyed by the cold. The practice at one time used to be to stack the pots by laying them on their sides and filling up between with leaves or other material, but though the roots were well protected from frost by that mode of storing, the balls often cracked away and became dry, when the plants suffered harm. Those who have the convenience of spare pits or frames will find them the best places for Strawberries, but they should be plunged in some non-conducting material, and be well up to the glass, that they may have full light and air at all times. If there are no pits or frames vacant, the course to take with them is to stand them on a hard bottom, made impervious to worms by the use of a layer of coal ashes, in which, or sawdust, they should be plunged up to the rims of the pots, and when frost comes it is necessary to throw straw over them as a protection to the plants and to save the pots bursting, which many of them otherwise would through expansion of the soil in them, as the force from the action of frozen water is great.

FLOWERS.

Seasonable Work in the Plant-houses.—Tea Roses for forcing. For this purpose plants with well-ripened wood should be selected, and they will be all the better if they have been well exposed out-of-doors for a time previous to starting them. Plants that have been so treated start more readily, besides which, a month or two out-of-doors does much towards cleansing them from insects. When first taken in, they should not be subjected to too much heat, and on all favourable occasions a little air must be given, but as the plants start into growth, this requires to be done very carefully, or a cold draught will be sure to fetch the young leaves off. After the plants are well started into growth the temperature may be raised, but we do not recommend too high a temperature at any time, as that not only weakens the plants, but the flowers come much smaller. Syringing should be done at least once a day, and as soon as we get brighter weather, it should be done in the morning and early in the afternoon. To keep off the mildew, it is a good plan to mix sulphur with fresh made lime-wash, and brush the hot-water pipes over with it, and this will help to keep down the red spider as well. In making a selection of varieties for early forcing, the following will be found to be very useful sorts:—Niphetos, Isabella Sprunt, Souvenir d'un Ami, Safrano, Madame Lambard, Perle des Jardins, Devoniensis, Madame Falcot, and Madlle. Marie Van Houtte.

Echeveria retusa.—This is a most valuable plant for the embellishment of conservatories at this time of the year, when the resources of the majority of gardens are taxed to their utmost to provide suitable material in sufficient quantities for the many kinds of decorations that are required during the festive season. Yet how seldom it is that one meets with it grown in large quantities for that purpose. A few plants may be found in most gardens, but they do not, as a rule, come in for a great share of attention. But it is one of those plants that should be grown extensively for decorative purposes. It does not perhaps rank as one of the most showy plants in cultivation, but it is quite distinct from all others in use at this season, and its compact habit and fleshy grey-green leaves have at all times a pleasing appearance; and when crowned with its clusters of crimson and yellow-tinted bells, it is both beautiful and unique. It is also one of the few useful plants that are seldom attacked by insects of any kind, and taking all things into consideration, it requires as little attention to grow it well as any plant that I am acquainted with. It succeeds admirably here under the following treatment. After flowering, the plants are placed in a well-ventilated house or pit, where they are safe from frost. While there they receive water when necessary, but during this stage they can, with advantage, be kept drier at the roots than is good for many other things. Sometime during May they are shaken out and re-potted in a compost of three parts of good loam to one of well-rotted manure, adding plenty of sand to the whole. Great care is also taken to have the pots thoroughly well drained. Some of the plants are potted without removing any of the numerous offshoots which are found springing from the base, as they make nice specimens in 7-in. and 8-in. pots, or even larger, according to the size and age of the plants. Others are divided, and placed in 3-in., 5-in., or 6-in. pots. By having them in pots of various sizes they are most useful for decorative purposes. After potting, they are placed in a frame, and the whole stock receives a good watering (through a rose) a day or two after that operation has been performed. They are also kept rather close till new roots are formed, when they are gradually exposed to all kinds of weather, and eventually given a sunny position in the open-air, where they remain as long as they are safe from frost. We then remove them to a vinery at rest, where they receive plenty of air. In this position they remain till the end of November or early in December, and are then transferred to a rather warmer and less airy position in an ordinary conservatory, where they will continue in flower for a month or six weeks, and cannot fail to attract attention by the pleasing and novel features of both their flowers and leaves.—*H. Dunkin.*

The Laurestinus as a Pot Plant.—Were we to call this plant by its scientific name, Viburnum Tinus, many readers of The Gardening World would, perhaps, not recognize it, so much are we accustomed to give it only its popular name of Laurestine. Everyone knows it, and all appreciate it, for its free flowering properties, blooming too, as it does, in the dull winter months in sheltered situations. It is a native of the South of Europe, a warmer region than England, and in some seasons here the bushes get sadly bruised, if not, in fact, killed. If it is planted on a dry soil and the plants make a short-jointed growth that will get well matured before winter, it is the better capable of enduring the cold. But what we are most interested now in is its value as a pot plant. When making up an order for a local nurseryman a few autumns ago, I ordered some plants for potting, but when they came to hand I was annoyed to find that an old stool had been pulled to pieces and sent on as so many plants. They were, however, planted out, and I resolved to propagate some instead of buying any more. I put in a pot of cuttings, using the tips of some late growths, and treating them the same as soft-wooded bedding-stuff. In the spring they were potted off, as they had nearly all struck root, and then placed in heat. They grew away freely and in June were turned out of the pots into a border of good soil, and by autumn made nice-sized plants, which were again potted up. Last spring we turned them out again into the border, supplied them with water as before, and in due time put them in pots again. They have now a truss of pure white blooms at the point of every shoot. From their first start into growth we have rubbed off the side shoots so that we have a clean stem a few inches high. It is our intention to grow some on to make standards, which will produce a large quantity of white flowers, besides being in summer very ornamental in the dressed grounds. In spring we shall plant them out again, and prune up the stem to promote an upright growth until they have made stems from 2 ft. to 3 ft. high. When they attain this size with good heads they can be housed in an orchard-house or in the conservatory with smaller plants underneath them. When so treated their flowers are so much more pure than those out of doors, and being out of the reach of bad weather we can cut and come again for some time.—*T. W.*

Scutellaria Mocciniana. — Among the many winter blooming subjects grown for the embellishment of the stove, or for providing cut flowers, few, if any, are superior to this plant when it is properly managed. Yet we often see it almost smothered with insects and denuded of foliage, which is a great pity, as it is one of the easiest of plants to grow, and to obtain good results, young plants are the best. Cuttings may be taken off at any time during the spring, and be inserted either singly in small pots, or several may be put round the sides of larger ones, using light sandy soil and plenty of drainage. Plunge the pots into brisk bottom heat when they will root freely, and must then be potted on, in an equal mixture of loam and peat, with a little sand and charcoal. After potting, stand them again in a little heat, and shade them when the weather is bright, until fresh roots are made; stop the plants as they require it, and when the pots are pretty well filled with roots, shift them into 6-in. pots for flowering in, and stand them in a cold frame, keeping it close and shaded for a few days until the roots take hold of the fresh soil, when shading may be discontinued, except in very bright weather, when a net is quite heavy enough to break the strong rays of the sun. Admit plenty of air both day and night, and always be careful not to allow the plants to suffer at any time for want of water. Keep stopping them until September, or later if the flowers are wanted very late, and when the buds appear, remove the plants into a temperature of 60 degs. Give weak liquid manure twice a week, and the result will be a fine mass of orange-scarlet blooms on each plant, similar to those I send herewith. If the flowers are used for cutting, it is necessary to put them in water at a temperature of 60 degs. and in a

warm room, otherwise they soon fade. Centropogon Lucyanus is another subject, which does equally well under similar treatment.—*W. J. Ireland, Headfort.*

Aubretias.—I must venture to take to task the writer of the article on Aubretias which you quoted last week from *Popular Gardening*. Generally, the information is very good, but in some points it is inexact. Thus, the writer favours division of the plants, to increase stock at midsummer. In warm districts, and especially during average summers, that would be a dangerous course to take, for it would result in fearful slaughter. The very best time for division is about the middle of September, as then the newly-planted pieces have ample time to get well rooted by the end of November. Then we are told that Aubretias do not seed freely. That assertion may be true enough as far as original kinds are concerned, but the finest and richest coloured kind of all, and one of the very earliest to bloom, A. violacea, evidently not known to the writer, is not only a very free seeder, but it reproduces its kind from seed remarkably true to character. If it were to go forth that Aubretias did not seed, or that such seed as was obtained germinated badly, it might be thought that any offered for sale was an imposition. So far from that being the case, seeds of A. violacea will germinate well when a year old, simply because it is good plump seed and is well ripened. The pink-flowered Aubretia so largely grown at Belvoir, is also not named, yet it is one of the most distinctive of the family, and is a very free grower. Violacea is such a beat on most other kinds, that few will grow the small-flowered and pale-hued sorts when they have this one. I find Aubretias to do well if on the margin of stone or root-work, as the growth seems to thrive best where there is no damp beneath. They are a beautiful race of plants for spring-bloomiug.—*D.*

Eupatorium Weinmannianum.—This and Eupatorium riparium are special favourites of mine. They differ very much in habit of growth and time of flowering, and they also require different treatment. Eupatorium Weinmannianum I have had annually in bloom at this season for several years. Old plants in 10-in. and 12-in. pots flower most freely during November and December and give a truss of small white blossoms at the point of every shoot. They also keep fresh for a length of time in a cool-house. Old plants of this variety bloom more freely with me than young ones in smaller pots. In summer time they are turned out-of-doors with other greenhouse plants, and make a good growth if kept supplied with water and liquid manure as often as it is convenient to give it them. After they have done blooming they are pruned in and kept in a cool-house until spring. E. riparium requires to be propagated every spring, and then to be planted out in the open borders, where by autumn they make nice small bushes, which we pot up at the end of September, as they soon get nipped by frost. In February and March they are a mass of bloom, so that, literally, we cut great quantities of them for the vases about the rooms and for other domestic decorations.—*T. W.*

Dichotrichum ternateum.—There is an excellent figure of this beautiful Moluccan plant in the December number of *The Botanical Magazine* (t. 6791), which unlike a figure in the *Belgique Horticole*, in 1871 (t. 22), is drawn the right way up. It is closely allied to the beautiful genus Æschynanthus, though the habit is remarkably different. It climbs, much like Ivy, by the production of numerous adventitious rootlets along the stem and branches. It is found in the volcanic Island of Ternate, whence it was introduced by Messrs. Jacob Makoy & Co., of Liège. The Kew plant was grown against a flat board in the Begonia-house; the branches are thick and pubescent, the leaves softly pubescent, 4 ins. to 8 ins. long, roundish ovate, crenate, and produced in rather distant pairs; the pendulous peduncles are 1 ft. to 2 ft. long, producing an umbel of about fifteen tubular scarlet flowers of 1 in. long, which resembles a candelabra, as each flower turns upwards from the end of the pendulous peduncle. It is a remarkable and beautiful plant.

VEGETABLES.

Seakale Forcing.—There are two methods of conducting the operation of forcing Seakale. One is to convey the heat to the plants, and the other to introduce the plants to the heat, and gardeners in responsible positions are thoroughly acquainted with the details of both systems. Of the first method, I remember that in my young days it was quite a business to prepare the material. Days were spent in getting leaves and manure together in one place, to be turned over the orthodox number of times, and finally wheeled to some other place, usually a distant part of the garden, where the Seakale, already covered with pots, might be situated, and matters did not usually end there, as an alteration in the weather, such as a fall of snow on the newly-made bed, would upset our previous calculations as to the time the crop would be ready.

The beds are so subject to vicissitudes of temperature that it is not easy to tell to a week or two when the first dish will be ready under such circumstances. I have examined the beds before now and found their temperature scarcely higher than the soil, and the gardener was helpless for the want of fresh manure to create a little heat, and when the necessary supply of fermenting material has been forthcoming and a fresh start made, maybe another trouble cropped up, for as the time for cutting approached, the pots have been examined, only to find that the mice had already devoured half the produce. These vermin were so extremely troublesome to me once when I had to conduct my Seakale forcing on a piece of ground near a wood, that I had to abandon the practise of using pots and covering them over and devise a more certain plan of securing a supply.

The plan of moving the plants to the heat was familiar enough to me in those establishments where we had a Mushroom-house, but in the absence of a heated structure of that kind I had a difficulty to encounter. The ordinary Cucumber-frame presented itself as the next best accommodation, and two frames of one light each were placed on gentle hotbeds, and I planted them in four batches at intervals of a fortnight. The lights and frames were covered with short litter, so as to effectually exclude the light and thereby thoroughly blanch the Kale. Not being satisfied with having to devote two frames to such a purpose at that time of the year, when they might be of service to protect such things as Lettuces and Cauliflowers, I resolved another year to try a different plan. In the manure-yard I made a bed 2 ft. high, 4 ft. wide, and of such material as was not likely to ferment unduly. To prevent the sides of the bed falling, about 1 ft. of the outside was formed of long litter, and was carried higher than the centre, so as to maintain the roots and the material surrounding them in their place.

Boxes were made 18 ins. deep and 2 ft. square, and the Seakale crowns were so arranged that the boxes, when inverted, fitted over them. A man can move and replace one of these readily enough for the purpose of cutting the produce, and to examine it he has only to move the 6 ins. or 8 ins. of short litter with which the boxes ought to be covered, and raise up one side, and the contents can be easily inspected. Boxes may be constructed with movable tops, providing the latter is made a trifle wider than the boxes, so as to allow of a fillet on each side to prevent them moving from their place during the operation of covering and uncovering. One of these boxes, filled once a week, will give a constant supply during the season A man will easily make the bed and put in two boxes in an hour, as there is no ueed of barrow work, for the bed should be made where the material is, aud matters should be so arranged that even the soil to put round the crowns should not have to be fetched expressly for the purpose. It was our practice, when clearing any pits or frames, to wheel the soil near to the spot where the Seakale bed was likely to be made. If forcing were needed, we had only to make a polite request to the stable men, and they wheeled the manure from their stables and placed it against our Seakale-bed. The trial-stick also indicated to what extent their help was needed.

No one can be so obtuse as not to perceive the simplicity, safety and economy of this method, as compared with the cumbrous system of covering the Seakale crowns in the open ground, and the plan commends itself especially to those who may not have a Mushroom-house, as I am pleased to say I have now, a house which will accommodate over 1,000 crowns at one time, without interfering with the space required to yield a daily supply of Mushrooms. To economize labour, we do not as some do, make a practice of wheeling material into the Mushroom-house to pack round the roots of the Seakale, but arrange to leave enough for the purpose of an exhausted Mushroom-bed, for I find that it is of little consequence what the Seakale is planted in, as the produce is nearly fit for use before roots are formed. I would therefore advise beginners to take no heed of the stress laid on the quality of the soil recommended for packing the roots in. I was led to abandon the use of all kind of material from outside for this purpose, because it was the means of introducing a number of slugs into the Mushroom-house, and which proved most troublesome to the Mushroom crops.

To conduct this system of forcing, it becomes imperative to make fresh plantations annually, which, in the south, I believe, is a common practice, and involves but little labour, as one-year-old roots are frequently superior to some that have been growing undisturbed several years. Ours are, of course, not equal to the best production of the sunny south, but they are above mediocrity, and they are now being lifted and heeled in, and well covered with litter, so that we can easily move them during the hardest frost.

Since writing the above, I see Mr. Warden, p. 219, advocates the use of flower-pots to pack the roots in for forcing. This reminds me of my first attempt in the manure-yard, till the boxes suggested themselves to me. Unlike Mr. Warden, I did not cover the pots over with a hurdle, but with sufficient litter to exclude light. The pots were placed on some manure, with slight warmth, as I find that Seakale, as well as Rhubarb, prefer the heat below to having it above.—*North.*

Potato, The Doctor.—One of the new varieties of Potato which came under the notice of the Fruit and Vegetable Committee of the Royal Horticultural Society duriug the past summer was named The Doctor. It was raised, or, at least, introduced, by Mr. J. Pritchard, of Sittingbourne, and it is described as a "white round of the regent type and quality, the top growth smallish, not spreading, the tubers round or angular, even and neat, but scarcely handsome. It is a very productive variety of excellent table quality, and is likely to be of importance for the main crop and market." Such is the description given of it by Mr. Shirley Hilberd, and it may be added it was awarded a First-Class Certificate of Merit by the above Committee. The stock of this variety has been secured by Messrs. W. W. Johnson & Son, seed merchants, of Boston, who will shortly announce it for sale. We have had an opportunity of cooking some of the tubers, and it is one of those dry mealy Potatos so much prized on the exhibition table. It being a heavy cropper and having a small top it is well adapted for amateur gardeners where vegetable gardens are circumscribed in space. This is oue of not a few fine varieties to be put into circulation at the opening of the new year.

Broccoli, Veitch's Self-protecting.—I am now cutting good heads of this fine late autumn vegetable. They come in soon after the Autumn Giant Cauliflower is over, though I have cut some of the latter during the last few days. This self-protectiug Broccoli is a very serviceable variety for gardeners to grow, inasmuch as it will carry us on until Snow's Winter White comes in—or nearly so. It is not so large as the Autumn Giant Cauliflower, but quite large enough for any table, and the heads are very white and very compact. I like it much and find it very useful. It has also the great merit of protecting its flowers with its own leaves, which curl closely over the heads.—*T. W., North Norfolk.*

THE

Orchid Growers' Calendar.

Winter Management: Giving Air.—Great care will have to be taken henceforth throughout the winter that air is freely admitted on every possible occasion when the weather outside is anything like favourable. Frequently on account of hard frosts and fogs the ventilators have to be very guardedly opened; it is, therefore, of the first importance that health-giving pure air be freely admitted whenever it can be. By a careful attention to this matter, and to the proper regulation of the temperature, it is surprising to what perfection Orchids can be brought even in the neighbourhood of large towns. The healthy collection belonging to Walter Cobb, Esq., of Silverdale Lodge, Sydenham, is a very striking example of this, for go into his houses in the very worst weather in winter, the air in them always seems to be as sweet as in spring, and being charged with just the proper amount of humidity, the plants, it need scarcely be added, are in the most perfect health.

To attempt to keep the air as pure as possible in winter, and the artificial heat as little perceptible as possible consistent with keeping up the proper temperature, is one of the most profitable things the grower can turn his attention to. Until the new year comes the keeping down of insect pests, and the arranging of any little comforts for the plants which might suggest themselves, will give plenty to do, indeed, Orchid growers never have to look far for occupation, as they have generally long memorandums of work to be done ready against the time they can get about it. —*James O'Brien.*

Zygopetalum Mackayi.—This old but very useful winter-flowering Orchid is not, I think, sufficiently appreciated by the majority of Orchid growers. We have several plants of it now blooming very freely in the intermediate-house. One plant in a 10-in. pot has produced nine spikes, averaging six flowers upon a spike. The sweet perfume of these plants quite fills the house in which they grow. I find they like an abundance of water nearly all the year round. They are potted in a mixture of loam, peat, and charcoal.—*Thos. Simcoe, The Gardens, Lake House, Cheltenham.*

Cypripedium niveum.—I have had a small piece of this Orchid for about two years, and which, while keeping quite healthy, I cannot persuade to increase in size. Will some of your readers kindly give me a few hints respecting its requirements?—*E. A.*

HORTICULTURAL SOCIETIES.

Manchester Horticultural Improvement Society.—A meeting of this Society was held on Thursday, December 18th, in the Old Town Hall, King Street, Manchester, and some sixty or seventy persons were present, chiefly gardeners, the business of the meeting being a lecture by Mr. R. D. Astley, Science Teacher of Weaste, on the subject of "Leaves: their Forms and Functions," and the inspection of a number of very valuable books on Orchids, Palms, and flowering shrubs, kindly lent by C. W. Sutton, Esq., Chief Librarian of the City of Manchester. These books are of immense value to the practical gardener, and excited much interest amongst the members present.

The lecturer (Mr. Astley) began by giving a rather humourous description of the popular idea of what a leaf is, but eventually describing it scientifically as a lateral expansion of the bark and woody tissue of the plant, a thin plate of cellular tissue, through which the end of a fibro-vascular bundle ramifies; that they were generally limited in the extent of their growth, exceptions to this occurring in Nephrolepis (fern); also that they were almost of every conceivable form that the mind of man could devise, in size from the eighth of an inch to a huge frond 17 ft. long, and from the shape of a small needle, as in firs, to a perfectly round circular disc, as in Victoria regia, some of them so filled with cellular tissue (soft matter) that it was piled cell upon cell in a rough and rugose manner, as seen in the Savoy Cabbage; whilst others were so deficient of the substance that the leaf was reduced to a mere framework, as in Ouvirandra fenestralis, the lattice-leaf plant of Madagascar.

The lecturer then proceeded to give an account of the germination of the seed. Scouting the idea of "mummy-seed" ever germinating, he spoke of the importance of moisture for enabling the young plant to burst its hard-seed coat; of air to reach the seed so that the oxygen from the atmosphere could raise the heat and assist germination; of darkness, in which all seeds germinate best. He then traced the development, noticing the various chemical changes which take place. Mr. Astley next gave a description of the various modes of attachment of the leaves, their dividing and branching, together with many of their curious and varied modes of modification, mentioning the Acacias, the Sarsaparilla, the modified flowering branch of the Vine, the Passion Flower (which becomes a tendril), the pitchers of Nepenthes and Sarracenia, the Sundews, Bladder-worts, &c., &c.

He then explained the movements of water in the plant, why it was required, its chemical action, also the beautiful action of the guard cells of the stomata (little mouths) of the plant, the effect of the loss of water on cut flowers, the advisability of again cutting the flower-stalks *under water*. The effect of sunlight, heat, and a damp atmosphere were clearly worked out, very much to the satisfaction of the meeting. The taking in of the various gases and other chemical constituents was simply but plainly shown. The lecture was well illustrated by many beautiful maps and diagrams, which were drawn on a large scale and painted by hand in natural colours. These diagrams were hung in a novel manner, and were easily moved and folded out of the way. A long discussion followed the lecture, and a very cordial vote of thanks to Mr. Astley terminated the proceedings.

THE EMPRESS OF INDIA NASTURTIUM.

When Messrs. James Carter & Co. sent out their famous variety, the King of Tom Thumbs, they gave us a bedding plant that far surpassed anything that had been seen before in Nasturtiums, and, needless to say, it became a great favourite. This in turn is now eclipsed by the same firm's Empress of India, which marks a great stride in the march of improvement in these popular plants which has been steadily carried on for some years at Dedham. Those who saw it at the seed farm during the past season were much struck with the remarkable combination of colour in the foliage and flowers, the leaves being of a rich sheen of metallic blue, and the flowers a a shade of crimson-scarlet, the intensity of which must be seen to be properly appreciated. The habit of the plant is perfection itself, as may be seen from the accompanying illustration, for which we are indebted to the Messrs. Carter.

AN AMATEUR'S STORY.

ONLY A ROSE LEAF.

(*Concluded from p.* 255.)

CHAPTER III.—THE CLOUDS GATHER.

"I could not help but notice the unaccountable coolness of demeanour shown by my new lodgers. The man was a tailor, intelligent and jocular, and anxious, it seemed to be agreeable. On one occasion he expressed a wish for a small plot of ground in my garden. I at once put a few poles at his disposal, and he seemed for a time to be quite pleased with the opportunity of digging it. A circumstance, however, that appeared singular to me was that he never seemed to put in any seeds or plants. However, he talked about getting some, and the time passed on, both the man and his wife becoming still more unwilling to converse. The school *fête* took place in the rectory grounds, and of course it was my duty to be present with the boys. Hot and weary with exertion, I sat to rest a few minutes on a garden seat; there the butler observed me, and kindly invited me into his pantry to sit a few minutes, and sip a glass of sherry. I then joined the teachers and visitors at tea. That night the Rectory was entered, and the whole of the family plate stolen. The Beeminster police were communicated with, and a reward offered for the recovery of the plate. An inspector and an officer arrived at Appleton, and after minute inquiries it transpired—in what way I do not know except from inquiries of the butler—that I had been in the pantry drinking the rector's sherry. On the question being put to me, I at once admitted the fact.

"'Change your boots,' said the inspector.

"'Why?' I inquired.

"'Because I tell you,' was the curt reply.

"The boots were carefully compared with the impression left on the soil near the window that had been forced. And I was asked if there was another pair at home. 'Yes,' I replied. They were sent for, and they fitted the impression exactly, showing where a sprig or two was missing. The result was that I was given in charge for the robbery, taken before a magistrate, and committed to prison, bail being refused, though proffered by the rector himself.

"Stupid, bewildered, dazed, as if under the spell of some horrid nightmare, I was unable to speak or realize my position. Oh, the terrible agony of the wakening! My fair fame blighted! My parents! My brothers and sisters! My Polly! Never to meet a friend or neighbour again without a look of suspicion and distrust. 'The curse of God is on me,' I said, and I looked round my little cell and thought for a moment of a means of putting an end to my terrible suspense and degradation by destroying a life so useless and despised and burdensome. And then as calmer thoughts returned and with them the consciousness of perfect innocence, I looked upwards towards the little grated window at a narrow strip of blue sky. It was open, and one could hear the sound of voices in the street without, and the elegant twitter of swallows beneath the eaves, then came a whiff from a neighbouring hay-field, and then, borne no doubt on a breath of mercy, a solitary Rose-leaf came fluttering slowly down into my very hand, and with it came the message to me, as clear as if written on the walls of my cell or spoken close to my ear, the words that came in my darling Polly's note—'Hope thou in God.'

"The tedious hours sped slowly and painfully, but at last the day of trial came, and I was sanguine of my acquittal. That morning another Rose-leaf fluttered in—a happy omen, I thought. Placed in the dock, I looked earnestly at the face of the judge, then at the jury, some of whom I recognized, then at the eager crowd of visitors. In half-an-hour it was all over—the chain of evidence, although only circumstantial, was terribly conclusive. I was seen at the Rectory on the afternoon of the day of the robbery, in the very room whence the plate had been stolen. It was found concealed in my garden; the impression of the boots coincided precisely with the soles of mine, and, as if to make the proof of my guilt undoubted, another link in the chain had been added; in a drawer in my sitting-room a silver pencil-case and knife were discovered which were sworn to by the butler. An envelope also was found bearing the address of the rector. After a few minutes consultation the dreaded words, 'We find the prisoner guilty, my lord, but wish to recommend him to mercy on account of his previous irreproachable character.' In answer to the question if I had anything to say why sentence should not be passed, I could only stammer out 'Not guilty, my lord; perfectly innocent; perhaps time will show.' After a few words from the judge in justification of the leniency shown, I was condemned to hard labour for two years. Taken back to jail in the prison van, I was ordered to exchange my clothes for a prison suit, my hair was cut short, and thenceforth until my two years' confinement was completed I was to be known as 'No. 17.' My cell was in another part of the prison, and lighted from the roof only, where no twitter of swallows could reach my ear, nor scent of hay-field or fluttering Rose-leaf revive my drooping spirits.

"But still during those terrible months the message came, night after night, as I lay on my wretched plank-bed, and it was repeated by me till it glowed and glittered in points of fire on my cell walls, and

showers of fragrant Rose leaves touched me as they seemed to fall and filled my little cell with fragrance; and scores of pleasant memories of bygone days of opening buds sprinkled with morning dews of all the sweet and beautiful things that graced my garden on Appleton Common, of my night-school, of the sturdy florists who now held possession of their birthright through my influence and example, and of the sweet, pure, tender face that hovered about the Roses in the farmer's garden.

"But once and again another voice seemed to reach my ear, terrible in its hoarse and hideous tones. It would speak to me as I paced the high stone-paved galleries. 'Fling yourself over, miserable wretch,' it said, 'what hope have you to get an honest living? shame and disgrace and infamy you've brought on all akin to you; jump! What, craven, dare'nt you?'

"But my sorest trial was the visit of the chaplain. His repeated exhortations to confess, and the stern implacable resentment with which he regarded my protestations of innocence was a frightful ordeal.

NASTURTIUM EMPRESS OF INDIA.

"Prisoners are not allowed to speak to each other, and, owing to the deep shade the prisoners wore that concealed the features entirely, it was scarcely possible to recognize each other. One prisoner, however, seemed very anxious to get next to me in the exercise-yard, and as we marched to chapel one morning at last he seized an opportunity, and muttered just loud enough to be heard, 'Is your name Drayton? See my wife when you get out, I shan't live. I'm your lodger.' The man was interrupted by a warder, and hurried off to the cells. I saw him once again. One morning after being at hard labour for three months the rector called to see me, very unwillingly it seemed, however. His ostensible purpose was to inquire about school matters. He regarded me with a stern look of rebuke, making no reference to the circumstances of the robbery, except to remind me of the frightful example I had set to the boys of the school. Such was the terrible influence I had exercised over not only them, but my neighbours also, that several daring robberies had been committed in the neighbourhood lately, and even that respectable man, my late lodger, had been charged and convicted of burglary, and was now suffering the penalties of the law in consequence. Should he pray? 'Yes,' was my answer, 'pray that I may have patience to suffer wrongfully. I'm innocent.'

"'May God forgive you, its awful,' was his last remark, as the warder closed my cell door after him. And now the light broke a little, and I saw it all. He it was who had committed the robbery, probably wearing my boots at the time, and he it was who placed the pencil and knife in my drawer."

CHAPTER IV.—THE CLOUDS LIFT.

"About a month after the interview with the rector, the chaplain was ushered into my cell quite unexpectedly. I was requested to follow him, and was led directly to the jail hospital. On one of the beds lay my late lodger, apparently near his end. He had fallen away rapidly since his arrest for breaking the prison rules in speaking to me. Turning his head a moment towards the little group—the chaplain, the governor, the doctor, and myself, who approached his bedside—he looked at me steadily for half-a-minute with intense earnestness, but was then seized with such a violent fit of coughing that the doctor remarked upon the danger of allowing him to speak, and said we must wait until the following morning. The governor touched me on the shoulder as we left, glanced at me significantly, and ordered a warder to conduct me to my old cell. There, singularly enough, were my clothes for which I had exchanged those I was wearing. The pockets were examined, and in one of them, just as it was when placed there, I found the letter with the Rose leaves and texts. But then came the fear that the poor lodger might not live till morning. Presently the chaplain was again admitted.

"'And so you know the man.'

"'Yes, sir,' I replied.

"'Do you know that he is a burglar of the most dangerous type?'

"'No, sir, I did not.'

"'Then what do you know of him?'

"'He was my lodger, sir.'

"'Good heavens, man, do confess,' said he, closing the door.

"Next morning, about the same hour—I will not pain you with the recital of the terrible anxieties of that most fearful of all nights I spent in jail, praying God to spare my enemy another day—but the morning came at last, and at last came the order to follow the warder to the hospital. The chaplain, doctor, and governor were already there, the latter with portfolio, ink, and pens.

"The poor culprit turned his face full on me as I approached his bed, and made an effort to move his right hand. The chaplain stooped over him and asked him in a whisper what he had to say. But he shook his head and looked earnestly at me, moving his lips meantime. I took his hand and pressed it. He then asked to be supported in a sitting posture, and, gathering strength by an effort, he said, 'Forgive me, Mr. Drayton, I did it. There, take it down, governor, I did the robbery—at the Rectory—stole the plate. I buried it in your garden, I put the pencil and knife in your desk, I wore your boots, I told all the lies about you. There, let me down. Give's your hand. Can you forgive me? Will you? Oh, wait! In a little box, under the back kitchen hearth-stone, is a gold watch I stole from the Rectory some months before—that's all. Thank God, you will!' and the unwonted tears poured down his ghastly face. 'Now, chaplain, let me sign.' With great effort the poor fellow put his name to the paper and I was free. 'Good-bye, Mr. Drayton, try to see my missus and tell her I've made a clean breast of it. Pray for me, chaplain. God won't hear a poor lying thief like me. The chaplain bent his head as he knelt by the bedside. You'll come again, chaplain, won't you?'

"'I'll come to-night,' was the answer.

"It was half-past eleven on September 10th as I stood for a minute or two at the prison-door. 'All right, Mr. Drayton,' said the Governor. 'I'm coming, here's the fly. Thought I had better see you back to Appleton to explain matters, you see,' said he, with a smile that no prisoner ever saw before, perhaps, on that stern face. Some Rose-leaves fluttered past.

"'Allow me a bud, sir, will you?'

"'Aye, aye, man, take another, you'll perhaps want one to give away,' said he slily,

"And so I plucked two buds from the jail garden, and we rattled merrily away together along the road to Appleton, chatting pleasantly on the way, both assured that it was the most glorious September morning that we had ever seen. The harvest was still in progress, the gossamer webbs floating by on a gentle breeze, the reapers' sickles flashing and glittering along the bosom of the standing corn like a huge diamond necklace swayed by fairies, and the orchards were bending beneath the ruddy and golden fruit. Brother Dick here met us as he was going to Becminster on horseback. He slackened his pace a moment, caught sight of us, and, putting his heels to the grey mare's flanks, turned and outstripped us like the wind. As we drove into Appleton the whole village was in the streets, shouting and cheering like folks demented. A little crowd of sympathizers was gathered round the garden-gate there, and all the friends I'd lost were found again, except dear Polly, her I'd never lost. All through the gloomy days, strong in the faith of my innocence, she prayed and waited.

"Before entering the house, however, the Governor whispered in my ear, 'The watch, let us go and look or it.'

"'Certainly, I had almost forgotten the incident.'

"We proceeded to the school-house, and, after a brief search, discovered a watch where the prisoner told us it was concealed. This was at once taken by us to the Rectory. The reverend gentleman was ill, however, when we arrived and in bed. Notwithstanding, I was asked to step up to his bedroom. He put out a great thin hand and shook mine warmly.

"'You forgive me, Drayton?'

"'Sir, I've nothing to forgive, you suspected me, as was only natural under the circumstances. But you now believe my innocence, I trust?'

"'Perfectly, my dear man.'

"'Here, sir, is your watch.'

"A momentary glance of suspicion crossed his face as he asked for explanation. I gave it him, and, in reply, he said, 'Mr. Drayton, keep the watch. I've no son, you know; keep it in token of apology for the wrong I've done you.'

"The Rector refused to take it back. 'It's yours,' he said, 'by deed of gift.'

"'This is the watch. You all know it?'

"That night, by the old Rector's expressed wish, the Appleton bells rang out a welcome, and people from the neighbouring village flocked in to know the reason. My night-school lads came trooping into the village singing their favourite glee, and the terrible gang of land grabbers brought me a huge bouquet of Roses from Appleton Common, and every labourer in the village had a joint of meat and every mother a packet of tea.

"I opened a private school, as you know, at Beeminster, but retired ten years ago to Appleton. The occasion was the death of the dear old Rector. By his express wish I was invited to the funeral. After the obsequies were over Lawyer Sims touched me gently on the shoulder and beckoned me into the drawing-room to hear the will. Much to my astonishment I heard the lawyer say, 'And, as a slight reparation for my injustice and distrust towards Edward Drayton, sometime my schoolmaster, I bequeath £3,000 stock as an indemnity, trusting that he will be spared to use it judiciously for the benefit of his wife and family, and the glory of God.'

"I trust, dear friends, I have done so so far. Extravagant some will say in the matter of my garden, that is my weakness. But to beautify, and adorn, and enrich the charming village in which we live, to help to cheer and brighten the homes of many in the slums and alleys of our great towns by gifts of flowers is to me a not unworthy mission. As to Roses I grow them, now by thousands, but among them all there is none so full of sweet and fragrant memories as this." The speaker took from a pocket-book a little brown, withered Rose, one from the tree from which the Rose-leaves fluttered into the little cell.—*E. L.*

ANSWERS TO CORRESPONDENTS.

RATS.—*G. Jones.*—Mix one ounce of finely powdered arsenic and one ounce of lard with meal into a stiff dough, and place pieces about the size of peas on chips within their reach. The rats will eat it greedily, but, of course, you must be most careful where you put it, and you must persevere in its use to rid the place thoroughly of the pests.

POMEGRANATES.—*Querist.*—We have never heard of the fruits being ripened out-of-doors in this country, but they have done so many times under glass.

NAMES OF PLANTS.—*Clethra.*—1. Impatiens Sultani. 2. Centropagon Lucyanus. 3. Cestrum aurantiacum.—*G. D. P.*—Thyrsacanthus rutilans, a fine old plant that deserves to be much more grown than it is.—*S. C. R.*—Sparmannia Africana.

CAPE JASMINE.—*C. P.*—This is the common name usually applied to Gardenia florida, a well-known plant in gardens. Any nurseryman will get it for you.

COMMUNICATIONS RECEIVED.—W. P.—D. P. L.—W. T. F.—T. W.—W. S.—W. P. R.—C. H. C.—J. W.—Scribo—G. W.

Trade Catalogues Received.

JAMES VEITCH & SONS, King's Road, Chelsea.—Vegetable and Flower Seeds, Agricultural Seeds, &c.

N. DAVIS, Lilford Road Nurseries, Camberwell, S.E.—Choice New and Old Chrysanthemums.

NOTICES TO CORRESPONDENTS.

THE EDITOR *begs to inform his readers that special attention will be paid in the columns of* THE GARDENING WORLD, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "THE EDITOR."

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired but simply as a guarantee of the writer's bona fides. No notice whatever will be taken of anonymous letters.

Secretaries of Horticultural Societies and Nurserymen and Seedsmen will greatly oblige THE EDITOR *by sending him their Schedules and Catalogues as soon as published.*

COVENT GARDEN MARKET.

December 23rd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Kent Filberts and Cobbs, per 100 lb.	60 0-62 6
— Nova Scotian, per barrel	10 0-13 6	Pine-apples, Eng., lb.	4 0- 6 0
— Extra samples	20 0-	Pears, French, p. doz.	1 6- 3 6
Grapes, per lb.	1 6- 4 0	St. Michaels	5 0-10 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	0 4-	Horse Radish, bundle	3 0- 4 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	1 6-
Brussels Sprouts, ½ sve.	2 6- 3 0	— Cos, each	0 2-
Cabbages, per dozen	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	2 6- 3 6
Cauliflowers, English, per dozen	3 0- 4 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 9- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	0 6- 1 0
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Pelargoniums, per 12 sprays	1 0- 2 0
Azalea, 12 sprays	1 0- 1 6	—scarlet, per 12 sprays	0 6- 1 0
Bouvardias, per bun.	0 9- 1 0	Pinks, various, 12 bunches	-
Camellias, 12 blooms	3 0- 8 0	Poinsettia, doz. heads	3 0- 9 0
Carnations, 12 blooms	1 0- 2 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	4 0-12 0	Primulas, Chinese, bun	4 0- 6 0
— large, 12 blooms	1 0- 2 0	Pyrethrum, 12 bun.	-
Epiphyllums	0 6- 0 9	Roses, outdoor, 12 bunches	-
Eucharis, per dozen	4 0- 8 0	Roses, indoors, p. doz.	2 0- 6 0
Gardenias, 12 blms.	9 0-18 0	Roses (French), per doz.	0 9- 1 6
Heliotropes, 12 sprays	0 6- 1 0	Stephanotis, 12 spr.	-
Hyacinths, Roman, doz. sprays	1 0- 1 6	Tuberoses, per dozen	2 0-
Lapageria, white, 12 blooms	2 0- 3 0	Tulips, per doz.	1 0- 1 6
Lapageria, red, 12 blms.	1 0- 2 0	Violets, doz. bun.	1 0- 1 6
Lily of the Valley, doz. sprays	2 6- 5 0	— French, doz. bun.	1 6- 2 0
Marguerites, 12 bun.	4 0- 9 0	— Parma, doz. bun.	5 0- 7 0
Narciss, Paper White	2 6- 3 0	White Jasmine, bun.	0 6- 1 0

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Chrysanth., dozen	6 0-12 0	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-15 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	3 0- 9 0	Pelargoniums, scarlet per dozen	2 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	9 0-15 0
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Ferns, in var., dozen	4 0-18 0		

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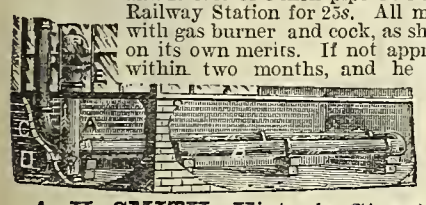

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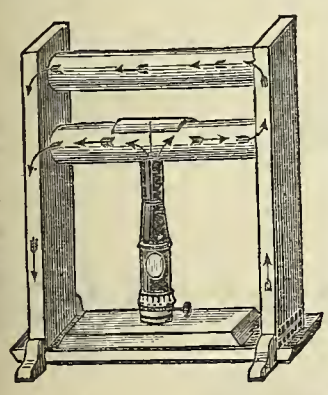

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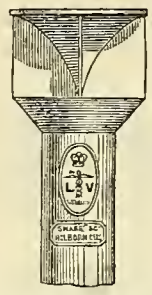

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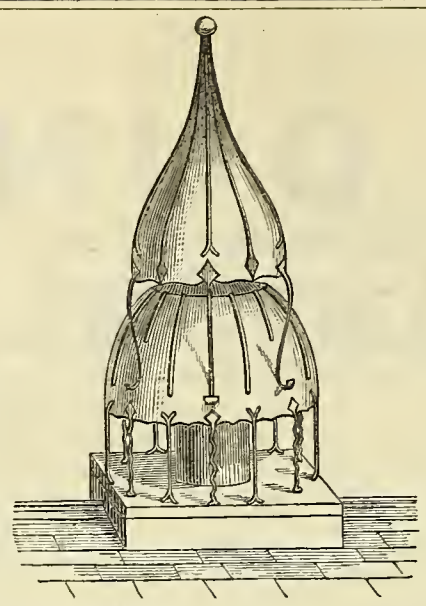

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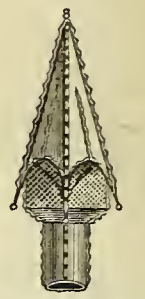

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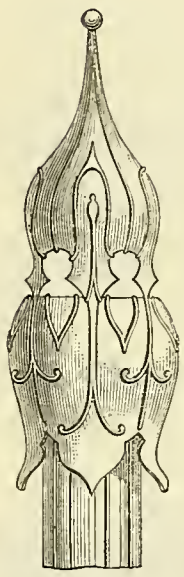

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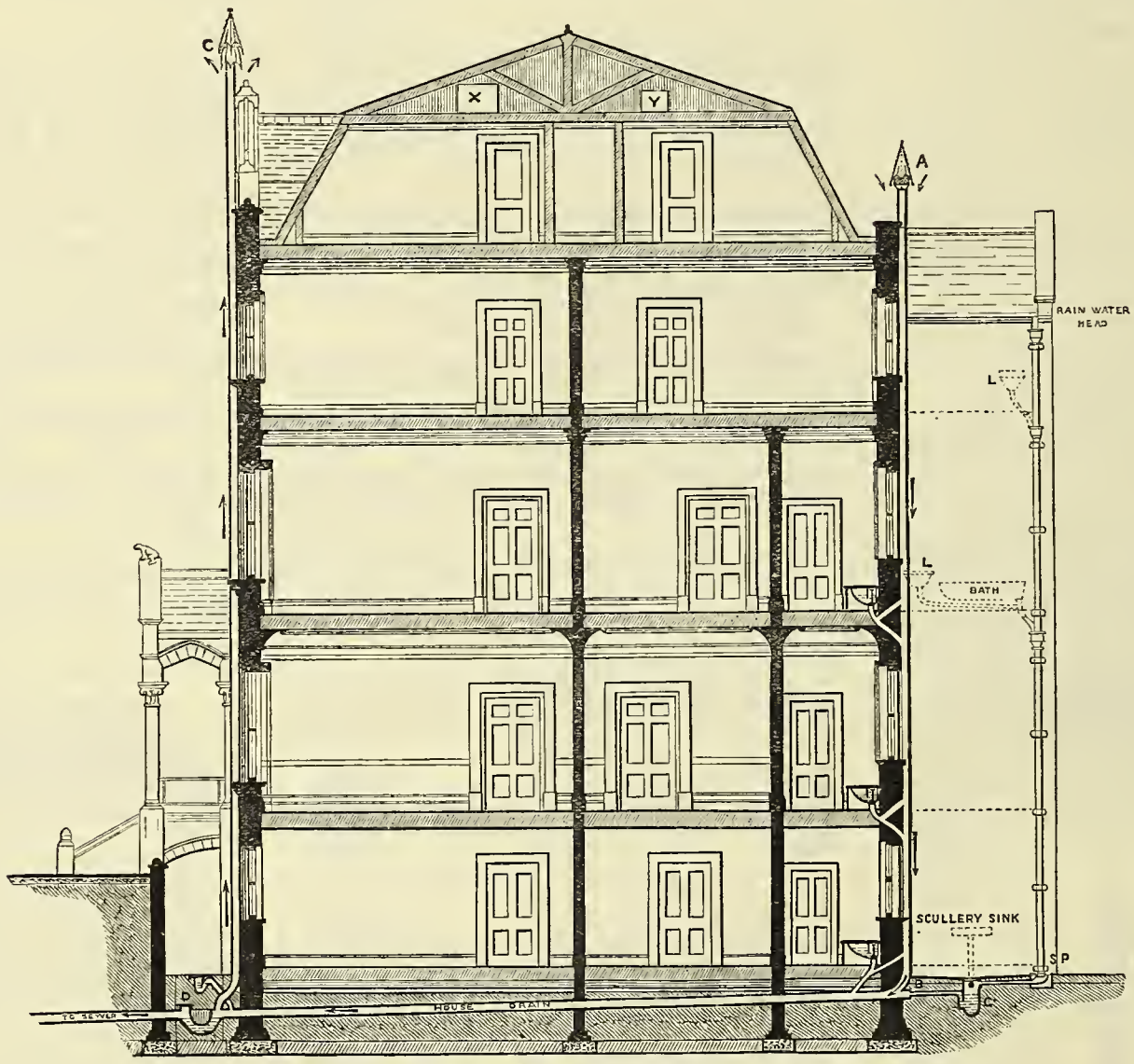

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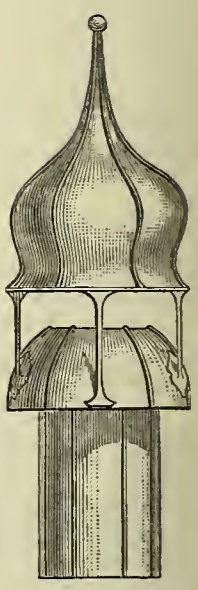

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COLLECTIONS, 12 named varieties, separate, 7/6
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MONDAY NEXT, SALE No. 6810.
5,000 LILIUM AURATUM from Japan, in splendid condition.
5,000 extra fine TUBEROSES from South Africa.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on MONDAY next, January 5th, at half-past twelve precisely.
On view morning of Sale, and Catalogues had.

MONDAY, JANUARY 5th, SALE No. 6810.
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1,000 LILIUM SZOVITZIANUM.
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On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT, SALE No. 6812.
Roses, Fruit Trees, Bulbs, &c.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY next, January 7th, at half-past twelve o'clock precisely, first-class Standard Dwarf nd Climbing Roses; Pyramid and Fruit Trees of sorts; Carnations, Picotees, Pinks, and other Herbaceous Plants; several hundred lots of Dutch and other Hardy Bulbs, Spiræas, Lily of the Valley, Dielytras, &c.
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THURSDAY NEXT, SALE No. 6813.
Imported Orchids, Araucarias, Tuberoses, &c.

MR. J. C. STEVENS will SELL by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY next, January 8th, at half-past twelve precisely, an importation of Odontoglossum crispum (Alexandræ), finest type, in splended masses; Cattleya Dowiana, C. Trianæ Popoyan variety; Masdevallia Harryana, Trichopilia coccinea, Epidendrum Parkinsonianum, and Bletia species from Mexico, from Messrs. Shuttleworth, Carder & Co.; Hardy Cypripediums in variety, five cases of Araucarias as received, containing an immense number of plants; 2,000 South African Tuberoses, &c., &c.
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TUESDAY NEXT.
The Fallowfield Collection of Orchids.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C. on TUESDAY next, January 6th, 1885, at half-past twelve o'clock precisely, a very valuable Lot of established Orchids, comprising many large Specimens and rare Varieties, together with a large importation of Odontoglossum Alexandræ, grand type from Mr. F. Sander, received from a new locality, and, being one of the finest lots ever brought into the country.
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MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., as follows, at half-past twelve o'clock precisely, each day:—

WEDNESDAY, January 7th.—10,000 unusually fine bulbs of Lilium auratum, English grown Lilies in variety, Standard and other Roses, and various bulbs.

FRIDAY NEXT, January 9th.—Imported Orchids from Messrs. Shuttleworth, Carder & Co., and Mr. G. Marriott, in splendid condition; and an importation of Cattleya amethystoglossa.
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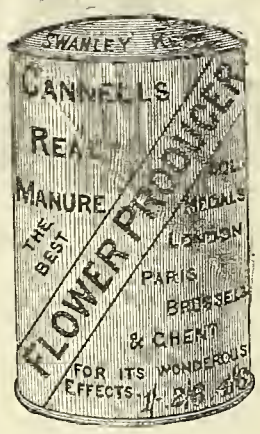

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A very handsome hardy annual, growing about 18 ins. high, of free branching habit, with square stems and Sage-like leaves. The spikes are furnished at the apex with a number of brilliant deep mauve-purple bracts, which give to the plant a most unique appearance. The flowers are produced in a series of whorls, are small, labiate-shaped, of a bright purplish colour, with lower lip white. Suitable for large beds and borders, in which it has a very effective appearance. Sow in February. Sold only in sealed packets, bearing my trade mark.
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A very large handsome fruit of a rich deep golden yellow colour, slightly ribbed, with smooth skin. This is without exception the finest and richest coloured of all the yellow section, producing fruit as large as the red varieties. It is very prolific, and for culinary purposes is equal to any of the red forms. I have every confidence in recommending this beautiful and useful variety, and feel convinced that it will become a popular favourite.
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Is now sending out his CHOICE STOCKS of POTATOS, and those desiring a change of Seed should send for Descriptive Priced List, which contains all the best for

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Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JANUARY 3RD, 1885.

THE NEW YEAR.—It is one of the stock topics of the Editorial pen, that as we insensibly glide from one year to another, the New Year should be made the subject of an homily. The Old Year is dead and done with. To recall his virtues may be but to insult the new comer, whilst to lift the veil from his errors would be unkind. Even gardeners may take stock of the new comer, for he comes big with fate to many if not all of them; nay, there are few whose life is labour to whom the year comes with more of interest. The past year has been a singularly pleasant one and withal dry. If the New Year should be nearly as pleasant yet not quite so dry, it will be all the better appreciated, for gardening, after all, needs genial seasons for its success, in spite of all that human skill can accomplish to that end. There seems to be grave uncertainty hanging over the general character of its earliest months, for whilst some of the weatherwise assure us that these will be bitterly cold, others are not less certain that they will be of moderate temperature and withal genial. It is well to be prepared for all eventualities, for these new comers sometimes show strange fancies and play ducks and drakes with our expectations. If these early months be severe, we may find as a recompense warmer spring months to follow than usually characterize our seasons. If the severity does not come, we may well hope for the genial springtime all the same, for the month of April may make or mar all our prospects. We earnestly hope a very prosperous year for horticulture is in store, that we shall see luxuriant fruit-crops, a genial season, abundant labour, and exceeding happiness and plenty all around.

GARDENING NOTES.—Mr. Temple writes from Carron House, Falkirk:—The interest taken in our gardening literature would be much enhanced if readers would make use of their opportunities in like manner to Mr. Wildsmith, who makes his summer outings not only pleasurable to himself but instructive to others. Such notes as those on Davenham Bank, at p. 247 (which place is not unduly lauded as an example of Mr. Jaques' first-class management, I for one can freely endorse), cannot fail to be interesting as well as give instruction in some form—especially by showing what an amount of gardening can be accomplished by masterly skill on a limited space. It often happens that in large places the gardening is proportionately small, from a cause which skill has no control over—viz., an absence of the "wherewithal," which many proprietors have to deplore, as well as give cause for their gardeners to lament! While winter evenings are long and horticulturists generally have much time on their hands, it would be time well spent were they to devote a little time in committing to paper what they may have seen during the past season—or what experience to them is new—whether it be in plant, fruit or vegetable culture. One branch of gardening is sadly neglected in our gardening literature — viz., landscape and architectural gardening, and the vague attempts which are made to beautify pleasure-grounds and parks, show that many of us are very weak in these branches.

CHRYSANTHEMUMS PLANTED OUT.—If all the Chrysanthemums which had been flowered in pots and afterwards thrown away had been planted out in spare ground, between shrubs, or even in copses and hedgerows, what a quantity of bloom they would have produced in many situations, quite altering and brightening the autumn scenery. However, it is not yet too late to think about it, and we advise all who have old pot Chrysanthemums such as are usually put on the rubbish heap to plant them out, not making beds of them, but putting them in odd places and under walls where other things will not want the space, and to never again throw another plant of Pompon, Japanese or Show Chrysanthemums away, but rather to give them to some one who would plant them under the hedge in his field. Some seasons Chrysanthemums outdoors are not a grand success, but even at their worst they give a profusion of useful flowers, while when they get a favourable autumn, they are of the most lovely and lasting flowers we have. The Japanese section gives the best and most free-flowering kinds for outdoors, but all are good, and as the stock for flowering in pots are grown from cuttings every year, a great number of fine old plants must be available which might easily be supplemented by a special batch of young plants for planting out.

EPIPHYLLUM TRUNCATUM.—Dr. Laver, of Colchester, has a novelty in plant culture, consisting of a small lean-to house devoted entirely to Cacti, Euphorbiæ, Rhipsalis, and other allied plants, among which many striking beauties both in plant and flower are always to be seen. The most novel and striking feature in the house is the large Pereskia, which has been allowed to ramble all over the roof. This in itself would not be very remarkable, but some years ago it struck the Doctor that it would be interesting to embellish it with Epiphyllum truncatum, and he at once proceeded to graft pieces of that plant at different points all over it. The result now is surprising, at first sight it looks like masses of Mistleto suspended from the roof, but on closer inspection the Epiphyllum is, of course, recognized, with its points studded with prominent violet-purple buds, which foreshadow the gorgeous display of bloom which will be open in a few weeks. In most gardens there are in one or other of the houses a dry corner where ordinary climbers will not grow, and in them it would be a great success to imitate Dr. Laver's extraordinary Epiphyllum.

SPARROWS.—We read in the daily papers that that eminent entomologist, Miss E. Ormerod, has entered the lists against the sparrows, and it may be taken for granted that when a woman turns rough she means business. No doubt the sparrow is at times troublesome, though, on the other hand, he repays us somewhat because of his free and easy deportment, his characteristic homishness, and his partiality for humanity. As a rule, he does not do much harm, and if he becomes troublesome, he can be easily kept in check, for a cat or two trained to like sparrow suppers, or a gun charged with small shot, will do wonders to keep our sparrow in check. Rough, also as Miss Ormerod notoriously is upon insects, it seems marvellous that she should have an antipathy to sparrows because they, especially at breeding-time, and that is apparently all the summer, devour countless myriads of insects, and in that way do much good. Probably these birds do most mischief in the harvest season, when they play havoc with standing Oats and Wheat, or feast with gourmand-like voracity upon Peas. They however, but claim to share in the bounteousness of the harvest, and who can tell how much their activity in devouring pestilent insects earlier in the year may have helped to promote that bounteousness. Perhaps the farmers of Wirrall, to whom Miss Ormerod has sent of her money as well as of her sympathy, are specially injured by sparrows, but, if so, no information has been afforded. It would be rather hard upon our feathered, though very often mischievous, companion, if, under the guise of doing public service, he is made a victim to the passion of men for the destruction of anything which hath wings.

CRASSULA LACTEA. — This pretty winter-flowering plant is now so fine with Dr. Laver, at Colchester, where it is found to be one of the nicest and most useful of Christmas flowers, that we cannot help thinking it would be equally useful to others if they would but try it as a cold, and rather dry, greenhouse plant. Crassula lactea produces numerous many-flowered sprays of pure white star-shaped flowers, each of which, with a little Maiden-hair fern, forms a light and elegant spray for a lady's dress or hair.

SOIL FOR POTTING.—In the large majority of our best private gardens the securing of a plentiful supply of soil for potting is a matter of ease. Certainly, it will be long ere those who reside in the strictly rural districts, and have scores of acres of turf and glade around them, will lack the best elements of pot compost. But in and around towns and urban localities, where land is dear and restricted, the getting of loam becomes, to all who grow plants, a matter of extreme difficulty. The nurseryman and market grower, to whom good pot soil is as essential to business success as is any article with which he may be connected, finds it needful to send far afield, often some ten or twelve miles, to get what he cannot possibly do without, and the great cost of the material, which is of course heavy, and of cartage, not only becomes a tax upon his business, but renders it almost impossible that he can profitably supply his amateur neighbours who may wish to grow plants also. There is hardly a more hopeless task than is found in the attempt to cultivate plants without proper pot soil, and onerous as is the labour in the country it is greatly intensified in town districts, where atmospheric surroundings make plant culture so much more difficult. The town plant growers of all classes, but especially of the poorer classes, merits our hearty sympathy in the matter of pot soil, and we may well ask whether it would not pay some country dealers to establish not only town depôts for pot soil, but also to hawk about good screened mixtures, which humble plant growers may use as needed, or store till required. It is simply a commercial question.

FROST AND ROOT AND POTATO STORES.—There is ample evidence to show that the action of frost is not generally thoroughly understood. This is shown by the way clamps are covered with manure on the top and half-way down the sides. The singular fact, however, is, says a writer in *The Field*, that the top of a clamp is never injured—that is, unless the frost is so severe and prolonged that the whole mass is frozen—if the clamp be fairly covered with straw and earth at starting. "The severity of an attack of frost begins and continues from the outer soil at the base of a clamp or brick store, as a barn or other building. Whether this is because a gentle fermentation of the roots or Potatos goes on, the warmth thus caused rising to the top, or whether it is because the lowest temperature is nearest the immediate

surface of the earth, I am not prepared to decide; but the result invariably is that, if a body of roots or Potatos be partly injured, the rotten ones will be found at the bottom. If the clamp be broadside to the north or east wind, the rotten ones will be found in the form of a triangle on the side where the wind has blown, the base of the triangle being at the bottom; if, however, the clamp had been situated with the end to the wind, the rotten roots will be found at that end in the form of an inverted M, that is, there will be a decayed triangle on each side. The length and depth to which this decay would extend along the clamp would of course depend on the severity and length of the frost. This was conspicuously shown after the severe snowstorm and frost in the early part of the year 1880. In several instances I saw that precautions were taken during the course of the frost by covering the tops of clamps, but it was at the bottom of them, as described, that the mischief occurred. The obvious required precaution is therefore thus shown. In the case of clamps after several days of frost, with a prospect of its continuing, long manure, straw, hedge-trimmings, or whatever may be at hand, should be packed a foot or more thick, and a yard or so wide on the surface soil at the base of the clamp, at the side on which the blast is impinging. It is the same with a brick building. If a bed or heap of Potatos or Mangold be stored in a barn, either all over a bay or in one or more corners, and the same be well covered with straw, there will be no fear of the top or outer side of the heap being frozen. But the part of the heaps which are near to the wall will be found to have been frozen in the form of a triangle, as mentioned. The fact is the frost rises, so to express it, from the foundation of the brickwork being communicated with from the surface soil outside. This shows the importance of packing a body of long manure or a quantity of straw on the surface soil outside the brickwork."

Flower-Boxes.—The committee appointed by the Council of the Royal Botanic Society to award the Silver and Bronze Medals for boxes for the carriage of cut flowers by Parcels Post, report that they advertised certain conditions to be complied with in competition for such medals. Eight manufacturers submitted sample boxes of cardboard, wood, and metal, both folding and rigid. The committee awarded the Silver Medal to Messrs. R. Hall & Son, of Hammet Street, Minories, E., for a tin box, 15 ins. by 9 ins. by 6 ins., costing 9*s.* 6*d.* per dozen, well made and strong, capable of holding about 2 lbs. of cut flowers; and the Bronze Medal to Mr. J. W. Hoffman, of 54, Junction Road, N., for a small tin box with lifting frame, furnished with elastic bands to hold single flowers or sprays, the ends of the stalks dipping into damp moss at the bottom of the box.

The Negro Largo Fig at Gunnersbury Park.—In one of the early forcing-houses at Gunnersbury Park, Mr. Roberts has a number of plants of this excellent Fig plunged in pits in a border, that are almost daily ripening their fruit. The age of the trees vary from eight and nine months to three and four years; and the younger plants, which are mere bushes, are heavily laden with fruit. One excellent characteristic of this variety is that it fruits so well in a young state. Mr. Roberts can do nothing with it planted out, but in pots he has it under perfect control. The flesh of the fruit of this variety is pale-red in colour, very tender and juicy, with a rich, thick, and highly-flavoured juice, and when highly ripened the flesh and skin together become quite melting. It is undoubtedly one of the very best Figs for pot culture, and every grower of Figs should have it in their collection.—*E. W.*

Gardening Miscellany.

The Rose Show dates which have been fixed up to the present time are:—South Kensington, July 8th; Manchester, July 11th; Crystal Palace, July 4th; Sutton, Surrey, July 8th; and Canterbury, July 27th.

We are glad to learn that, besides the Exhibitions of the Florists' Societies already announced to be held in the Royal Horticultural Society's Conservatory at South Kensington, there will be Promenade Shows on March 10th and April 28th; and Exhibitions of Pot Roses, Azaleas, &c., on May 26th; Orchids on June 9th; Pelargoniums on June 23rd; Plants and Flowers on July 14th, and August 11th and 12th; Dahlias, Grapes, &c., on September 8th and 9th; and Fruits and Vegetables on October 13th, 14th, and 15th.

Mr. N. Davis's new Catalogue of Chrysanthemums contains a list of over 900 varieties; a useful list of synonyms; and a capital monthly calendar of cultural operations.

Mr. W. Goodall, formerly of Milton Abbey Gardens, Dorset, has been appointed gardener to A. Morrison, Esq., at Fonthill, Tisbury, Wilts.

It is understood that the Executive Committee of the Forestry Exhibition have now resolved that a selection of the prize essays on forestry subjects shall be published.

A writer in a contemporary gives it as his opinion that the China Rose Radish is the only one worth growing in winter. "If sown in October it will bulb now and onwards throughout the winter, let the weather be what it may. It is as hardy as a Houseleek, and as tender as if of May production. We have pulled them up about the size of one's fist, and they have been as tender then as when only a quarter the size. Those who grow this Radish will always have at least one kind of salad vegetable in winter."

The next Exhibition of the Braintree and Bocking Horticultural Society is announced to be held on July 2nd, in the grounds of Bocking Place, the residence of Sydney Courtould, Esq.

Messrs. Cannell & Sons, Swanley, have in bloom a very pretty Impatiens, with flowers of the colour of those of Vinca rosea. It was received from Africa, is a very neat grower, and seems to flower as freely as Impatiens Sultani. It is a welcome addition to the genus.

The *North Wales Chronicle* says there has been a large falling off in the supply of berried Holly this season in the Vale of Clwyd, and much less revenue must have been derived from it this year than last, when the trees were cut in the most wanton manner without any regard to their future bearing. It seems astonishing the Holly is not more cultivated when it is remembered what high prices it fetches in large towns.

The Lincoln Chrysanthemum Society have fixed the date of their next Exhibition for November 17th and 18th, when prizes, open to all, of £10, £5, and £2, will be offered in a class for forty-eight cut-blooms. The Society commences the new year with a balance in hand of £53 13*s.* 6*d.*

During the heavy north-easterly gale which blew on Saturday, December 20th, the celebrated and historical Elm-tree on Holt Common, near Bradford-on-Avon, was uprooted, doing considerable damage in its fall. The tree stood on the village green, and occupied nearly an acre of land; around the girth it was between 40 ft. and 50 ft. in circumference, and was supposed to have been 150 ft. high. Many of the branches were larger than ordinary sized trees, and some years ago it was thought necessary for the safety of the public to chain and prop up the limbs. It contained many tons of timber, and was the property of Mr. T. B. W. Forster, the lord of the manor, who is now travelling on the Continent. The Holt Elm was one of the sights of Wiltshire, and nearly every visitor to that part of the country paid it a visit. Underneath its branches many a stirring address has been given by the Rev. Rowland Hill and the Rev. William Jay.

SELECT VEGETABLES.

The time for ordering the supply of seeds for the ensuing season being at hand some little help in the selection of the same may prove useful to some of the readers of The Gardening World. The magnificent catalogues issued by the enterprising seedsmen of the present day, while of great usefulness to practical men, are extremely embarrassing and bewildering to amateur gardeners anxious to secure the best results for their outlay. It is better, far better, in such a case to leave the selection in the seedsman's hands entirely than to hunt after novelties for which a high price is charged and which may after all be only the old and common sorts under new names. New vegetables are at all times scarce, whilst new names are most abundant.

Artichoke.

Green or Purple Globe.

A good selection of either will suffice. There is comparatively little difference. Some four or five named varieties are offered.

Asparagus.

Common or Giant.

There may be said to be only one variety of Asparagus in cultivation, although some twelve or fourteen distinct names exist.

Beans—Broad.

1. Seville Longpod.
2. Aquadulce or Leviathan.
3. Broad Windsor or Green Windsor.
4. Beck's Dwarf Green Gem.

No. 1 is very early and has extremely long pods, but is somewhat tender. No. 2 is of robust growth, the pods long, excellent for general crop. No. 3, beans large and of excellent quality, greatly preferred by some, especially the green-seeded. No. 4, grows only about 12 ins. high, is very prolific and useful in some situations.

The Early Mazagan, recommended in many lists as the best early sort is, in fact, the latest and most inferior.

Beans—Kidney or French Dwarf.

1. Osborn's Early Forcing or Prolific.
2. Victoria Longpodded.
3. Mammoth Longpodded Negro.
4. Canadian Wonder or Crimson Flageolet.

No. 1 is very early and prolific, suitable for forcing. No. 2 is an extremely pretty Bean and a good cropper. No. 3 is of strong growth, has very long pods, and is a great cropper, an excellent sort for general purposes. No. 4 has pods very long, is very prolific, and comes in for a late supply. The varieties of Dwarf Kidney Beans are very numerous and many of them very inferior.

Beans—Climbing or Runner.

Scarlet Runners.

For all ordinary purposes this is the only variety required. The variations exist more in the colour of the seeds than in any other character. English-saved seed should be obtained if possible as it is more prolific than the Dutch.

Beet or Beetroot.

1. Nutting's Select Dwarf Red.
2. Pine-Apple Short Top.
3. Dell's Crimson.
4. Egyptian or Turnip-rooted.

No. 1 has for many years proved to be the best variety for general use, being of medium size, fine colour, and quality. No. 2 is in colour particularly dark, and is of fine quality; it is somewhat difficult to secure a true stock of. No. 3 is a small, very useful sort for growing on rich soils; leaves very highly coloured, hence used as an ornamental foliaged plant. No. 4. The roots are round or Turnip-shaped; it comes very early into use, and may be said to maintain a summer supply well adapted for sowing in shallow soils; quality excellent, although the colour is somewhat pale. We ourselves prefer this variety to all others.

Borecole or Kale.

1. Dwarf Green Curled, or German Greens.
2. Buda Kale.
3. Cottagers' Kale.

No. 1 is the well-known Scotch Kale, one of the hardiest of vegetables, and one which is very useful in severe seasons. No. 2, Buda Kale, is very hardy, but the young sprouts gathered in spring are exceedingly tender, and of fine quality. No. 3, Cottagers' Kale, is a sort of bastard Brussels Sprout, very hardy, and of excellent quality; an extremely useful vegetable.—*B.*

(To be continued.)

THE "PEN-Y-BYD" MARROW.

At the October meeting of the Fruit and Vegetable Committee of the Royal Horticultural Society, in 1883, that very successful vegetable grower and exhibitor, Mr. Muir, gardener to C. R. M. Talbot, Esq., Margam Park, Tiabach, South Wales, exhibited a new Vegetable Marrow, which came before the Committee with a wonderful reputation as a cropper. Some of the members present had seen it the month previously at the great show at Dundee, where the judges recognizing its good qualities, gave it a First-Class Certificate. It was much admired at South Kensington and gained a similar award there. At both of these meetings it was shown as Muir's Hybrid, a plain, matter of fact sort of cognomen, which has been changed for the more striking name of Pen-y-byd, by which every Welshman will recognize it as The best in the World.

This is not the first new Marrow that Mr. Muir has raised, but it is the best and most distinct. It belongs to the custard section, and is generally globular in shape, as will be seen by the accompanying illustrations, but sometimes comes slightly ribbed. The plant is a strong vigorous grower, very short jointed, and sets a fruit at every joint. The flesh is of a creamy white colour, thick and firm, and very delicate in flavour. The stock has passed into the hands of Messrs. James Veitch & Sons, who are sending it out this season as one of their novelties, and to whom we are indebted for the illustrations given above.

MUIR'S NEW VEGETABLE MARROW, PEN-Y-BYD.

THE BOURBON ROSES.

Some seventy years ago, "a French Botanist, M. Bréon, visited the Island of Bourbon, and found growing in a garden at St. Benoist, a Rose altogether new to him. The flowers were rosy-carmine, beautifully cupped, and the petals remarkable for their size and smoothness. Our botanist did not fail to appreciate this *nou veauté*, and sending it to Paris, it was there multiplied and scattered abroad; this was the original Bourbon Rose. It is not a species, but an accidental hybrid, supposed to have sprung up between the common China Rose and the red Four Seasons." Such is the account handed down to us as to the origin of the first Bourbon Rose. The hybrid Bourbon Roses are hybrids between the Bourbon and the Gallica and Provence Roses; the foliage which is large, handsome and shining, partakes much of the former, the flowers resembling the hybrid Chinas. They are nearly, if not quite, all of vigorous and robust growth, forming handsome standards, and some make good pillar Roses. Really they represent a section of late summer and autumn flowering Roses that are deserving of a much wider popularity than they at present enjoy. At one time they were in advance of the perpetual Roses in point of colour, but though headed if not surpassed in this respect, they are as beautiful in the summer as the perpetuals, and more lasting on into the year. As to their treatment, they can be cultivated and pruned in the same way as the perpetuals.

It would seem that the first Bourbon Rose received the name of L'Île de Bourbon or Bourbon Jacques, for under both these names it was disseminated, and it was from this Rose, variously hybridized, that all the Bourbon Roses have been obtained. For the first few years most of the seedlings obtained one of the same colour of the original. Some were finer and many more double. The first variation was the production of varieties of a clear and beautiful silvery tint, then of a dark purple and crimson hue; and when Paul's Prince Albert came out, about 1850 or thereabouts, a great gain was achieved. This Rose has a somewhat interesting history. It was found growing by Mr. Adam Paul, of the Cheshunt Nurseries, in the garden of the raiser, in the neighbourhood of Fontenay-aux-Roses, near Paris, and, being struck with the beauty and brilliancy of the flowers, he purchased the entire stock and sent it out. Of the Bourbon Roses now in cultivation the following are the best:—Acidalie, blush-white, large and full, very fine; Armosa, pink, full double flowers, produced in masses; Madame Isaac Periere, light carmine, clear in colour, exceedingly large, one of the best; Queen, buff-rose, large and double, very free; Queen of Bedders, dark purplish-crimson, very free and fine; Setina, pink, a new climbing form of Armosa; and the fine old Souvenir de Malmaison, clear flesh, the edges blush, large and full, and can be shown on the exhibition table. Of the hybrid Bourbon Roses the following are the pick:—Baronne Gouella, bright rose with bronze shading, perfectly arranged petals, large and full; Baronne de Noirmont, rose, with white undersides of petals, large, full, and globular; Madame Blanche Durschimal, white, slightly tinted, semi-double, very free and good; and Reine Victoria, fine bright pink, perfect half globular form, medium sized, very good blossoms.

One authority on the Rose informs us that the Bourbon Roses are generally hardy and easy of culture, short wooded, and free blooming, and they require two annual dressings of manure and close pruning. So treated they are the most beautiful of autumn Roses, flowering better and more abundantly late in the season than in summer, fine flowers often expanding at the end of October. Anyone who may be induced to give some of them a trial will be certain to be grateful that our advice was taken.—*R. D.*

SUBSTITUTES FOR THE POTATO.

During bad Potato-disease years, when something like a panic seems to have seized us, and when the cry is for good disease-resisting kinds, it is not unusual to hear that various other tuber-producing plants are being pressed into the service in the hope of discovering some good substitute for the Potato—a tuber which is undoubtedly one of the staple food-stuffs of the nation. Hitherto, however, little success has attended the efforts of those who would have us quite independent of the Potato. Either the climate has been unsuited, or some peculiarity of the English palate has prevented any progress being made. Parsnips and Jerusalem Artichokes have been recommended, and although we profess a certain partiality for these at times we are not sanguine enough to believe they will ever become substitutes for a good floury Potato. We do not think that the plant has yet been discovered which in our climate can be so cheaply produced, had in perfection all the year round, and of which our palates never seem to tire.

One of the plants which have been introduced to compete with the Potato is Ullucus tuberosus, the tubers of which are largely consumed by the Indians of Peru and Bolivia. The plant is a member of the Chenopodiaceæ, hence a cousin of the Beetroot; though it is not the root which is eaten, but a true tuber, very similar to the Potato in shape and appearance, but smaller than a Walnut, and of a pale green colour and waxy texture. The plant is largely cultivated in the Andes of Peru and Bolivia at an elevation of 11,000 ft. to 13,000 ft. under the name of *Ocaquina*. The Indians are said to prepare them by alternately freezing and steeping, by which an amylaceous substance is produced. The plant was long ago introduced by Professor Jameson, of Quito, to the Horticultural Society's Gardens under the name of *Melloco*. At the present time new species of Potato are being looked up, chiefly for hybridizing purposes, and it is possible that some success may in this way be looked for. We recently heard that one of these species had acquired the bad habit of producing its tubers above ground. Ullucus tuberosus is said to produce thread-like branches from the axils of the leaves, which run over the soil and enter to develop tubers; and we suspect some connection between the two, especially as a dish of the tubers was exhibited at the meeting of the Linnean Society on December 18th. These tubers were very similar to small round Potatos, the eyes

being duly developed, the colour, however, was pale green. We hear that some of these have been prepared in the orthodox Potato-fashion, that they were cooked in half-an-hour, but that the quality was waxy and very poor—in fact, that it is the worst thing yet attempted in the way of a Potato.—*X.*

MID-WINTER FLOWERS.

There are many plants which may be induced to flower about this season; but while some only give a scant and ineffective supply of blossoms, others produce them in summer-like profusion and richness; and it is these which we wish to bring prominently into notice. Of the twelve months, December and January are those in which flowers are most valued; about Christmas and onwards anything in the form of a flower is welcome, and showy blooms are greatly appreciated.

Camellias.—What Rhododendrons are in our woods and pleasure-grounds in April and May, and Roses in our flower-beds in June and July, Camellias are amongst indoor plants about Christmastide and throughout the winter, and therefore their culture should be universal. Indeed, it is pretty nearly so, but we fear their blooms are not so common, or they would not be quoted weekly at so many shillings per dozen in Covent Garden Market. Many of the newer varieties have larger blooms than the old sorts, but for supplying a large quantity of useful flowers the old kinds have everything to recommend them. The old double white, for instance, is, to our mind, the finest Camellia grown. None can surpass it in purity, and none will produce more blooms when planted out in a bed. Many get their plants to make abundance of wood, and flower-buds are formed in plenty, but they fall off before they open, and many fine blooms are lost in consequence. This misfortune is said to be caused in many different ways, but we attribute it to three. The first is dryness at the root, the second aridity of atmosphere at the time when the blooms should be opening, and the third indifferently ripened wood. Camellias detest dryness in any form, and soon show their abhorrence of it. We all know that no half-ripened wood will bloom or fruit perfectly, and this applies forcibly to Camellias. We grow our plants in all the sunshine possible throughout the year, and the roots and atmosphere, especially at this season, are constantly saturated. If we cannot syringe twice daily through danger of damaging the blooms, we moisten the ground under them and the centre leaves where flowers are not so plentiful as outside. In order that Camellias may bloom freely at this time, they should be induced to make young wood in April or about that season, and then the buds have plenty of time to swell up, mature, and open out in gorgeous profusion at this season.

Bouvardias should be grown in every garden to bloom at this time. They are like Ixoras in miniature, but much easier grown, and mostly more profuse in blooming. At one time we had upwards of a dozen sorts, but now variety has no charm for us; we only value those which bloom best, and these we have found to be B. Vreelandi, a grand pure white, and B. Hogarth, a very fine scarlet. Plants of these in 6-in. pots will produce from two to three dozen heads of bloom in December, and, as each will measure from 3 ins. to 5 ins. in diameter, they are objects of the greatest beauty; and, besides this, when grown in a stove temperature, and induced to go on making wood, they keep on flowering in constant succession. We propagate young plants of them in March, grow them in cold frames during summer, and keep the shoots well pinched in until September, when, in a little more heat, they throw up numerous shoots and lovely flower-heads in profusion.

Poinsettias are most brilliant in winter. The brightest bed of scarlet Pelargoniums which anyone ever saw in summer does not excel a quantity of these placed together, when fully developed. July is soon enough to put in cuttings of them. If taken and rooted in March or April, the plants will be fully grown by August; then, as a rule, the bottom leaves fall off, and the plants do not improve. Late-rooted plants, on the contrary, cannot do this; they grow on until December, and they have a freshness both in foliage and floral bracts which early ones never possess. They require no special forcing to have them in perfection now. It would be almost an impossibility to prevent them from blooming at Christmas; very good plants of them may be grown in 6-in. pots. They will do with little more than cool frame treatment until October, when an intermediate temperature will grow them on and bring them out well. The largest heads will be formed in a very warm place, but the most useful are those from an intermediate-house. Heads cut from great heat will not remain fresh and bright in rooms for more than two or three days, but firmer and cooler-grown ones will last a fortnight or longer.

Primulas—*i.e.*, those belonging to the Chinese class—are thorough winter flowers, and most useful they are, especially the grand double varieties. Their culture is so simple and their flowers so well known, that I need not enter into any lengthy argument here in their favour, but it cannot be too much known that everyone who possesses a greenhouse should have some well-grown and full-bloomed Primulas with which to decorate it at this season.

Cinerarias are charming now, and well worth all the attention required to make them bloom, and after all there is nothing in this worth speaking about, as it is simply a matter of sowing the seed early. Our plants now in bloom are the produce of seeds sown in April. They are kept in cool frames until October, and then are moved into a temperate conservatory to bloom. Insects are never allowed to injure them, and they are potted on from time to time until they remain in 8-in. pots. Dwarf bushy plants with plenty of bloom stems are the best, and these can be secured by growing the plants in plenty of light and near the glass.

Of Begonias we like B. insignis best. This we grow on like the Bouvardias, and it makes a most beautiful winter-flowering plant. Through checking the leading shoots it is induced to form many side branches until it becomes bushy, and then it forms itself into one elegant and drooping mass of light pink blooms. It is well suited for dinner-table decoration or for that of the drawing-room. It is a plant from which one may cut basketfuls of bloom. Of all winter-flowering Begonias this is the one I can recommend with the greatest confidence. Plants of it will bloom as freely in 2-in. and 3-in. pots as in 6-in. and 8-in. ones.

Calanthes are a very fine class of mid-winter blooming plants, and wherever there is a stove they should be grown. If started into growth in May, and grown on in pots or baskets in a stove temperature, they will develop bulbs which will produce from two to four spikes of bloom each, and these may be had in great beauty before Christmas. Here we have only the heat of an intermediate-house to give them, and they do not bloom with us in November as they do in many places; but they are fully out about this date, and we find them most useful for all kinds of cut-flower decoration.

The Eucharis amazonica is another gem in December; its delicate flowers, of the greatest purity, are unsurpassed by those of any other stove plant. This Lily, we find, does best when undisturbed at the root for years; our best plant has not been turned out of its pot for three years. It is not so large as some we have seen, but it blooms uncommonly well, and is now opening its fourth crop of blossoms this year. During the time it is throwing up its flower-spikes and blooming, it is put into the warmest place we have, and during that time it makes many fresh leaves. As soon as it has finished flowering it is placed in a cool house for a few weeks, and then it is submitted to a strong heat again to bloom; this it never fails to do if plunged in the pine bed where the bottom heat is about 90 degs. and the atmospheric heat 65 degs. To have it in bloom in December, we would recommend its being rested in October and plunged in heat in November.

Zonal Pelargoniums are very showy at this season; even those which have been blooming in pots throughout the summer are in use now. The only way by which they can be got to bloom freely, and make a fine display in December, is to propagate young plants in May, shift them into 6-in. pots as soon as ready, and keep them in the open-air from June until September. During that time they should not be allowed to bloom, and a sunny position ripens the wood, and hardens it for winter flowering. The end of September is a good time to take them indoors, and a light, airy greenhouse or pit is the kind of structure in which they will succeed for some months afterwards. At present we have plants of Henry Jacoby, bearing eight and ten massive trusses of the brightest hue. As a scarlet, this variety has no equal as a winter bloomer.

Epacrises are lovely at this time, and never fail to give satisfaction. They do not bear confinement in rooms well, but they supply a very fine lot of cut bloom, and their long shoots, so beautifully furnished with various chastely formed and coloured flowers, are charming for vases. They bear being cut down when in flower better than most plants, as this only encourages them to produce more shoots, which bloom in their turn, and ultimately give place to a host of others.

The Eranthemum pulchellum is a famous plant for blooming in December; it produces a multitude of flowers at the end of every shoot, of a bright sky-blue colour. Spring-rooted cuttings bloom now, and so do old plants if cut back in early summer and allowed to form bushes in frames throughout the bright months of the year.

Amongst Azaleas, the wonderfully bright, small-flowering A. amæna is one of the best of these to flower in profusion now, and it is most useful for cutting or for pot decoration. Fielder's White is another Azalea which almost blooms naturally at this season. A. Borsig forces well, is semi-double, and very fragrant; the flowers are pure white, and it forms a good companion to Stella, which is a very bright, free-flowering kind.

Roman Hyacinths and various coloured Tulips of the Duc Van Thol section, and double Roman and paper white Narcissi, are about the only bulbs which we can force profitably in December, but all these are blooming most satisfactorily now.—*The Field.*

HARDY FRUIT CULTIVATION.

Interplanting.—The intervening spaces between the Apple-trees when planted as recommended at p. 214, should also be cultivated and planted. The effect on newly-planted, as well as on old-established, Orchard-trees, by breaking up the ground between them either with the spade or plough, is in most soils so marked and beneficial as to appear incredible to those who have not proved it. I recollect an instance of an old orchard, situated on the heavy clay of Lincolnshire, where the trees had such a cankered, moss-covered, miserable appearance that to resuscitate them seemed quite impracticable. The dead wood was pruned off them, they were cleansed from filth, the ground—an old pasture, was then ploughed up somewhat shallow between them, harrowed, cleaned, and planted rather thinly with vegetables so as to allow of the horse-hoe being worked between them, at the same time a portion of rotten manure was placed over the surface of the ground within a radius of 10 ft. from the stems of the trees, the ground to this distance was occasionally hacked over with what was there termed a "Canterbury" hoe—*i.e.*, a hoe with three long prongs projecting at the back opposite to the blade—by this means not only were the weeds destroyed, but the surface soil, previously hard and impervious to rain and air, and liable to crack in hot, dry weather, became pulverized and friable. The effect on the trees was perfectly magical, as they not only made free, clean growth, but the second year after the change they bore more fruit, and finer in quality than they had done the previous dozen years put together.

Nor are Apples and Pears the only orchard trees which derive benefit from this method of under cultivation, for, strange although it may seem, the shallower rooting kinds, such as Cherries and Plums, derive even greater benefit from this method of cultivation than even the deeper-rooting kinds, provided the cultivation is not so deep as to injure the main roots. Cherries and Plums will not, however, succeed so well as orchard trees, especially the former, except the locality and soil be favourable to them. I would not, therefore, advise their being planted largely unless previous experience warrants it.

In breaking up the ground between the trees, the plough and harrow or the shallow scarifier are, of course, the most convenient and economical implements; at the same time the spade and pronged hoe

are most useful tools, especially to work near the trees with, as the work done by them is, if more expensive, also more thoroughly performed, and with much less liability to injure the roots of the trees. Having broken up and cleaned the ground, the question arises what will be the most suitable and most profitable crop to cultivate between them until the trees themselves fill up the intervening spaces.

In close proximity to large towns or very populous districts, or where the carriage is so convenient and low in rate as not to act as an obstacle, vegetables may generally be grown to advantage, not only because they meet with a ready sale at remunerative prices, but the quick return of capital from their sale is worth careful consideration before deciding whether to grow them or invest more capital in the purchase of bush and other small fruit-trees, and wait a year or two for a return. We now hear of such tempting offers to farmers and others occupying land in the more rural districts, from the agents of those speculative wholesale purveyors of green food to the cooped-up, ill-supplied ever-increasing humanity in London, and other large cities. These agents not only offer fabulous figures for sweet, country-grown garden produce of every kind, but, provided there be sufficient of it, will also undertake every risk and responsibility in gathering, packing, and carriage at almost any distance from London. Cash down before operations commence. The latter condition being by no means the least tempting and important to the poor distressed farmers of modern days, who has not only to sell his best wheat at the unremunerative price of 15*s*. per sack in the open market, but who is now in daily fear that the most profitable part of his business—the dairy—will be jeopardized by the keen, wily Dutchman, who threatens to (as the farmers here say) "knock into a cocked hat" even this hope, by sending daily cargoes of dairy produce to the great central depôt, and thus tend to still further increase poor John's difficulties.

Let the farmer first endeavour to obtain broader and more liberal conditions of tenancy, and then turn his attention more especially to market gardening, the dairy, and meat production, for all three of which commodities there is an ever-ready, ever-increasing demand. These three departments not only work well together, but for vegetable growing the orchard on the farm is particularly well suited.

Should vegetable growing eventually cease to pay, then if the prophetic utterances of an advanced, intelligent, and far-seeing Premier are correct, he may, with bright prospects of success, devote his future attentions to the growth of the smaller fruits, to the method of arrangement and production of which I hope to prepare a future paper.—*Scribo.*

JAPANESE ANEMONES.

Among hardy perennials for late summer and autumn blooming the Japan Anemones hold a unique position. For planting in masses they are most desirable; as back-row plants for a border they are first-class; for the shrubbery border they are unequalled; and for conservatory decoration late in summer, if grown in pots with liberal treatment they produce a telling effect, while for providing cut flowers which are produced in the greatest possible profusion, they are most valuable. Especially is this the case with the white-flowered variety called Japonica alba, or Honorine Jobert, which is much sought after. The other varieties are A. japonica elegans, also called japonica hybrida, with pleasing rose-coloured flowers, a very desirable plant; and the typical form with rosy-red flowers. Some years ago, a variety with a duplication of petals and bearing the name of A. japonica rubra plena, was said to be an improvement, but in point of value it is not so useful as elegans.

These Anemones thrive in any ordinary well-enriched soil and deserve every encouragement. Those desirous of increasing their stock of these plants may do so at once with safety. It is not desirable, perhaps, to remove all the plants, for example, in large clumps, in which case the plants should be carefully lifted, and after taking off the side shoots or stoloniferous growths, be re-planted again firmly. In the course of the operation, numerous roots will be broken off, which, on inspection, will be seen to be covered with small buds, these should be carefully preserved, cut into lengths of from 1 in. to 2 ins. and placed either round the interior of pots in sandy soil or in shallow boxes, just covered with soil and made firm. After watering they may be placed under the stage in the greenhouse or in a frame, and by the arrival of spring, numerous young plants will be the result. These will require handling in the same way as seedlings or cuttings at that time.—*E. J.*

NOTES ON GARDENS.

Bentley Priory.—Another of the "stately homes" of which Englishmen may well be proud is "Bentley," or, as it is frequently called, "Stanmore Priory," for many years the residence of the Abercorn family. It is situated on the northern elevation of an extensive park studded with noble trees, and sheltered from the east and north by wide belts of magnificent Scotch Fir. Picturesque commons covered with Heather, Gorse, and Bracken bound the estate on the north and west, the village of Stanmore approaches it on the east, and undulating pastures trend away south. The view from the principal reception-rooms and terrace for extent, richness, and variety is perhaps unsurpassed by that of any lordly residence within the radius of a dozen miles of the metropolis. A conspicuous feature in the middle distance is the famous hill and spire of Harrow, engirt with noble elms and dotted over with picturesque school buildings. It is continually changing in tone and distinctness, as the shifting clouds sweep over it, or its shadows purple in the western sunlight. Standing some 470 ft. above the sea, the terrace itself is nearly on a level with the tower of Harrow Church.

I will endeavour briefly to picture the scene in late autumn from the broad stone portico in front of the drawing-room windows. Immediately beneath is the brilliant *parterre*, glowing with the richness of its summer pride. One wonders while gazing at the astounding display of gorgeous colouring of the modern *parterre* what kind of gardens our great-grandfathers had, and with what feeling they would regard this terrible innovation. The individual beds of the *parterre* are certainly less interesting, intrinsically, but there is, it must be admitted, a satisfying delight in rich and glowing masses of colour harmoniously arranged, such as fills the musical ear when the harmonies of Bach and Handel peal through the nave of a cathedral. Smooth gravel walks, 2 ft. wide, surround the centre oblong *parterre*. At equal intervals, standing in the centre of large star-shaped beds, are three colossal sphinx supported, stone vases filled with flowers, on either side of the two outer ones are cones, 12 ft. by 6 ft., of Clematis Jackmanni trained to bent rods. (I remember, years ago, there were similar pyramids of Heliotrope and Scarlet Pelargonium so nicely grown and covered as to completely conceal the forest of stems and sticks within.) A margin, a yard wide, of turf borders the gravel path, and along this are planted alternately Irish Yews and Yucca gloriosa. There is a slope of 4 ft. from the upper path to the *parterre*, and a second gravelled walk of the same width is bordered with fourteen grand Portugal laurels in square tubs. The outline of the balustrade terrace wall makes, in the centre of it, a semicircular sweep in which stands a fountain of classical design. Statuary is sparingly employed, and at either end of the front path there is a pair of sculptured obelisks. In front green slopes, dotted here and there with noble Spruce, Oak, and Chestnut, trend away to the margin of a lake, on which one sees swans and wild fowl and rafts of water-lilies.

In a summer-house by this lake the author of *Waverly* revised the proofs of "Marmion," and in another leafy retreat it is said Rogers wrote part of his *Pleasures of Memory*. The foreground of the picture has been treated in detail. The park, with a herd of fallow dear, is seen stretching a mile to the right and left beyond the thickly-wooded margins of the lake. Then come groups of trees and vistas, and the Hill of Harrow, and away beyond in the hazy distance the Surrey Hills, broken in outline by Dorking Gap. Glimpses of Highgate and Hampstead appear over the tree tops on the left or east of the panorama.

Such is a brief and imperfect description of the scene from the Priory terrace. No wonder then that the natural beauties of the place, enhanced by the skill of the landscape gardener, the architect, and the horticulturist should have drawn together the brilliant assemblages of genius, rank, and fashion that so frequently thronged the stately apartments, gossipped beneath the spreading Cedars, or admired the charms of its terraced gardens during the residence of Lord Abercorn. The Duke of Wellington, Pitt and Canning, Scott and Rogers, and Landseer were not unfrequent visitors, and we are told by Mr. Thorne, in his *Handbook to the Environs of London*, that the Prince Regent, afterwards George IV., visited Bentley Priory in company with the King of Prussia to meet the unfortunate Louis XVIII. when he left Hartwell for France.

Little is known of the early history of the Priory itself. It came to an untimely end with most of the religious houses in the reign of that arch despoiler, Henry VIII.; its revenues, however, were assigned to the monks of Canterbury. In the year 1543, Cranmer gave it to the king in exchange for other lands. Under what pressure we know not, Henry, however, soon disposed of his Naboth's vineyard, and, after many vicissitudes, it came into the hands of a Mr. Duberly, who rebuilt the house. In 1788 it was purchased by the first Marquis of Abercorn. He made substantial additions to the house, and improved and beautified the gardens and grounds. In 1818 the present Duke of Abercorn came into possession of the Priory, but in 1848 it was leased to the late Queen Dowager, widow of William IV. After only a year and a half's residence, however, in a little room now called the Queen's Room, on the ground-floor overlooking the gardens and park and distant landscape, the Queen Dowager breathed her last. She is still spoken of by the elderly villagers of Stanmore in terms of affection on account of her many acts of kindly benevolence to the poor.

After the death of Queen Adelaide, the Priory remained unoccupied until 1852, when it was purchased by Sir John Kelk, the great contractor. The house was then greatly enlarged and embellished, a lofty clock-tower was built, and a fine conservatory. The latter forms a western wing to the principal façade: it has marble floors inlaid with encaustic tiles, a marble fountain, huge plants of Auracaria excelsa, and Orange-trees; one of the latter is a noble specimen, drooping just now with hundreds of swelling fruit. The conservatory is connected with the principal apartments by means of a corridor, in which, trained to the lattice walls, are several immense Camellias. The back wall of the conservatory, which is much shaded by tall shrubs, is covered by an elegant Acacia. A large skating-rink has been added.

The park and gardens have an area of 460 odd acres, and the miles of walks are so admirably arranged that there is a constantly recurring series of delightful landscapes. The timber, especially the Cedars, which occupy a grove to the north of the house, is of grand proportions, evidently much older than the house. There are a rosery, fernery, hermitage, several prettily-contrived rustic arbours, spacious cricket and lawn-tennis grounds. Coniferous plants, of which there is a large collection of handsome specimens, flourish wonderfully well here, but, after the Cedars, the most remarkable conifer is the Scotch Fir, which is grown extensively. Here and there, where Nature has been left to her own sweet will, one might imagine, but from the absence of mountains, that we were wandering through the indigenous forest of the Perthshire Highlands. There is an abundance of game, and feathered life of all kinds seems to have been religiously preserved.

The Priory is now the property of Mr. Gordon, of the Holborn Restaurant, and extensive alterations and additions are in progress, with a view of opening the house as a private hotel. One must confess to a tinge of regret at the later fortunes of this fine old place; but it must be borne in mind that such a disposition of the property will open up to public use and enjoyment picturesque and delightful scenery that for a century or more has been inaccessible.—*Rover.*

Tebb's Fumigator.—We have for several years had one of these useful little garden appliances in use, and for effectiveness and general handiness can give it a high character. It is made in various sizes, but the smaller ones will be found the most useful by amateurs.

The Amateurs' Garden.

Potting Plants.—This is a practice required in a garden almost all the year round, but it is too often carelessly and imperfectly done. Some suggestions in relation to this important topic are always opportune, and especially to amateur cultivators of plants who look to The Gardening World and papers of a like character for advice and assistance. Let us try to lay down a few simple rules worthy of being studied and observed. In potting plants that require any cutting or pruning, the two operations should not be performed at the same time; it is best to prune first, and allow the plant to make fresh growth before the potting is performed. That is one of the golden rules in the management of plants. Here is another:—deciduous plants should never be repotted till they have burst into leaf. Fuchsias, for instance, which have been dried off in winter, should in no case be shaken out of their old soil till they have expanded a few leaves, and any pruning required in their case should be done before the roots are disturbed. Mr. J. Lye, of Clyffe Hall, who grows such splendid Fuchsias for the West of England exhibitions, cuts back his specimens in September, by the end of October they have broken into growth, they are then potted, and kept pretty dry all the winter, and in early spring they commence active growth, when they are shifted again. Evergreen greenhouse plants, such as Camellias, Oranges, and Myrtles, have a particular season at which the roots elongate and increase with more rapidity than is usual at other stages of their growth, and, under ordinary circumstances, that season is immediately when they have made their growth in branches and leaves, and it is the most desirable time to shift such as require it into larger pots and more nourishing soil, just as the roots are extending and ready to take hold of fresh soil.

Shifting a plant into a larger pot often becomes necessary when pruning is not called for. When it is desired to increase the size of a plant, it should be shifted into a larger pot as soon as the roots have circled themselves among and around the soil in their present pot to an extent that renders it safe to perform the operation without danger of the ball falling to pieces. Generally speaking, a sure criterion as to when a plant requires more pot room and nourishment is when the roots make their appearance through the bottom of the pot. It is, however, much preferable at the near approach of winter to leave plants a little cramped at the roots than to shift them on at such a season; under such circumstances the operation should be deferred till early spring. Azaleas and Camellias should not be shifted till after the blooming season is past and they have made fresh growth; and the exact season for potting such plants must, of course, be determined by the time at which they are forced to, or retarded from, making their growth.

Another very important point is, that the pots should be scrupulously clean and quite dry when used. If they have been previously used, they should always be washed before putting another plant into them. Every particle of mould or slimy matter which adheres to them and clogs up the pores should be removed, both outside and inside. When a plant is potted into a pot, the inside of which is covered with particles of earth, the mischievous consequence, to say nothing of others, is that in turning a plant out of it the ball is sure to be broken, and of course the roots also injured. If time does not allow of the pots previously used being washed, the cleanest and driest should be selected, and well wiped round in the inside with a wisp of straw until all adhering particles of dirt are removed.—*Quo.*

Chrysanthemum culture: Large-flowering Varieties.—Cuttings inserted as previously directed (p. 248), should by February be ready for potting singly, and it must then be decided for what purpose the plants are to be grown. I will first deal with the mode of culture to obtain specimen blooms. The cuttings should be shaken out of the cutting pots and be re-potted singly into 3-in. pots, and again returned to the frame, and be kept shut up close for a few days, then air should be given on every favourable occasion. Early in April they should be potted into 6-in. pots, and should then be stood in a sheltered position out-of-doors. They will be ready for their final potting early in June into 8½-in. pots, which size will be found quite large enough to bloom the plants in.

The plants should now have stakes put to them and be stood on ashes in a sunny position, and as they grow they should receive plenty of clear water and be syringed overhead at least twice a day during hot weather. When the pots get full of roots, a little clear soot water may be given occasionally with advantage. The plants will (early in July) throw out side shoots, and from three to six (according to the variety) should be retained, and all the others be pinched off. On these shoots the flower-buds will appear about the middle of August, and if good exhibition blooms are desired, they must be disbudded, *i.e.*, there will be seen at the end of each stem a cluster of buds, and the best one (generally the centre one) should be left, and all others be taken off with a sharp knife, by so doing, the strength of the plant will be thrown into the buds left, and large blooms will be the result.

Growing plants for conservatory decoration is very simple. After the cuttings have been potted singly, as above directed, they should be returned to the frame and be treated according to the directions given for the single varieties on p. 264. They will only require about four or six sticks to support the branches, and they should not be so largely disbudded as those intended for specimen blooms, as the object here is to have a good display of bloom, and for this purpose the collection should contain a few of the late as well as the early-flowering varieties, a list of which I will give in my next.

For outdoor culture they should be planted early in April, but I do not recommend the large-flowering varieties for outdoor culture, as, unless we have a season like the last, they generally get spoilt by the frost in October.

Pompon cuttings should be struck in February, and as soon rooted should be potted singly, and pinched as directed for the single varieties. In most cases a single stick will suffice for these, and they make useful plants for the front row of borders.

There are various modes of training the plants for exhibition; but I do not advise amateurs trying their hands at training until they have had some experience of cultivation.

Another useful variety for outdoor culture or for early blooming in the greenhouse or the conservatory are the summer-blooming varieties; but I had better defer my remarks upon these until my next.—*W. E. Boyce, Holloway.*

Dryness at the Roots of Trees.—Let amateur gardeners look well to the roots of their fruit-trees. During the past month a good deal of rain has fallen, but not nearly enough to penetrate deep into the soil. We are now dealing with the London district, and particularly with the soils resting on a gravel subsoil. It is surprising how fast and completely the rain passes away into the soil; ponds and ditches are low, unusually so for the season of the year; floods are unknown; the lowest lands are not under water; the highways are almost dusty in the closing days of the year, and that without the intervention of hard, dry frost. A few days ago we were in a large fruit-garden and witnessed the operation of root-pruning in the case of some vigorous young fruit-trees. From 12 ins. to 18 ins. below the surface, the soil about the roots was almost dusty dry, and it was necessary to give a good soaking of water before the soil was returned to the roots. The drought of the past summer penetrated to a much greater depth than is generally supposed, those who trench or turn over heaps of soil that have laid by for a time, find this out. And the matter is one of special importance, because we may have entered upon a cycle of dry seasons of which 1883 was the first. Should there be less of rain than is usual between now and the end of May, and the summer be as hot and dry as the last, crops must suffer, and it is mournful to contemplate that greatly important as is the subject of the storage of rain water, little or nothing has been done during the past few years of a permanent and general character. Yet it is a subject of the first importance, but we fear one scarcely likely to take a firm hold upon the public mind until the nation experiences something like a water famine.

THE SWEET WILLIAM.

Dianthus barbatus.—The bearded Dianthus is one of the most popular of common garden flowers, and truly so. It may be said to find a place in every garden, large and small. It is said to be indigenous to Germany, and from thence it has found its way all over Europe. It is unfortunately generally deficient in fragrance, but there are indications that some of the varieties are sweeter-scented than they were a few years ago; but what it lacks in fragrance it supplies in masses of bloom, which always makes it welcome. It has a kind of history too. A physician to the Emperor Charles V., by name D. Reinbertus Dodoneus, is reputed to have been the first author that wrote about this plant. Dr. Turner did not notice it in his work of 1568, but twenty-nine years afterwards it is mentioned by Gerarde, who says, "We have in our London gardens a kind of Sweet William bearing most fine and pleasant white flowers, spotted very confusedly with reddish spots, which setteth foorth the beautie thereof, and hath been taken of some to be the plant called of the later winters the Pride of Austrich." Philip Miller in his Dictionary (1731), has several Sweet Williams, double and single, under the Generic name Caryophyllus barbatus, and he alludes to some narrow-leaved varieties that were known as Sweet John. It will thus be seen, the double varieties are older in point of time than is generally supposed.

It was the late Mr. Joseph Hunt, of Wycombe, who did so much to improve the Sweet William. He was an ardent florist, growing Tulips, Pinks, and other florists' flowers with great success. It was as far back as 1835 that Mr. Hunt began to cultivate the Sweet William, and he worked wonders with it. Later on there was originated a strain termed Auricula-eyed, the flowers being characterized by large white centres and smooth edges; but it is only fair it should be stated that Mr. Hunt had these types in his collection. There is now no excuse for any gardener having an indifferent strain. Fine Sweet Williams are now plentiful about the country, and a gardener can soon originate a strain for himself by starting with a good one and carefully selecting from it.

The seed should be sown early in July, in a prepared bed in the open-air; if dry weather follows, the surface should be kept moist in order to assist the seeds in germinating. The small plants soon strike their roots deep into the soil, and during showery weather grow rapidly into size. Then the plants can be planted out in beds, in lines 18 ins. apart each way. The best soil is a fairly stiff sandy loam, well enriched. Any particularly good varieties can be increased by taking off the side growths in the summer and dibbling them into the soil. The double varieties must be similarly treated, as they do not produce seeds.—*R. D.*

ASTERS FOR EXHIBITION.

Among half-hardy annuals none are so popular or more generally grown than the various varieties of German Aster. The little difficulty attending their cultivation and the grand display which generally rewards a little extra culture combines to render them universal favourites with almost every amateur possessing a town garden. Scarcely a garden in the Black Country, where Flora's beauties are so charily dispensed, can be said to be complete without its bed or border of this showy plant. In fact, Asters may be set down as peculiarly adapted for small town gardens and smoky districts, although of course to be had in greater perfection in more favoured localities. Most provincial autumn shows contain prizes for them, and those familiar with the grand stands, usually to be found in the Midland districts, must acknowledge that for summer and autumn display they are unequalled by any other easily grown plant.

Few soils seem to be amiss to them provided the requisite nourishment in the shape of well decomposed manure be well incorporated, and this during dry weather, frequently supplemented by liberal supplies of manure water. My practice, for the first blooming in July and August, is to sow the seeds in pans or boxes placed in a gentle heat, at the latter end of February, and, as soon as the young plants are large enough to handle, prick them out into a frame or under handlights upon a nearly spent dung bed. In this situation they make fine sturdy stuff by the

beginning of May, and if plenty of air has been given them, they will be well hardened off by that time for finally planting out into their blooming quarters, removing with balls of roots with a trowel with little or no check. For a later display, for the purpose of exhibiting at the end of August and beginning of September, I sow the seeds in March, subjecting the young plants to similar subsequent treatment to that given to the first batch.

The varieties most in vogue for exhibition purposes are Betteridge's Quilled, Truffaut's Perfection, Pæony, and the Victoria. In the schedules of some shows separate prizes are given for stands of quilled and flat petalled varieties, and this is a good practice, for while the latter make the grandest display, both in the stands and in the garden, the compact florist flower style of the best strains of quilled, invariably, in this district and Birmingham, carry off the prizes, much to the chagrin frequently of the grower who has spent his energies in growing the larger and more showy kinds. The popularity of the Aster is evidenced by the number of classes now to be found in the German Seed Lists. Referring to a list twenty-five years old, I find seed of only about a dozen distinct classes offered, while in the list of the same firm for the ensuing season I find no less than thirty-eight distinct classes enumerated. For exhibition purposes the following are the best:—

Betteridge's Quilled.—This can now be obtained in eighteen distinct colours, and is one of the best sections either for exhibition or mixing. I know of nothing for a pure white bed better than the variety belonging to this section, and known as "The Bride."

Reid's Improved Quilled.—This is considered an improvement on Betteridge's strain, and can be had in twelve separate colours.

Victoria.—This is the finest of the flat-petalled Chrysanthemum-flowered class, and may now be obtained in eighteen colours. Several striking improvements have been made in the colours of this section during the last few years, and two new novelties are announced from the German houses for this season, namely, a lemon-yellow and a bright scarlet, two colours which will be sure to create a sensation in a stand of twelve blooms.

Truffaut's Pæony-flowered Perfection.—This is one of the oldest and grandest of the exhibition sections. My blooms this year were as large as good sized tea-cups and as globular in shape. The petals are for the most part incurved. Twenty colours may now be obtained, including a new scarlet.

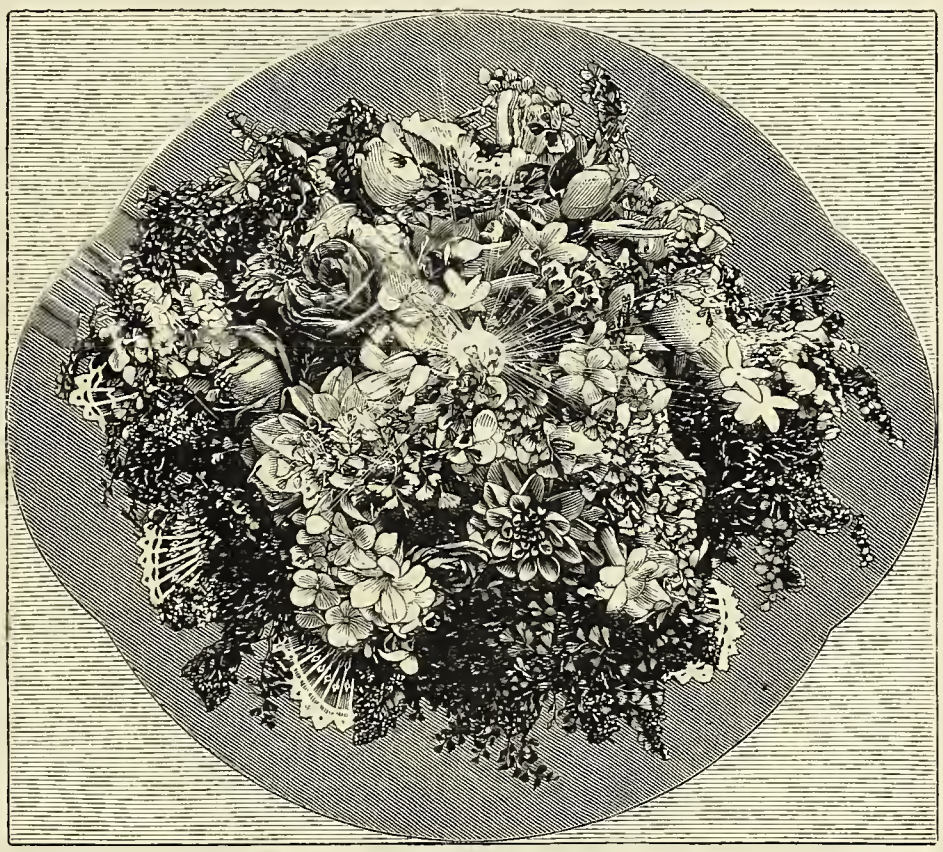
Cockade or Crown Asters.—This is a most pleasing section, the best of all for cut button-holes, although I fear a little too small for exhibition. I have seen some good stands staged during 1884, but they failed against the varieties already enumerated. Only eight distinct colours are yet catalogued, every one with a white centre, from which the term crown is derived. It will in time, no doubt, become one of the best classes in existence.

Large-flowered Chrysanthemum.—Probably the oldest class of all, and one of the most useful for mixing together, each plant being very floriferous and the blooms large. Twenty-four colours are offered in some of the new lists.

Besides the above, most catalogues give lists of bedding Asters, so called from their dwarf compact habit, which renders them peculiarly adapted for entire beds or edgings, the flowers of the Dwarf Pæony-flowered, the Dwarf Victoria, and the Dwarf Chrysanthemum-flowered are well nigh as large as the exhibition sections. The Dwarf Needle Aster belongs to the bedding section, and is very neat and pretty.

Although Asters are easily grown, and are not specially partial to any particular soil, a sheltered and open spot should be selected for their growth, and for exhibition they are best attended to when planted in a bed by themselves about one foot apart each way. A temporary awning can easily be put over them if very rough weather threatens at the time of an approaching exhibition, as heavy rains are apt to spoil the brightness of colour. I have found shading with a paper cap bring up the centres into a more globular form in varieties apt to be flat or the centres sunken. In selecting blooms for exhibition, none but the most double and those well up in the centre should be chosen.

Asters, during the early growing season, in the months of June and July, are specially subject to the ravages of aphis, the presence of which can instantly be detected by the curling and blistering of the leaves, which become wrinkled and discoloured. Unless these ravages are checked in time, the hope of prizes must be foregone altogether. The best remedy I have found is an ounce of common black tobacco and two ounces of soft soap to a gallon of hot water, carefully applied when cold with a soft sponge, taking hold of the young plants at the bottom of the stem between two fingers, and then gently squeezing the liquid from the sponge into the joints of the leaves, and well saturating the whole plant. About three such applications in a fortnight to plants badly affected the last hot summer proved too much for their enemies, and from these I cut my exhibition blooms.—*J. Knight, Bilston.*



THE LATEST NOVELTY IN BOUQUETS.

A NOVEL BOUQUET.

At the Hospital Fête which took place at "the Healtheries" last summer, the greatest novelty seen during the evening was a bouquet of flowers carried by H.R.H. the Princess of Wales, in the centre of which was concealed an electric light—a miniature Woodhouse and Rawson glow-lamp. The cells working the lamp were arranged above the stem or holder of the bouquet, and the arrangement was rendered complete by a little switch in the form of a lady's brooch, so placed that the light could be turned on at will by simply fastening the pin. This identical bouquet was we believe, the first one which Mr. John Wills, assisted by the electric engineers, had made, and was perfect in all respects except its weight—it was too heavy to carry comfortably.

Shortly afterwards Mr. Wills received instructions from Her Royal Highness to have the batteries recharged, and placed with the lamp, &c., in the centre of another bouquet, special injunctions being

added to reduce the weight as much as possible. This Mr. Wills succeeded in doing to some extent, and the second bouquet did not weigh but little more than 2 lbs. Other improvements have been suggested with a view to still further reducing the weight, and no doubt these will be carried out before the coming season. Mr. Wills had one of the latest bouquets he made photographed, and it was from a copy which he sent to us that the annexed illustration was prepared.

NOTES BY THE WAY.

High Wycombe and its Allotments.—In conversation with a friend lately, who is much interested in the allotment question, I was told that the little Parliamentary Borough of High Wycombe—shortly to merge its political identity in the southeru division of Bucks—was unusually fortunate in the matter of allotments. The noble owner of most of the land surrounding Wycombe, Lord Carington, has for years taken a warm interest in the movement (as did also the late Lord), and it is to his encouragement and support that the rapid extension of the area under cultivation is chiefly due. The population of High Wycombe is about 14,500, and the staple trade, as the reader is no doubt aware, is chair-making. There are upwards of sixty separate factories where the work is carried on, and it is computed that as the rate of manufacture is about three chairs per minute, in the course of three-fourths of a century all the individuals of the then existent human race may each sit down on a Wycombe chair. It is fortunate for the present generation of Wycombeists that the finale will not result during their sojourn at Wycombe.

But with regard to our immediate subject—the Wycombe allotments. The inhabitants of the ancient borough, it is pleasant to note, have not been deprived of their spacious common and picturesque recreation-ground to furnish allotment gardens. We cannot all recreate in allotments. Peter has not suffered from the depredations of Paul in this matter. Portions of farm lands immediately contiguous to the town, and therefore most eligible, have been set aside for the purpose. On Lord Carington's estate alone there are exactly six hundred and ninety separate allotments, disposed in ten groups, in different parts of the parish. The largest area is that on the hill-side parallel to the town, and sloping towards the south. The land, so variously situated, differs much in quality and depth of loam. Plots in the valley have a depth of 2 ft. to 3 ft., whilst in those on the higher slopes of the hill it is scarcely a spit in depth before the chalk is reached. The rent consequently varies; a considerable area is let at 3*d.* per pole, or £2 an acre (farm land in the neighbourhood is generally £1 per acre), while the best and most conveniently situated plots are let at 6*d.* per pole. Tradesmen and shopkeepers also are allowed to become tenants, and gladly avail themselves of the privilege. This arrangement opens up a social aspect of the question upon which we will not now enlarge, further than to remark that there are few, if any, recreations which offer such facilities for pleasant social intercourse on a common footing between the employer and the employed as does gardening.

The plots vary in size from 8 poles to 25 poles, the average being perhaps 15 poles. My opinion, not formed without considerable experience, coincides with that of Mr. Miles, Lord Carington's highly-esteemed head gardener and steward of the allotments, that a plot of 15 poles in area is quite sufficient to be worked well, by an ordinary tenant, in constant employment. The cultivation of 15 poles, however, at Wycombe, where the soil is light and easily worked, would not entail more labour than 12 or even 10 poles on heavy loam, such as are frequently met with in the Thames valley and elsewhere.

The terms of agreement have been materially modified of late, in accordance with the respectfully-expressed wishes of the tenants. The manure question was the chief difficulty, and, in order to remove this, permission was given to keep pigs. The extensive grounds, consequently, are dotted over with small huts for the purpose. On a fair number of allotments little summer-houses have been erected and in almost every instance they are surrounded with flowers. Each tenant is also encouraged to enclose his plot, either with wood or live fencing. Many plots are thus fenced, and in these might be noticed bush fruit, beds of Strawberries, and sometimes flowers. The more attractive and interesting allotments can be made, the more popular and valued will they become with the workman's family. Here as elsewhere the crops consist too exclusively of Potatos, Cabbages, and other greens.

Of the 690 allotments on Lord Carington's estate, there is not a single vacant plot; and his Lordship wishes it to be distinctly understood that requisition from workpeople desiring to become tenants will receive prompt attention. Tenant-right is religiously respected at Wycombe, the outgoing tenant receives for the cultivation or crops on the ground such a sum as may be agreed upon or as the same shall be adjudged worth by any valuer the landlord may appoint. All rent due and half the charge of the valuer being first deducted from the valuation. The latter clause probably resolves itself into a request for Mr. Miles's opinion. This gentleman's practical experience and kindly advice are almost invariably accepted with the respect they are entitled to. All the provisions of the memorandum are, however, most liberally interpreted and it is a rare occurrence for arbitration to be needed. Sums varying from a few shillings to £5 are occasionally paid by the incoming tenant for crops, &c.

The rents are taken yearly, at Michaelmas, and a bonus of 1*s.* is allowed on all payments duly made. The names of a few defaulters are still on the books, but on the whole the rents are punctually paid. Until a few years ago, prizes were given for the best cultivated plots. So many circumstances, however, had to be taken into account—the varieties of soil, aspect, eligibleness, &c., that it was a matter of great labour to judge of the comparative merits of the skill and attention devoted to the several plots, so that the plan was reluctantly given up. There is no doubt, however, that when prizes are given for the encouragement of superior cultivation, it is much the fairest way, if the area be limited, to make the awards after a careful inspection by two or three practical and sensible men, of each individual plot. Prizes are now given for single dishes and collections of vegetables, each entry competing only with specimens from the same allotment ground.

And now as to the result. Of course it is utterly impossible to cast a correct balance sheet, the hours and fractions of hours employed on the land and the expenses of manure, seeds, &c. But one may judge from experience and knowledge as to what has been done and is being done on thousands of allotment grounds throughout the country. Puttiug the nett produce of each 15-pole plot at £4 per annum, we have a gain of £2,700 entirely to the credit of the tenants themselves, not a gain as in the case of betting on horse races, for instance, when the money simply changes hands, but a gain in which the country itself is richer thereby. £2,700 worth of wholesome food produced, the result of labour, which but for this opportunity, might have been wasted. To this might fairly be added the saving of money that might have been unnecessarily spent at the public-house. Then an abundant supply of fresh and wholesome vegetable food is generally available, and in such quantities as may be required for immediate consumption. And one more item, the healthful exercise and recreation resulting from gardening pursuits when carried on intelligently and in earnest. One wishes that the example of personal interest in the allotment question, as shown at Wycombe, were more largely followed.

The surroundings of the ancient borough must be especially charming in summer. Looking along the glade which stretches away between venerable trees to the common, there are some delightful landscapes. Just over the shoulder of the steep chalk down to the north of Wycombe, is the historic residence of the late Lord Beaconsfield, Hughendon.—*L. E.*

Rooks and Steeped Wheat.—Mr. W. J. Murphy relates the following curious circumstance in *The Gardeners' Chroniele:* I was engaged at the usual time in getting in some Wheat, which I had previously steeped in Goulding's Anti-Smut, or "Bunt" mixture, and then dried out on the barn floor with lime. I took elaborate precautions to scare away the crows, or rooks, and jackdaws; but it was quite unnecessary, as not only would they not touch a grain of it, but they would not even alight where I had the seed strewn.

FLOWERS.

Seasonable Work in the Plant-houses.—With the new year all indoor work should be anticipated as far as possible, and it will be a good plan to have plenty of potting-mould prepared and placed where it can be kept dry. It is of the first importance that all potting compost should be in good condition when required for use. Good compost, proper attention to watering, and ventilation are the three chief points to be considered in order to command success in plant-growing, and therefore we recommend that every care should be taken to procure good compost, and to see that it is as free from worms, &c., as possible, and that when used it is neither too wet nor too dry. It will be time now to look to the Gloxinias and get a few in for early flowering. Where they have not been kept too dry, some of them will be starting into growth, and the forwardest may be selected from time to time to keep up a succession, though in any case where they have made too much growth and have become drawn the tops may be pinched off, and a little dry sand applied to dry up the moisture. Corms so treated will soon break out afresh. In any case where the corms are required before they have begun to start naturally, it is best to put them in sand and place them where there is a brisk heat until they begin to start, when they should be potted and placed on a shelf where they will get plenty of light. Gloxinias should be watered very sparingly until the pots are well filled with roots. As Poinsettias lose their beauty and freshness, the strongest plants should be selected for stock, and be stored away under the stage in the stove, or in any place where they can be kept warm and quite dry. The tops should only be cut back to a convenient length for storing.

Begonia Carrierei.—This very fine winter-blooming plant is in rare form in the Swanley Nursery just now. It is a plant that ought to be grown in every warm greenhouse, so freely does it produce its small white blossoms; indeed it seems to be never out of bloom. It is a neat grower of the semperflorens type, and has the merit of lasting well in rooms.

Tuberous-rooted Begonias.—Though now dormant and at rest, the present time is an important one for this section of Begonias. The place chosen for wintering them in should not be heated artificially, except to keep out the frost. It not unfrequently happens that they are stored away under the stage in a greenhouse, turned upon their sides, and for the time forgotten; or it may be that their winter quarters is the back shelf of the greenhouse, and provided that they are free from drip, this will be a better position than the first named, in which they are sure to become too dry, especially if they are placed in close proximity to the pipes. Under these conditions the tubers will shrivel, and wherever this happens a certain proportion of vitality is lost which ought to have been retained. Of this I am forcibly reminded by my experience with a very fine tuber of Begonia Veitchii which I grew some nine years ago, and which measured some 4 ins. across. Unfortunately the tuber was placed among miscellaneous things under the stage and forgotten, till starting time came round, when, to my dismay, nothing but the shell remained, and the soil was dust dry. It was a lesson I never forgot, and I need hardly add that no more Begonias were similarly stored in future. For winteriug them successfully there is no place better suited for the purpose than a shed from which frost can be excluded; they should be shaken out of the pots and be placed in shallow pans or boxes either in the soil from which they have been taken, or cocoa-nut fibre refuse. In such a place and covered with such material, the tubers remain uninfluenced by external conditions.—*E. J.*

Begonia socotrana.—This beautiful Begouia, obtained in the recent expedition to the remarkable island of Socotra, is just now flowering in great profusion, and a lovely plaut it is. The circular peltate leaves give it a remarkable appearance for a

Begonia, and the flowers are of large size and of a beautiful rosy-pink. It is of dwarf and compact habit, and comes in at a time when flowers are especially valuable.

Chinese Primulas as biennials.—Generally speaking, the Chinese Primula is treated as an annual, the seeds being sown from the beginning of March onwards for producing flowering plants for the following winter and spring, and perhaps for all, or nearly all, purposes that is the best. On lately looking through the houses at The Palace, Salisbury, I saw an uncommonly healthy and well-flowered lot of plants on the shelves, and on my remarking to that effect, I was told that they were planted out-of-doors in the summer months, a method of cultivation that was quite new to me, but as to the results nothing could have been more satisfactory, as their leaves were as green as Leeks, and the best of the plants had three flower-spikes, the flowers beautifully fimbriated and measuring 2 ins. across. Mr. Smith, the able gardener, gave me the following details of his treatment. He sows the seed late, and these plants flower in the spring, after which they are planted out in the garden, in a position not too exposed, such as a border by the side of espalier-trained fruit-trees. Here they remain until the time comes for lifting them in the autumn with no other attention except occasionally removing flower-spikes, and keeping them clean; these when lifted form what are called the early flowering batch, and are thrown away when the younger plants come into flower in the spring. Those who have a few weak plants or small ones now in little pots would do well to give this method of culture a trial.—*C. Warden.*

Ipomœa Horsfalliæ.—This beautiful stove climber is valuable as a winter-flowerer. The leaves are dark green in colour and composed of five lanceolate leaflets, and the large magenta-crimson flowers are produced in large many-flowered panicles. The other day we observed a plant in the stove at Kew, which, trained to one of the rafters, produced a very pleasing effect.

Linum trigynum.—This useful and accommodating subject, introduced from the East Indies in the year 1802, is said by some to require stove treatment, but we have found it succeed admirably in unheated pits, kept rather close in the summer months and subsequently in a temperature intermediate between that of the stove and greenhouse to induce it to unfold its pretty, three-styled, yellow flowers. Cuttings made from the young growths strike root most readily if kept a little close and shaded. When rooted, pot them off into small pots, and keep them in a little warmth till they have filled the pots with roots. Give them a position not too far removed from the glass, syringe them overhead daily, as their greatest enemy is red spider; and as soon as they have made several leaves, pinch the points out of the shoots, so that they may be kept dwarf and bushy, as without a course of pinching two or three times during the season, they would not attain this desired condition. When they have filled their pots with roots they should be potted on, using a mixture of peat and loam, with sand to keep it porous. Give them a little warmth to induce them to take to the new soil quickly, and about the beginning of June they may be removed to a cold frame, where they must be attended to regularly as to water and stopping, and when they have filled their pots with roots, if potting on is not contemplated, they should be occasionally supplied with liquid manure until they come into flower. As cold weather sets in, they should be removed to a warmer structure, and a part of them introduced to an intermediate temperature, according as they are wanted in flower. Treated in this way, it is possible to prolong their season of flowering for three months, and three of the worst months too—viz., November, December and January.—*C. Warden.*

Potting off Bedding Plants.—Your correspondent, Mr. H. Dunkin, describes at p. 246 the practice (and its advantages) of potting off Pelargoniums in squares of turf, but I would point out that it is not every gardener who can afford to use good turf for such a purpose. The plan I have adopted for a great number of years is as follows:—Our bedding Pelargoniums just now occupy a large lean-to house. They are growing in nice handy boxes, 3 ft. long, 10 ins. wide, and 5 ins. deep. Early in March the young plants are turned out of the boxes, the cuttings or plants are drawn from the soil and wrapped up separately in moss, after placing a small quantity of soil round the roots. The operation is carried out in this way: take a small quantity of moss in one hand, and, after spreading it out, put on a little soil, on which lay the plant, close your hand and tie up firmly with matting. We then take the same boxes, and, after arranging the plants in rows across, fill up between the rows with a little fine soil. They are then shifted into an early vinery, and soon make fine plants. The trouble of watering them is reduced to a minimum. When planting-out time comes the plants have a mass of young fibrous roots. Planting them into the warm soil and treating them with a slight watering they receive no check and begin to grow immediately. Other bedding plants, such as Lobelias, Violas and Pyrethrums, &c., we grow all in boxes, lifting them with a ball at the time of planting.—*R. Gilbert, Hyde Park Gardens, Burghley.*

Tulipa Borsczowi.—A showy species, belonging to the T. oculis-solis group. The leaves are pale green and very much cristate on the margin; the flowers crimson-scarlet in colour, with a large very dark obovate blotch at the base of each segment. It is figured in the *Gartenflora* for December.

VEGETABLES.

Mr. Webb's Seedling Potatos.—In your issue of December 13th you publish a letter, signed "D. A.," commenting on my seedling Potatos. The writer appears to think little of the variety which I call "Erin's Pride," and states that it was tried at Chiswick last summer with so many other fine kinds, "and proved a very poor sample, rough, uneven, and altogether unworthy of a place beside our best English kinds." Now, this is a dashing way of underrating the production of another, and all I can say is that my trials have turned out quite different to this description. At the late Dairy Show, Ball's Bridge, Dublin, I exhibited a collection of Potatos, and Mr. Wm. Kerr, of Dargavel, Dumfries, was awarded the First Prize for a large and very fine collection, and I received the second prize. The quantity shown was 7 lbs. of each, and the collection included six of my seedlings, amongst them being Erin's Pride and Erin's Beauty, and these two varieties were greatly admired. At the Royal Dublin Horticultural Society's Fruit Show, held at the Rotundo in November, I again showed my seedlings, and was Highly Commended; while at the Fruit Show of 1883 I was awarded a Bronze Medal for twelve seedlings. Now if on these three occasions my Potatos were good enough to be awarded the prizes I name, surely they must possess some merit, and do not show, as "D. A." fears, "that Irish raisers are a long way behind in the matter of Potatos." He speaks of The Champion as a bad stock to raise from. That may be so, but it has a strong constitution, and in 1880 what would Ireland have done without it? There was then no standard variety that could be relied upon, and it was a fortunate thing for the country that the Dowager Duchess of Marlborough founded a relief committee to raise funds for distributing Nichols' Champion Potato throughout Ireland. The Dublin Mansion House Fund followed, and then came Government grants, and by these means some thousands of tons were imported into this country. And what was the result the following year? Why abundant crops, which provided quantities of good food for the people. Since then it has maintained its character, and this season the produce is immense and of fine quality. As regards seedlings from The Champion I know a gentleman in the County Cavan who has some very good ones. Two of his varieties I grew last season and found them great croppers, with a strong habit of growth, and good in quality. The colour of one is a light pink and the other is white and of a better shape than the parent. I quite agree with "D. A." that well-selected hybridized seedlings are superior to those naturally fertilized, but in crossing constitution as well as shape has to be considered, for if you breed too fine to obtain shape a weak constitution will be the result, and the kinds so raised would be only fit for the exhibition table in place of general cultivation. As regards my own seedlings, it is my intention next season to place them in the hands of three or four practical farmers, and if they meet with their approval or otherwise I shall be perfectly satisfied, as I consider that is the only and true test.—*C. B. Webb, Dublin, December 22nd, 1884.*

Early Peas.—In most establishments it is the aim of the gardener to secure a gathering of Green Peas as early and as late in the season as possible, and to maintain a good supply of the same during the interval. The best way to obtain early gatherings of Peas—say from the middle of April, where pit accommodation is provided for their growth—and to maintain that supply afterwards, is to sow at once in 3-in. pots three parts filled with light mould, some seeds of the following varieties:—Day's Early Sunrise, Ringleader, William I., American Wonder, and Sutton's Bijou. The two last named varieties grow from 12 ins. to 15 ins. high, and are specially adapted for pot culture, or planting in pots filled to within 12 ins. or 15 ins. of the glass with fermenting leaves, including 9 ins. thick of short dung and soil on the top. Put eight or nine Peas in each pot, cover them with some mould, and put the pots into a forcing-house, and when the Peas have made a couple of inches of growth, remove them to a cooler and more airy house to harden off a little before finally transplanting them (about the middle of February) into warm borders. Plant them in rows 4 ft. apart and 9 ins. asunder in the row, then draw a little soil up to the haulms and stake them forthwith; using sticks from 3 ft. to 4 ft. long, and short pieces of spray between them and close to the young plants to prevent them from swaying. Afterwards stick short spruce boughs firmly in the ground on either side the ranks as a protection from cutting winds and frost. This done, lay on either side of the rows a good mulching of short dung, a foot wide. This will not only conserve moisture at the roots and keep the latter in a more equable condition than would otherwise be the case, but it will also prevent frost from penetrating the soil and the haulm from sustaining injury from cutting winds after the spruce boughs have been finally removed about the middle of March, they having been removed occasionally, as weather permitted, during the interval to prevent the plants from making a spindly growth. As soon as the haulms come into flower, pinch the points of the shoots out with a view to hastening the podding process, and with the same object in view, as well as that of keeping the plants in bearing as long as possible, they should, in the absence of rain at the time, have copious supplies of water at the roots. These plants, should we be favoured with ordinary spring weather, will yield a gathering of Green Peas about the third week in May, by which time we may assume the supplies previously obtained from those grown in pots and pits will be pretty well exhausted, sowings of Sunrise, Ringleader, William I., Laxton's Supreme, and Culverwell's Telegraph made in the open at the same time the sowings are made in pots for transplanting out-of-doors will supplement and continue the supplies obtained through that source for a month or five weeks, providing that the plants are well attended to from the beginning—heavily mulched, and kept well supplied with water at the roots—including occasional applications of liquid manure while podding.—*H. W. Ward.*

Tomato, Scone Palace.—This is a new variety raised by Mr. M'Kinnon, gardener to the Earl of Mansfield, Scone Palace, Perth, which Messrs. R. B. Laird & Sons, Edinburgh, describe as being perfectly distinct, "and so remarkably good in every respect that it may be safely described as a most valuable acquisition. The fruits are of large size, globular in form, quite smooth, and of a rich crimson colour, and they are remarkable not less for their solidity and high quality than for their handsome appearance and the freedom with which they are produced."

THE

Orchid Growers' Calendar.

Odontoglossum Londesboroughianum.—H. M. Pollett, Esq., of Fernside, Bickley, who has one of the most select little collections of Orchids in the country, succeeds in growing this reputedly "miffy" plant as well as he does most of the other difficult subjects which he takes in hand. His success with it has been unbroken from the beginning, his plants increasing in strength and beauty every year, and flowering most profusely. It is again in bloom, and so beautiful that surely it is worth another trial by those who have given it up as incorrigible.

The individual flowers, which are produced on long branched spikes, resemble somewhat those of a fine Oncidium Marshallianum or O. varicosum, but are much firmer in texture. The bright golden lip is 1½ ins. across; the petals, which are well rounded and symmetrical, are of a clear yellow colour, evenly barred with shining chestnut-brown. Mr. Pollett grows it tolerably cool, like the Lycastes, Zygopetalum, &c., and finds that when so treated it gives but little trouble. Growing it cool seems to be the chief secret of success, as the plant invariably becomes unhealthy if kept warm or close. It is a Mexican Orchid, introduced some years ago by Messrs. Jas. Backhouse & Son, of York, and was flowered by Mr. Denning, gardener to Lord Londesborough, in 1876, when it was certificated by the Royal Horticultural Society. If O. Londesboroughianum is grown with Oncidium tigrinum and others of that class—cool, but not quite so wet as the cold-house Odontoglossums when not growing—every probability of success will attend it.

Also in bloom with Mr. Pollett, and noteworthy on account of their being extra fine varieties, are Phalænopsis Stuartiana punctatissima, a lovely form, with clear white ground, heavily spotted on the lip and lower sepals with bright crimson, the whole of the remainder of the flower being prettily dotted over with mauve spots. Odontoglossum tripudians with very fine purple-marked labellum and a certain resemblance to O. polyxanthum in the petals; Cymbidium giganteum, with very fine brightly-marked flowers; Cœlogyne barbata, very finely grown; Cattleya bicolor, with very prominent and highly coloured rosy-crimson labellum which shows so well against the brownish petals; Zygopetalum Mackayii, the true, old, best form, with fragrant flowers nearly 3½ ins. in diameter; and Z. Clayii, very handsome and distinct. With respect to this pretty plant, which is a garden hybrid, with upright spikes of flowers, smaller but resembling those of O. crinitum, it is interesting to know that the same thing appears to have been raised in several gardens and in each case only exhibits the ordinary variation which such seedlings usually do. It is now also evident that natural crossing has produced the same thing among the wild specimens, Messrs. Fred. Horsman & Co., of Colchester, having now in flower the identical plant, to all intents and purposes, among their imported Zygopetalums.—*James O'Brien.*

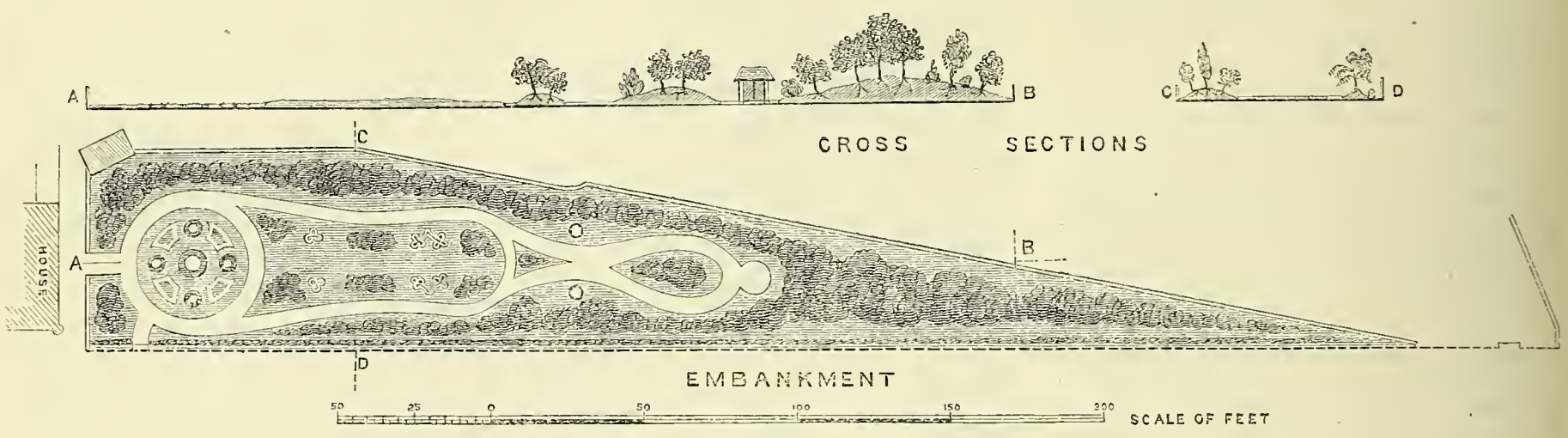
ORCHID NOTES.

Cypripedium niveum.—In reply to your correspondent "E. A.," p. 268, I may say that, as a rule, this Orchid is stubborn when, through adverse circumstances, it has been brought into a small and weakly state like that which "E. A." describes his plant as being in. On the other hand, when a stout plant is obtained in the first place, few fail to grow it well if it is treated in anything like a reasonable manner. It is therefore probable that the secret of "E. A.'s" trouble with the plant lies in his having obtained a declining plant. However, if it keeps healthy it ought to improve. C. niveum, like all the other Cypripediums, dislikes direct sunlight, and being placed in a sunny spot will bring it into precisely the condition your correspondent describes, and getting slowly smaller every year, it should therefore be placed in a shady place. Sometimes a shift from one side of the house to the other will effect the desired improvement. C. niveum thrives best in a moist, shady corner of the intermediate-house, where its head is tolerably near to the glass, or on a shelf in the coolest part of the warm-house in winter. In summer it will do in any cool and tolerably airy house if well shaded. Equal parts of peat, yellow loam, sphagnum, and sand grows it well in most cases, but where the plant is at home in the place given it, it will do in sandy peat, or almost any other material if potted firmly. Some grow it in loam and mortar, in which "E. A." had better repot his plant if it has not been done recently.—*James O'Brien.*

Odontoglossum Rossii Majus.—Messrs. John Laing & Co., of Forrest Hill, S.E., who seem to be as likely to handle the cool Orchids as well as they have the Begonias, are very successful with lovely winter-blooming Orchids in quite a cool house. There is great variety in the flowers of the different specimens, but one of them of the "rubescens" type is superb. Its sepals and the blotches on the petals near the column are of a rich claret crimson, the rest of the flower being snow white, except the golden base to the labellum. The flower is of fine wax-like texture, over 3 ins. across the petals, the firm, pure white, crumped labellum being 1½ ins. in width. To add to the charms of this lovely variety it gives off a most delightful Hawthorn scent.

A TOWN GARDEN.

The accompanying plan is that of a town garden attached to the residence of Sir Percy Shelley, Bart., on the Chelsea embankment, situated midway between the Victoria and Albert Bridges. Its area comprises about 2½ roods, and in shape it is an elongated triangle. The piece of ground is rented by Sir Percy Shelley from the Commissioners of the Royal Free Hospital, Chelsea, by whom it was laid out and planted in the year 1877, from a design made by Mr. William Gibson, gardener, at the Royal Hospital, who also carried out the work. The garden is principally composed of what is termed "made soil," for, properly speaking, it stands on what was at one time a portion of the River Thames, which, on the completion of the Embankment, was filled up with brick-rubbish and soil taken out for the foundation of houses in the neighbourhood. When the work was being carried out it was thought advisable to omit the flower-beds, with a view to affording more space for croquet. The back border is planted partly with herbaceous plants, Pinks, Carnations, Pentstemons, Antirrhinums, Bulbs, &c., instead of all shrubs, as shown on plan. Trees were not extensively used, only a few Poplars, Ash, and Laburnums, but shrubs were used more freely, comprising common and Persian Lilacs, black and yellow-berried Privet, Japan and oval-leaved Privet, white and red Ribes, white and yellow Broom, green and variegated Hollies, Laurels, and Aucubas; and the pear-shaped bed at the lower end is filled with Rhododendrons. The border on both sides of the walk leading to the summer-house is covered with a thick bank of Ivy. The back of the garden is enclosed with an Oak fence, and this is completely hidden with Ivy. The front nearest the Embankment is enclosed with an ornamental iron fence with a hedge of oval-leaved Privet close to it. This is a very secluded garden in the summer, and a great acquisition to a town residence.



PLAN OF A GARDEN ON THE CHELSEA EMBANKMENT.

SELECT NEW CHRYSANTHEMUMS.

By way of following up the select lists of Chrysanthemums which have already appeared in The Gardening World, I have ventured to give a list of the twelve finest new Japanese Chrysanthemums. They are from the same source as that from which Chrysanthemum growers have had so many splendid acquisitions during the past few years. Mr. H. Davis, the well-known Chrysanthemum grower of the Lilford Road Nursery, Camberwell, reports, that though in some cases the blossoms did not sufficiently expand to fully judge of their merits; yet enough of fine character was displayed to enable him to say they were simply superb; and he adds, "I have little hesitation in saying I look upon them as the finest set of new Japanese Chrysanthemums ever sent over." I saw some of the following at the Chrysanthemum shows, and I think Mr. Davis's estimate a very correct one. Four of them have received certificates of merit from the Floral Committee of the National Chrysanthemum Society—a tribunal in every way fitted to undertake so important a work.

The selection is as follows: Frizou, large flower, very double, with very long petals twisted in a spiral form, completely intermixed and curled, resembling a bunch of little ribbons of the finest dark canary-yellow, lit up with delicate canary, extra fine. Coribri, a very fine new variety, large flowers, very double, rich dark crimson, shaded with violet dark brown, golden in the centre, distinct from all known. Monsieur Cochet, very large flower, very long petals, colours silvery-white ground, washed with delicate rose, framed with a darker hue; the reverse of the petals very dark violet-carmine; a rich new variety of the greatest beauty. Beauté des Jardins, large flower, very double, very long twisted drooping petals, colour brilliant light amaranth suffused with violet, and silvery in the centre; one of the most brilliant-coloured varieties in cultivation. Fernand Feral, very large blossoms, borne in clusters of four or five, with the broadest twisted petals in spiral form; colour

delicate fleshy-rose, brightened with mauve, and shaded with buff; a unique variety, new in colour, and quite distinct from any of the rose-coloured varieties. Madam de Sevin, very large and double flower, blooming in a completely spiral shape, very wide petals, colour lilac-amaranth rose, with an enormous centre of the purest white until fully expanded, very remarkable in character and extra fine. Brise du Matin, an enormous flower, and one of the most double; spiral form, very broad petals, colour the most delicate mauve-rose, frosted with silver, the whole centre shaded with buff; very delicate tint, unique in colour, extra fine. Aurore Boreale, very large double flowers, long twisted petals, drooping, becoming more curled with age; colour pure gold, dashed with salmon, the centre petals take in a spiral form, and are of a rich golden buff; new in colour, and a striking variety. Flamme du Punch, or Punch, bright orange, beautifully striped with red, violet and gold; a magnificent variety. Madlle. la Croix, sulphur white, long drooping florets, a very graceful and handsome flower, very free, and has been awarded several first-class certificates of merit. Lastly comes Hero of Midlothian. This is a seedling raised by Mr. Davis, the flower large, colour deep crimson, flat florets in the way of Elaine, very distinct and fine. This does not exhaust the list of Japanese varieties, but it is the very pick of the new ones.

Select Exhibition Pompons.—And now what are the finest Pompon varieties for exhibition purposes? They are the white Madlle. Marthe and its golden form; both varieties of fine form and very free. Fanny, deep crimson, very good and fine; Miss Wheeler, carmine, fine form; Rose d'Amour, rose, charming in colour; Mrs. Bateman, orange brown, a sport from Miss Wheeler, which it resembles in all other respects; Rosinante, blush rose, very pretty; Nellie Rainford, buff, a sport from Rosinante; Prince of Orange, deep orange, good form and very fine; Purple Pompon, bright purple, very good and attractive; Prince Victor, dark maroon, very fine; and St. Michael, fine deep yellow, very good. This gives twelve of the finest. The following six may be added if required: Marabout, white, a charming variety with beautifully fringed petals; Bob, dark crimson brown, fine, but late; Adele Prissette, rosy-lilac, fringed, very full and fine; La Vogue, fine golden yellow, very large full flowers; Pygmalion, deep rose, very pretty; and Elenore, crimson brown, edged with yellow.

New Pompons.—And what of the new Pompon varieties of the past year? One of them, Nellie Rainford, is included on the first lists of twelve exhibition varieties. The others are Le Desirée, a fine variety, with well imbricated double flowers, colour snow-white, with rose centre, novel and distinct; Mons. Deleceil, a very pretty and well-imbricated variety, pure snow-white, very broadly and strongly pointed, and edged with carmine-rose, extra fine; Pompon Rose, a very pretty and fully-double flower, with fimbriated petals, colour soft lilac-rose, the base of the petals pure white, pointed with gold, and with a golden centre, double, and very attractive; Etincellant, perfectly double, colour crimson-red dashed with brown, golden in the centre, a very pretty new variety; Kyrle Bellew, crimson and yellow, a small Japanese Pompon, curious and distinct; Niobe, dark red and gold; Madame D'Arnaud; violet rose, slightly tinted with purple, tipped with gold, small, but very double and free; Madame Marignac; Perfection, reddish brown, tipped with golden-yellow, double and handsome; Elegant, orange-red, shaded with bronze, very double; and Star of Whyke, a semi-double pure white sort, an excellent variety to grow for cutting from, new and distinct.

Large-flowered Anemones.—Of the large-flowered Anemone section, the best twelve that I saw during the past season were—Acquisition, rosy-lilac, with yellow centre, very fine; Empress, blush, large and fine; Fleur de Marie, a very fine white self; Fabias de Maderanaz, a very fine flower of the Japanese type, white, shaded purple and gold, the centre lilac; Gluck, deep yellow, extra fine; Georges Saud, red and gold, large and fine; King of the Anemones, a large crimson self; Lady Margaret, a very fine large white self; Madlle. Cabiol, blush white, large, fine and distinct; Prince of Anemones, blue blush, very fine; Sœur Dorothee Souille, pale lilac, the centre white, tinted with rose, very fine, distinct, and early; and Souvenir de l'Ardenne, rosy-mauve, with blush centre, very good.

Anemone-flowered Pompons.—The following are to my mind the very pick of the Anemone-flowered Pompons:—Antonious, bright yellow; Astarte, amber; Dick Turpin, magenta; Firefly, reddish scarlet; Madame Montels, white, yellow centre; Marie Stuart, dark, sulphur centre; Mr. Astic, golden yellow; Mr. Wyness, rosy-lilac; Perle, pale bright lilac; Queen of Anemones, crimson; Sidonie, lilac, blush centre; and Zobedie, blush, rose centre.

Of the reflexed section of Chrysanthemums, most of which make excellent decorative varieties, the best are Annie Salter, orange, and the yellow form also; the four varieties of Christine; Chevalier Domage, rich deep golden; Cullingfordi, brilliant crimson, extra fine, new and very distinct; Dr. Sharpe, magenta crimson, fine; George Stevens, crimson-brown with yellow reverse; Jewess, orange red; King of Crimsons, bright deep crimson; Progne, brilliant amaranth; and Violet, unique rosy-violet. The Catalogue of the National Chrysanthemum Society makes Mrs. Forsyth to be the same as White Christine.—*R. D.*

Letters to the Editor.

GRAPE-GROWING AT LONGLEAT.

In reference to Mr. C. Open's note on this subject at p. 259, I beg to say that until reading his letter I was under the impression that the large Vinery at Longleat, the architecture of which is as plain as can be, and the workmanship good—was planned, as well it might have been, by Mr. Taylor, and that, as a passing visitor to the gardens, I had not heard Mr. Buckenham's name mentioned. I thank Mr. Open for having given us the exact dimensions of the range of vineries in question, which shows that I over-estimated the length by 3 ft. 10 ins., and did not give enough by 18 ins. to the width. The figures originally given were, however, near enough to the mark for my purpose, for seeing that an estimate for heating or painting the structure had not to be based on them, I gave the figures without the aid of rule or tape, simply to afford your readers some idea of the size of the vineries in question.—*The Writer of the Notes.*

Mr. Open's letter in your last issue suggested to me a few remarks that I thought might be of interest to some of your readers. Having well read Mr. Taylor's little book, *Vines at Longleat*, in which he records his failures and successes, I confess to having gathered more practical hints therefrom than from any other book or paper I had previously read upon the subject. I have never seen Mr. Taylor, and only know him by repute. To show that I am deeply interested in Grape growing I may mention that we have four vineries here, from which my employer expects and has Grapes available for his table during eleven months out of the twelve. We usually finish our old Grapes at the end of April or the beginning of May, and never fail to cut new ones at the end of the latter month. Formerly our black Hamburghs did not colour well but were what is termed "foxy" in appearance, and our Muscats shanked badly annually. This year there was a decided improvement in the Hamburghs, which are old vines, having been forced annually, to my knowledge, for more than ten years. As to the Muscats, there are some well finished bunches still hanging upon an old vine in an inside border that I would not be ashamed to show to the best Grape grower in the country. Our best keeping Grapes are Lady Downe's and Mrs. Pince's Black Muscat, which have never given us any trouble in the growing. In concluding these remarks, I would say to those who have a limited supply of turf or a scarcity of labour when the vines require the most attention, read *Vines at Longleat*, and act upon the hints as I have done.—*T. Simcoe, The Gardens, Lake House, Cheltenham.*

THE WEATHER.

In contrast with your experience and anticipation of the weather as expressed on p. 259, I send you our records of the temperature in this part of Lancashire during the Christmas week. The weather set in frosty on Dec. 15th, when we had 6 degs. of frost, and from 5 degs. to 8 degs. were registered daily till the 21st, when we had 9 degs. of frost, with a north wind; 22nd, 12 degs. of frost, wind N.E.; 23rd, 13 degs. of frost, wind E. by S.; 24th, 12 degs. of frost, wind E. by N.; 25th, 12 degs. of frost, wind N.W.; 26th, 13 degs. of frost, wind N E.; and so it has kept on up till to-day. As I write, the ground on the surface is softening, and there is a slight rustle in the wind, as for a thaw. On the 27th the wind was in the south in the afternoon, and unusually biting, and by four o'clock all the glass on cold frames was well frozen over. It will be seen that the wind has been very variable, changing two or three times in the twenty-four hours.—*W. P. R., Preston, December 29th.*

TOMATOS AND INSECTS.

I am afraid that the Tomato in this country can hardly be considered to possess the power of keeping insects off (*see* p. 259). On the other hand I have found that if Tomatos are grown amongst other plants where insects abound the Tomatos will also soon become infested. I have not paid especial attention as to what kind of insects will attack the Tomato, but, from memory, I can say that I have seen them infested with red spider, green fly, thrips (black and white), mealy bug, and also a small white fly, which is very troublesome where once it gets established. Of course the above alludes to plants grown under glass, and I may add that I do not think the Tomato is much troubled with insects when grown out-of-doors.—*H.*

THE PERFUME OF THE ROSE.

At a social gathering of gardeners held in this neighbourhood a few nights ago, and at which I need scarcely tell you that "shop," as usual, formed the staple of the general conversation, some reference to Roses led to various remarks on the different kinds of scent emitted by these flowers. It was mentioned that, a few years ago, one of the leading rosarians had published a letter, in which he had enumerated over a dozen different kinds. Can you or any of your readers tell me where I can find the letter in question?—*Spade.*

LATE CHRYSANTHEMUMS.

I have read the excellent article written by Mr. Boyce, on Chrysanthemum Culture, with much pleasure, and shall feel greatly obliged if he will give a list of the best late varieties, and a few hints on retarding blooms for exhibition.—*C. T.*

ANSWERS TO CORRESPONDENTS.

Boilers.—*K. W.*—We know them both to be good ones, but without a competitive trial should not like to say which is the best.

Books.—*Tauntonian.*—For Auriculas, Carnations, and Pansies you cannot do better than consult Mr. James Douglas's *Hardy Florists' Flowers.* His address is Great Gearie's, Ilford. Canon Hole's *Book about Roses* (Blackwood & Sons) is an excellent book for an amateur, but if you want something cheaper get Rivers' *Rose Amateur's Guide* (Longmans).

Myrobella Plum.—*Tertius.*—We have no actual experience of Prunus myrobolana as a hedge plant, but those who should know its value speak in high terms of it, especially for quickly repairing old fences. It is said to grow in the poorest soils, where the Whitethorn does not succeed, bears clipping well, and makes a stout, strong hedge.

Bean, Beck's Dwarf Green Gem.—*C. T.*—It is a sport from the old Dwarf Cluster or Fan Bean, which we believe originated at Shipston-on-Stour some twenty years ago.

Communications Received.—C. B. W.—J. J. W.—H. W. W.—E. R. C.—R. G.—E. J.—W. E. B.—C. T., Yeovil (many thanks).—M. T.—H. & S.—E. P.—M. Y.—A. S.—W. S.—H. W. W.—M.

Trade Catalogues Received.

B. S. Williams', Victoria and Paradise Nurseries, Holloway.—Flower, Vegetable and Agricultural Seeds.

R. B. Laird & Sons, 17, Frederick Street, Edinburgh.—Vegetable, Flower, and Agricultural Seeds; Gladioli Roots, Implements, &c.

Dobbie & Co., High Street, Rothesay, N.B.—Choice Seeds and Flowers.

Ireland & Thomson, 20, Waterloo Place, Edinburgh.—Vegetable and Flower Seeds.

Robert Owen, Floral Nurseries, Boyne Hill, Maidenhead.—New and Select Chrysanthemums.

Stuart & Mein, Kelso, N.B.—Amateur's Guide and Spring Catalogue.

LONDON SEED TRADE.

December 31st, 1884.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a small attendance on to-day's market, and little business doing. No change in values of Alsike or White Clovers, which are offering at reasonable prices. Red Clover continues firm, in fair supply. Bird Seeds and Blue Peas are neglected.

COVENT GARDEN MARKET.

January 1st.

FRUIT.—AVERAGE WHOLESALE PRICES.

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Apples, ½-sieve	1 6- 4 0	Kent Filberts and Cobbs, per 100 lb.	60 0-62 6
— Nova Scotian, per barrel	10 0-13 6	Pine-apples, Eng., lb.	3 0- 4 0
— Extra samples	20 0-	Pears, French, p. doz.	1 6- 3 6
Grapes, per lb.	1 6- 4 0	St. Michaels	5 0-10 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	0 4- 1 0	Horse Radish, bundle	3 0- 4 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	1 6-
Brussels Sprouts, ½ sve.	2 6- 3 0	— Cos, each	0 2-
Cabbages, per dozen	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	2 6- 3 6
Cauliflowers, English, per dozen	3 0- 4 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 9- 1 3	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	0 6- 1 0
		Turnips, per bunch	0 6-

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Abutilon, 12 bunches	2 0- 4 0	Pelargoniums, per 12 sprays	1 0- 2 0
Azalea, 12 sprays	1 0- 1 6	—scarlet, per 12 sprays	0 9- 1 0
Bourvardias, per bun.	0 9- 1 0	Pinks, various, 12 bunches	-
Camellias, 12 blooms	3 0- 8 0	Poinsettia, doz. heads	3 0- 9 0
Carnations, 12 blooms	1 0- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	12 0-24 0	Primulas, Chinese, bun	4 0- 6 0
— large, 12 blooms	1 6- 4 0	Pyrethrum, 12 bun.	-
Epiphyllums	4 0- 6 0	Roses, outdoor, 12 bunches	-
Eucharis, per dozen	4 0- 8 0	Roses, indoors, p. doz.	2 0- 6 0
Gardenias, 12 blms.	12 0-18 0	Roses (French), per doz.	1 6- 2 0
Heliotropes, 12 sprays	0 6- 1 0	Stephanotis, 12 spr.	-
Hyacinths, Roman, doz. sprays	1 0- 1 6	Tuberoses, per dozen	2 0- 4 0
Lapageria, white, 12 blooms	2 0- 3 0	Tulips, per doz.	1 0- 1 6
Lapageria, red, 12 blms.	1 0- 2 0	Violets, doz. bun.	1 6- 2 0
Lily of the Valley, doz. sprays	1 0- 3 0	— French, doz. bun.	1 6- 2 0
Marguerites, 12 bun.	4 0- 9 0	— Parma, doz. bun.	5 0- 7 0
Narciss, Paper White	2 0- 3 0	White Jasmine, bun.	0 6- 1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

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Bouvardias, dozen	9 0-18 0	Hyacinths, doz.	8 0-10 0
Chrysanth., dozen	-	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-15 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargoniums, scarlet per dozen	4 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	9 0-15 0
Epiphyllums, doz.	18 0-24 0	Solanums, dozen	9 0-15 0
Evergreens, in var., per dozen	6 0-24 0		
Ferns, in var., dozen	4 0-18 0		

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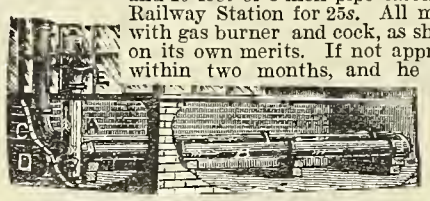

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BULBS, CARRIAGE FREE, REDUCED PRICE, end of the season, to clear out. All choice varieties.

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100 Ranunculus, 5s.; 100 Anemones, 5s., 8s.
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12 Anemone fulgens, 1s. 6d.; ditto double, 1s. 6d.; new white Bride Anemone, 1s. 6d.
12 Tiger Lily, 1s. 6d.; 12 Longiflora Lily, 3s. 6d.
12 Large white Lily, 2s. 6d., 3s. 6d.; 12 Iris, various sorts, 6d. to 1s.

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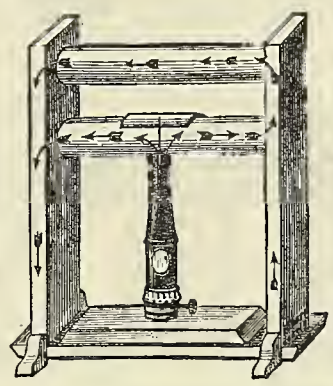

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SILVER SAND (coarse) 1/3 per bushel, 12/- half ton, 22/- ton.
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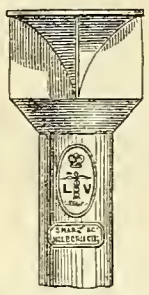

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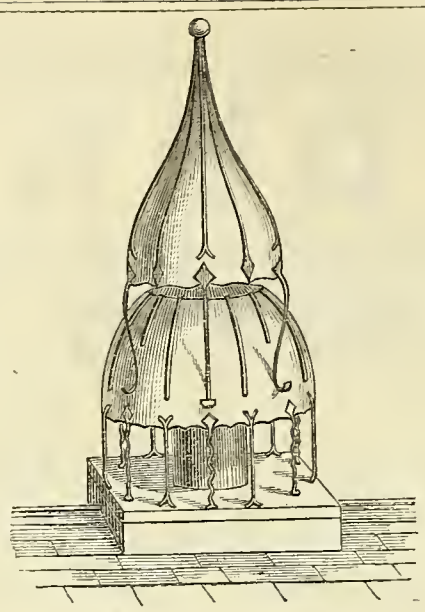

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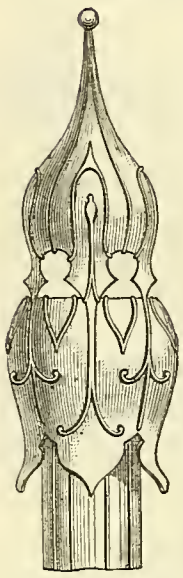

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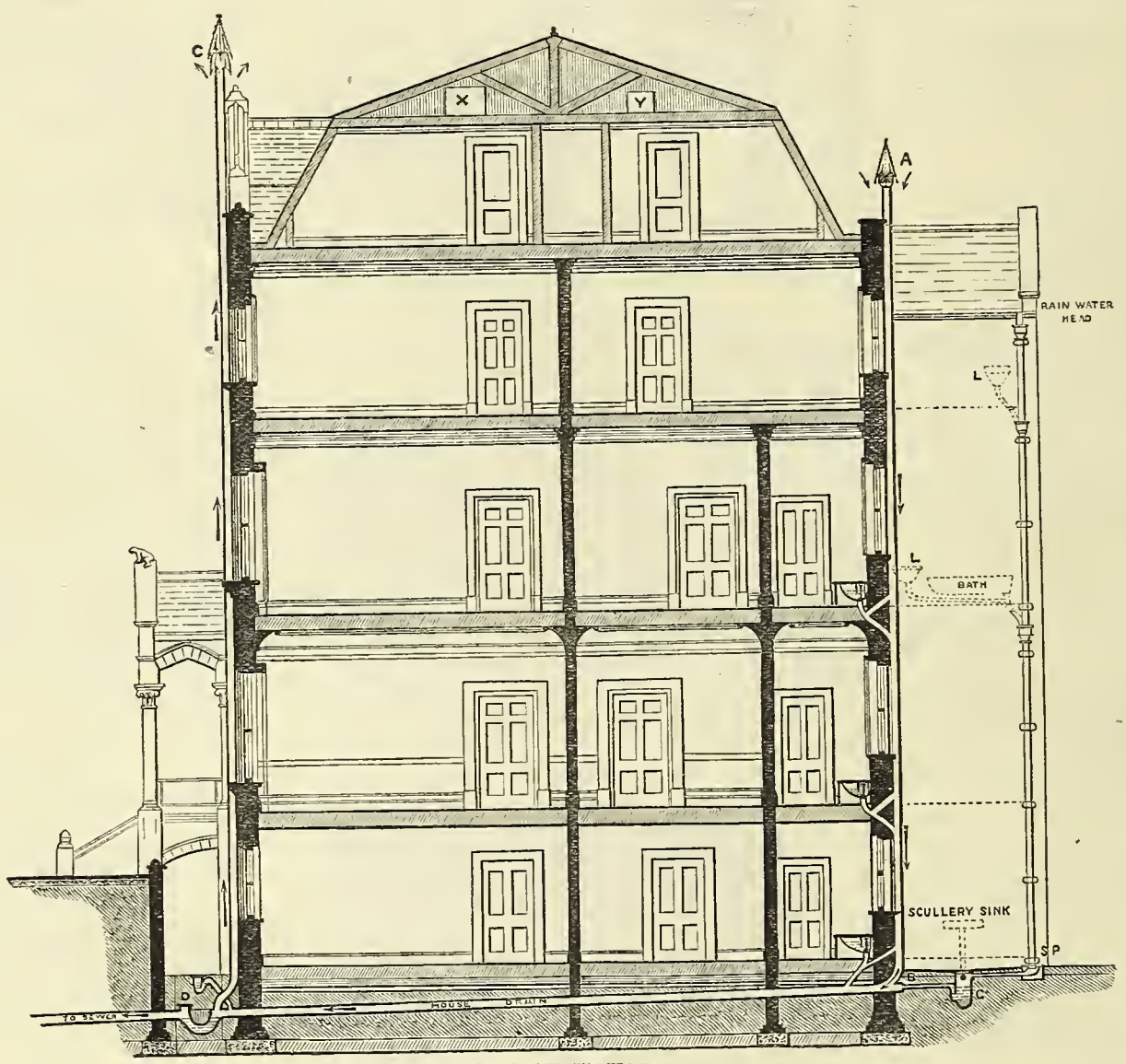

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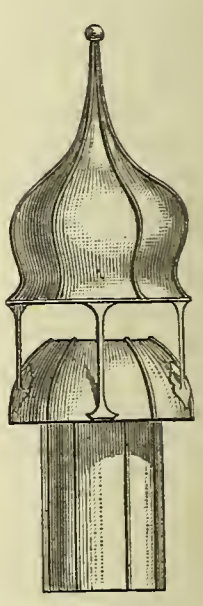

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THE GARDENING ILLUSTRATED WORLD

No. 19.—1885. SATURDAY, JANUARY 10TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

NOTICE IS HEREBY GIVEN that the ANNUAL GENERAL MEETING of the Members of this Society will be held at the BEDFORD HOTEL, COVENT GARDEN, on WEDNESDAY, the 14th of January next, for the purpose of receiving the Report of the Committee and the Accounts of the Institution for the past year, and electing Officers for the ensuing year; also for the Election of Six Pensioners on the Funds.

The Chair will be taken at Four o'clock, and the Ballot will close at Seven o'clock precisely.—By order,

EDW. R. CUTLER, *Sec.*

14, Tavistock Row, Covent Garden.—*December 30th*, 1884.

P.S.—The Voting Papers have all been issued, any Subscriber not having received one is requested to make immediate application to the Secretary.

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R. B. LAIRD & SONS (successors to Downie & Laird), will have much pleasure in posting their descriptive priced List of GARDEN, FLOWER and AGRICULTURAL SEEDS, free on application.

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KELWAY & SON.—TWENTY ACRES OF GLADIOLI.

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Chou de Burghley, 1*s*. 6*d*. per packet; Universal Savoy, 2*s*. 6*d*. per packet; Gilbert's Burghley Pet Melon, which does not canker, 3-year old seeds, 2*s*. 6*d*. per packet.—Trade supplied on liberal terms. Apply to R. GILBERT, High Park Gardens, Stamford. Stamps with order. Post free.

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6 Camellias, full of buds, 1½ ft. high, 5½-in. pots	10*s*. 6*d*.
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6 Bouvardias, full of buds, 5½-in. pots	7*s*. 6*d*.
6 Rhododendrons, full of buds (8 to 12 buds), named sorts	12*s*.
6 Tea Roses, 2 ft. high, 5½-in. pots	6*s*. and 7*s*. 6*d*.
6 Sweet-scented p'ants, Jasminum, Gardenias, 5½-in. pots	9*s*.
12 Spiræa japonica, large clumps	3*s*. 6*d*.
25 Choice Greenhouse Ferns, different sorts, 4-in. pots	10*s*. 6*d*.

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ROSES, ROSES, ROSES. — Wonderfully cheap Roses, 100,000 Rose-trees to select from. Best sorts and true to name. 20 Choice Standards, 12*s*. 6*d*.; 24 Choice Half-Standards, 12*s*. 6*d*.; 50 Choice Dwarfs, 12*s*. 6*d*.; 24 Choice Teas and Noisettes, 12*s*. 6*d*.; 12 Choice Climbing, 5*s*., my selection. Cash with order. Hundreds of Testimonials. Catalogues free.—JAMES WALTERS, Rose Grower and Nurseryman, Mount Radford, Exeter.

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GOLD MEDAL STRAIN from our Prize Plants. New crop now harvested. Sealed packets.
CHOICE MIXED, from single varieties, 1/- and 2/6 per packet; 5/- extra large packets; double varieties, 2/6 and 5/- per packet.
COLLECTIONS, 12 named varieties, separate, 7/6
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Begonia Growers, Forest Hill, S.E.

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WEDNESDAY, JANUARY 14th.—Sale of 10,000 LILIUM AURATUM, fine bulbs; 400 STANDARD and OTHER ROSES from an English Nursery; LILY OF THE VALLEY; 10,000 double AFRICAN TUBEROSES, &c., at the Central Sale Rooms.

THURSDAY, JANUARY 15th.—Unreserved CLEARANCE SALE of the whole of the GLASS ERECTIONS, about 20,000 ft. super.; 7,000 ft. of hot-water piping, &c., at the Nursery, FULHAM PALACE ROAD, Fulham.

FRIDAY, JANUARY 16th.—Sale of IMPORTED ORCHIDS, comprising six cases ODONTOGLOSSUMS received direct, and 200 lots of ESTABLISHED ORCHIDS from well-known collections, at the Central Auction Rooms.

Catalogues at 67 and 68, Cheapside, E.C.

MONDAY NEXT, SALE No. 6816.

Immense Importations of Lilies, Seeds, &c.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on MONDAY next, January 12th, at half-past twelve precisely, an Importation of 8,000 Lilium Auratum, just received from Japan in the finest possible condition; 1,600 Lilium Tenuifolium from America, 5,000 Tuberoses from South Africa, 12,000 grammes of fresh collected Mexican Seeds, consisting of Cupressus, Pinus, Taxodium, Ceanothus, Arbutus, Bocconia, Yucca; a quantity of the beautiful Fourcroya Bedinghousi, a splendid decorative plant; Beaucarnea recurvata, &c. Also 1,000 Bulbs of Milla biflora, 3,000 fine imported Lily of the Valley crowns, 1,000 Home-grown Lilies in variety, and a large quantity of Miscellaneous Plants and Bulbs.

On view morning of Sale, and Catalogues had.

TUESDAY NEXT, SALE No. 6817.

Periodical Sale of Poultry and Pigeons.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on TUESDAY next, January 13th, at half-past twelve o'clock precisely, 360 Lots of first-class Poultry and Pigeons, comprising Golden-pencilled Hamburg from Mr. H. R. Plattin, Coloured Dorkings from Mrs. Puget, Buff Cochins from Mr. P. B. Fearon, Game and Langshans from Mr. R. A. Apsey, Black-red Bantams, Light and Dark Brahmas, Partridge Cochins, Plymouth Rocks, Andalusians, Houdans, &c.; also Carriers from Major-General Hassard and Mr. J. E. Palmer, Owls, Antwerps, Pouters, Trumpeters, Fantails, Turbits, Beards, Dragons, Baldheads, and many other Birds from the yards and lofts of well-known Breeders and Exhibitors; Fancy Call and other Ducks, Silver Pheasants, &c.

On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT, SALE No. 6818.

Roses, Border Plants, Bulbs, &c.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY next, January 14th, at half-past twelve precisely, first-class Standard and Dwarf Roses, finest varieties to name, Carnations, Picotees, Pink, and other Border Plants, Gooseberries, Raspberry Canes, Lilies, Gladioli, and a quantity of miscellaneous Hardy Roots and Bulbs.

On view morning of Sale, and Catalogues had.

THURSDAY NEXT, SALE No. 6819.

Most Valuable Importations.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY next, January 15th, at half-past twelve precisely, by order of Mr. F. Sander, grand importations of two Vandas and two Aerides from a new island, a superb lot of the magnificent Oncidium Phalænopsis (the plant in flower will show what a beautiful new introduction this is), many Odontoglossom Klabochianum (rubellum), the dark, autumn-flowering variety, O. Roezlii, Oncidium papilio, Pescatorea Wallisi, Paphinia rugosa, Sacoolabium violaceum, many Cattleyas, Odontoglossums, and other Orchids, the whole in specially fine, healthy condition.

On view morning of Sale, and Catalogues had.

A Rare Opportunity for Nurserymen.

TO BE SOLD by PRIVATE TREATY, owing to the death of the Owner, Elm Grove Nurseries, Newry, Ireland.

The Nurseries are well stocked, and for nearly fifty years the Proprietors (Messrs. M. Grant & Co.) possessed a splendid business.—For particulars apply to THOMAS J. MARRON, Solicitor, Newry, Co. Down.

LOVELY LILIES AND IRIS.

WM. GORDON has still the finest Collection of these. Buy of the Importer. The three lovely Lilies, Lilium album Krætzeri, Lilium Melpomene, Lilium Brownii, for 5*s.* 6*d.*, six for 9*s.*, post free. Over thirty varieties of Japanese Iris, all Hybrids, in all hues and beautifully marked, perfectly hardy, the admiration last season of all who saw them. Six varieties for 9*s.*; twelve for 15*s.*; the thirty varieties for 30*s.* Lilium Humboltii, each 1*s.*, 1*s.* 6*d.*, 2*s.* 6*d.* Lilium auratum, these surprise all my customers, specially imported Bulbs, 6*d.*, 9*d.*, 1*s.*, and 1*s.* 6*d.* each. Special terms to the trade.—WM. GORDON, Nurseries, Twickenham, Middlesex. See previous Advertisements.

Farms, Estates, Residences.

Any one desirous of Renting a Farm or Residence, or Purchasing an Estate, can have copies of the

MIDLAND COUNTIES HERALD supplied free for six weeks on stating the purpose for which the paper is required, forwarding name and address, and six halfpenny stamps for postage, addressed "*Midland Counties Herald* Office, Birmingham." The *Midland Counties Herald* always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

"NEW, RARE AND CHOICE FLOWER SEEDS" (Illustrated).

THIS most useful and interesting Catalogue, which everyone with a Garden or Greenhouse should possess, is **Now Ready**, and is being posted to all **Customers**, and may be had Gratis upon application. It includes perhaps the finest list of **Sterling Novelties** ever brought together. A Grand Collection of **Hardy Florist Flowers**, a specially fine selection of **Hardy Perennials**, and such as are easily and quickly grown. **Greenhouse Seeds**, all the most popular. **Hardy Ornamental Grasses, Showy Single-Flowered Annuals and Perennials.** The Catalogue is beautifully illustrated, and everything very fully described.

Also, in separate form, and complete, Collection of **Miscellaneous Bulbs**, adapted for spring planting.

THOMAS S. WARE,

HALE FARM NURSERIES, TOTTENHAM, LONDON.

ORCHIDS A SPECIALITY.

The stock at the Clapton Nursery is of such magnitude that, without seeing it, it is not easy to form an adequate conception of its unprecedented extent.

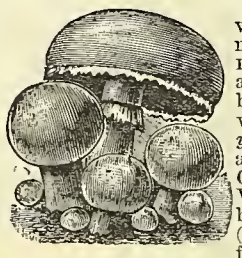
HUGH LOW & CO.

Very cordially and respectfully solicit an inspection by all lovers of this interesting and beautiful class of plants, whether purchasers or not.

CLAPTON NURSERY, LONDON, E.

CUTBUSH'S

MILLTRACK MUSHROOM SPAWN.



IF ONCE USED no other will be willingly taken. Testimonials of high merit received every day.—"THE GARDENS, SANDRINGHAM.—I have tried all other Mushroom Spawn advertised, but none to be compared with yours, which I have used for the last *twenty years* without once failing a quick and good crop.—CHAS. PENNY, Gardener to H.R.H. The Prince of Wales."—Price Six Shillings per bushel, One Shilling extra per bushel (for packing), One Shilling per Cake free by Parcels Post.

HIGHGATE NURSERIES, LONDON, N.

KERR'S CHOICE SEED POTATOS.

W. KERR

Is now sending out his CHOICE STOCKS of POTATOS, and those desiring a change of Seed should send for Descriptive Priced List, which contains all the best for

FIELD, GARDEN & EXHIBITION.

No finer Collection of Potatos in the Kingdom.

ROYAL SCOTCH POTATO ESTABLISHMENT,

DARGAVEL, DUMFRIES.

Hooper's The Covent Garden Seed Warehouse

Splendid Seeds and Bulbs at low prices

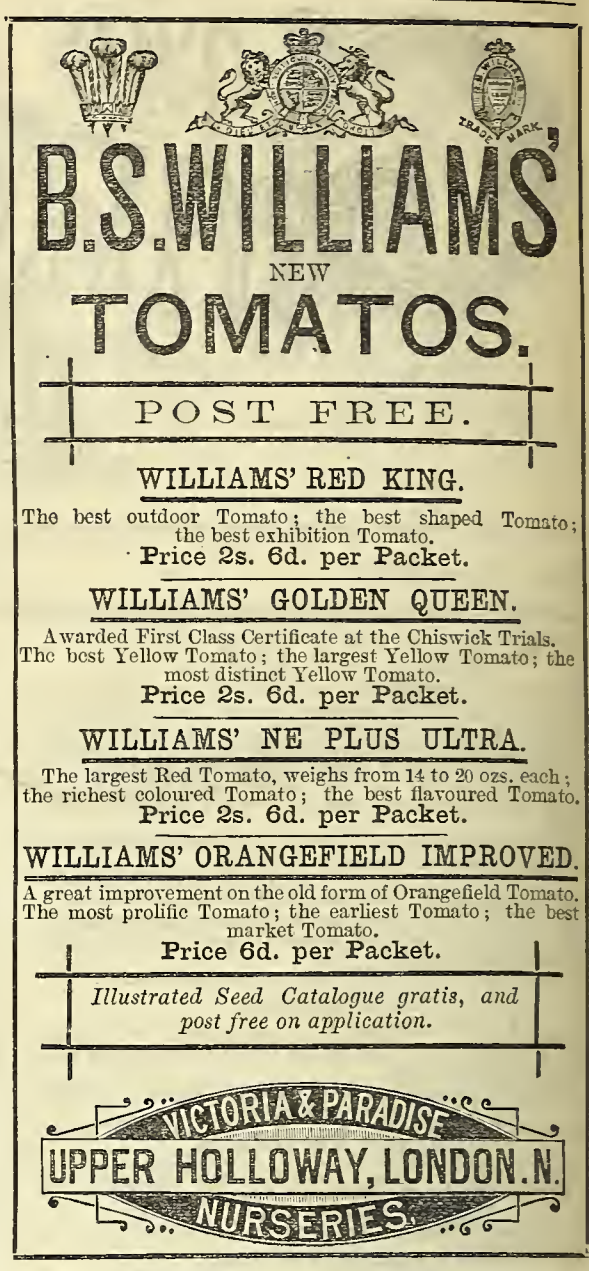
Catalogues free to buyers

To the Trade.—Offered by

HUGH LOW AND CO.

ACACIA ARMATA, splendidly budded, 9*s.*, 12*s.* dozen.
ARECA LUTESCENS, 48-pots, fine, 18*s.* per dozen.
,, RUBRA, graceful Palm, 1 foot, 10*s.* per 100.
ADIANTUM GRACILLIMUM, extra sized, 32-pots, 12*s.*, doz.
AZALEA INDICA, well budded, 12*s.*, 15*s.*, 18*s.*, 24*s.*, 30*s.*, doz.
,, single white, just opening flowers, 12*s.* per dozen.
CAMELLIAS, well budded, 21*s.*, 24*s.*, 30*s.* per dozen.
CARNATIONS, Tree, in bud and flower, 12*s.*, 15*s.* per dozen.
CYCLAMEN PERSICUM, in flower and bud, 50*s.*, 75*s.*, 100*s.* per 100.
ERICA GRACILIS, in flower, strong, 18*s.*, 24*s.* per dozen.
,, HYEMALIS, in 48's, in flower, 9*s.* per dozen, 60*s.* per 100.
EUONYMUS, Golden, for pots, 30*s.*, 42*s.*, 60*s.* per 100.
FICUS ELASTICA, 18*s.*, 21*s.*, 24*s.*, 30*s.* per dozen.
GARDENIA RADICANS, in bud, 9*s.*, 12*s.* per dozen.
GENISTAS, very fine, 8*s.*, 10*s.*, 12*s.* per dozen.
GREVILLEA ROBUSTA, 48-pots, 50*s.*, 75*s.* per 100.
LATANIA BORBONICA, splendid plants, 18*s.*, 24*s.*, 42*s.*, doz.
LAURUSTINUS, French White, splendidly budded, 12*s.*, 18*s.* per dozen.
PELARGONIUMS, Zonal, unnamed, in flower and bud, 30*s.* per 100.

Clapton Nursery, London, E.



Fruit-trees of Fine Quality

offered to the Trade by

HUGH LOW AND CO.

APRICOTS, Dwarf Maidens, Moor Park, and others, 60*s.* per 100, £27 10*s.* per 1,000.
,, Dwarf-trained, 24*s.* and 80*s.* per dozen, £9 per 100.
CHERRIES, Dwarf Maiden (except May Duke), 40*s.* per 100.
,, Dwarf-trained, 18*s.*, 21*s.* per dozen.
,, 2-year, feathered, 60*s.* per 100.
DAMSON, Farleigh Prolific, Dwarf Maiden, 50*s.*, 60*s.* per 100.
NECTARINES and PEACHES, Dwarf Maiden, 60*s.* per 100. £27 10*s.*, per 1000.
,, Dwarf-trained, 24*s.*, 30*s.* per dozen, £8 10*s.* per 100.
PEARS, Dwarf Maiden on Pear and Quince, 40*s.* per 100.
,, Dwarf-trained, 21*s.*, 24*s.* per dozen.
,, Pyramids on Quinces, 50*s.*, 60*s.* per 100.
,, 2-year, feathered, on Pear stock, 50*s.* per 100.
PLUMS, Dwarf Maiden, 40*s.* per 100.
,, Dwarf-trained, 18*s.*, 21*s.*, 24*s.* per dozen, £7 per 100.
,, 2-year, feathered, 50*s.*, 60*s.* per 100.

Clapton Nursery, London, E.

FORTY ACRES

Orna- mental FRUIT & Forest TREES

Priced Catalogues Post Free.

J. CHEAL & SONS

Crawley, Sussex.

VINES! VINES!! VINES!!!

EXTRA Strong Fruiting Canes, 9 to 10 feet, well ripened, price 6*s.* to 7*s.* 6*d.* each. Peaches and Nectarines in pots, splendid trees full of bloom buds, including Bellegarde, Sea Eagle, and Neotarino Peach (true to name), 5*s.* to 10*s.* 6*d.* each.

ELSDON & CO.,

The Vineries, Milton, near Cambridge.

GENERAL SEED CATALOGUE.

WE have now published our GENERAL CATALOGUE of Vegetable and Flower Seeds, containing, also, all the best Novelties of the Season. It may be had on application. All our Regular Customers should already have received a Copy by post; any not having done so will oblige by letting us know.

WATKINS & SIMPSON,

EXETER STEET, STRAND, W.C.

Seed and Trial Grounds, Feltham and Twickenham, Middlesex.

Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JANUARY 10*TH*, 1885.

GARDEN LITERATURE.—There is probably no vocation or profession better served than is gardening with all kinds of literature, but specially in the department of weekly serials. The amount of matter thus served up for the interest and edification of gardening readers is truly remarkable, and though much of it may be more or less dry, or abstruse, or pedantic, or iterative, yet it is all eminently calculated to keep all who care to read it well posted up in that which relates to horticulture in all its various branches. But apart from this very important section of Garden Literature, there is not less valuable, if less widely read, a vast amount of professional teaching and knowledge stored up in books more or less good in themselves, and of various prices. These are to be obtained by all who can purchase them, and a library of all the best standard works on gardening, whilst a large and costly one, would be at least one replete with a vast store of practical information.

But theoretical knowledge, even if advanced from the most practical standpoint, of necessity proves a stumbling-block to those whose daily lives, not being in any way devoted to the practice of gardening, find themselves incapable of appreciating the stored information contained in standard works in the same way and extent that trained gardeners can. In good truth, too, many of our best books are written for the edification of those who already know, rather than for those who do not know, and the novice in gardening finds in those books but little help in his elementary studies and labours. Few, indeed, are the authors or compilers of gardening books, and especially of those books written for standard uses, who can bring their teaching down to the level of the meanest. They start from an advanced standpoint themselves, and naturally fail to see that the readers who want to utilize their books are literally miles behind them—in fact, are but just standing upon the verge of the sea of knowledge which the experienced writers have nearly passed over. Thus it comes about that so many of our gardening books, good as they are and splendid epitomes as they may be of garden experience and work, are yet left stranded upon the shelves of the library, massive rocks of knowledge and information lying high and dry in the world of ignorance around them.

Perhaps there is further some reason for this general want of interest in standard gardening books in the prices charged for them, which it must certainly have long since struck others besides us are greatly in excess of those charged for books generally; indeed, there are few subjects upon which practical information is furnished with respect to which we cannot obtain really good books far more cheaply than we can those relating to gardening. If books are written for a limited constituency and are charged for at high rates, they will never do much to promote knowledge or render its diffusion wide and universal. The want of the age now in respect to Garden Literature is that its many and useful serial publications may be supplemented by a series of standard books upon these particular subjects with respect to which the unlearned public need information.

Those who have been brought into close contact with the working-class amateur gardener, and indeed with all that class who constitute the strictly cottager and amateur garden element of the country, have been struck with the constant demand made for clear, simple, practical books upon certain common plants or subjects of ordinary culture, have felt how difficult it is to offer the needful material in book form at present. The best works on such topics at present are both too technical and too expensive, whilst most of the cheap books have little practical value, because they have been written or compiled by those who themselves have little practical knowledge. A great boon would be found in a popular issue of shilling books, each of which treated specially of some section of gardening, such as the Kitchen-Garden, the Flower-Garden, the Amateurs' Greenhouse, and the Vine indoors and outdoors. Mushrooms, Melons, and Cucumbers might make the theme of another, because the whole practice of making up hot-beds is involved.

Apples, Pears, Plums, and other hardy fruits, with general treatment; Wall Trees of kinds, with pruning and general treatment; Strawberries, Raspberries, and bush fruits; Potato and other root crops; the Cabbage family; Peas, Beans, and similar crops—all these might well make subjects for separate treatment, and if done in a very plain, simple way, so that the most elementary of learners could follow and work out, the result would be singularly satisfactory. We have often been asked for a cheap book on Roses, Ferns, Pansies, and similar flowers. Queries of this kind show how great a field there is open for an enterprise of this kind, but the thing to be successful must be done with system, and liberally. A popular library of garden books for the million is one of the needs of the age that enterprise should shortly satisfy.

THE NATIONAL HORTICULTURAL SOCIETY OF FRANCE.—We have received the Schedule of Prizes offered by *The Société Nationale et Centrale d'Horticulture de France* for the International Exposition of Horticultural Products, which is proposed to be held from the 20th to the 31st of May next, in and near the Pavillion de la Ville, Champs Elysees, Paris. The Schedule is divided into twelve sections—seven being for plants and cut flowers, and five for fruits, vegetables, and miscellaneous articles—forming in all 247 classes. Section A is devoted to new plants; B to those being well cultivated; C to those requiring special culture—market plants; D to plants grown under glass, including Orchids, for which eight separate classes are provided, Gloxinias, Ixoras, Bromeliads, four classes, Begonias, Caladiums, Crotons, Ferns, Palms, Cycads, Aloes, Pelargoniums, eleven classes, Heaths, Rhododendrons, Azaleas, &c., &c., in all 110 classes. Section E comprises Hardy Plants—Rhododendrons, Azaleas, Roses, eleven classes, Class 140 being for 200 Standard Roses in flower, Conifers, Evergreens, and all kinds of hardy plants. Section F is for Cut Flowers; and G for Bouquets and other arranged flowers. Twenty-four classes are arranged for La Culture Maraichère, seventeen being for vegetables and seven for fruits. Grapes are not invited. M. A. Bleu is the Secretary, and M. Léon Say, the President, to whom communications may be addressed. Applications to exhibit must be made before the 25th April next.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The annual general meeting of the members of this Institution will be held on Wednesday next at 4 p.m., at the Bedford Hotel, Covent Garden, when a good attendance is anticipated through the interest which has been excited with reference to the Pension Augmentation Fund. As regards the election of Pensioners, which will take place after the adoption of the report and balance-sheet, and the election of officers (including the re-election of Mr. Cutler for the forty-fourth time), we understand that, in consequence of two of the Pensioners having died since the voting papers were sent out, the Committee will recommend the members to put on the list the two next highest candidates to the six for whom the election has been called. With reference to the augmentation of the Pensions, we hear that a sub-committee has been formed to consider any alterations in the rules which it may be desirable to make, and especially in rule 8, which governs the amount of the pensions which shall be paid; and it is hoped that such arrangements as it may be necessary to make, will be carried through in time to enable the increase to take place at the July payment, if it cannot possibly be managed by April. At 8 p.m. the annual supper will be held at Simpson's; Mr. Sherwood, of Messrs. Hurst & Son, will preside, and will be supported by the treasurer, Mr. Tidswell, Mr. John Lee, and other members of the committee and well-tried friends of the Institution.

THE CATERPILLARS OF "WINTER MOTHS."—Miss Ormerod reports to the Royal Agricultural Society with regard to the Caterpillars of the "Winter Moths," which are exceedingly destructive to leafage of fruit-trees—that the recommendation given to prevent egg laying by putting bands of sticky material round the trees has answered thoroughly. The infested trees were painted round the stem in December, with a band of Davidson's Composition, laid on for about the width of a foot. The female Moths (which have only abortive wings) were thus caught by hundreds on their way up the trunks from the ground, and the trees which had been so infested for several years, that leafage and blossom was destroyed, were last season preserved from attack. This simple remedy, if applied early in winter, would save much loss in fruit-growing districts.

GARDENING AMENITIES.—Having for some years had a very intimate association with gardeners all over the country, we can aver with the utmost truth, as far more able writers have done before us, that, as a body, they are eminently gentlemanly, sociable, and kind-hearted. That is the rule, and that such is the rule proves that there are exceptions to make it. Happily, these exceptions are few, infinitesimally so, just an ill-conditioned fellow here and there who degrade the noble profession of horticulture, and the estimable body to which they belong, by their fondness for displaying in public those various defects of character which makes us sometimes wonder whether the human form does not occasionally enshrine nature that is the reverse of Divine. But such few and insignificant beings as these might well be treated with the contempt they deserve, and such would have been our own method of dealing with them but for the deplorable fact that journals, which claim to be considered respectable and which would be the first to resent any imputations to the contrary, can be found into the columns of which these blots on the fair garden earth are permitted to pour out their spleen. Small of mind and poor of practice they fail to find in the ethics and essentials of the vocation they injure, the elements of original

and useful newspaper articles or paragraphs, and therefore lacking a dignified style, fall readily into the dirt which they fling about with no measured hand. Why they should be thus permitted to sully the fair pages of garden teaching and to discredit honest journalism, is something we in common with many others fail to understand; but in the interests of journalism and gardening, it is to be hoped that these moral mudlarks may be quickly cast overboard, and that respectable and intelligent gardeners may no longer have to blush with shame, because of their present involuntary associations.

"The Bird as the Labourer of Man."—In our last we commented upon the reported determination of the Wirral farmers, backed by Miss Ormerod, to exterminate the sparrows from their land; and it seems not unlikely, if the advantage of a contrary course be not shown, that in the enhanced vigilance against all supposed causes of evil during the prevailing agricultural depression, the numbers of these and other birds will be very greatly diminished by a wholesale slaughter. What would be the effect of a warfare of this kind, writes Mr. Walter Carling, of Hitching, in *The Daily News*, it may not be inopportune to point out by the following extracts from the writings of a naturalist of note (Jules Michelet, *The Bird*, pp. 213 *et seq.* "The Bird as the Labourer of Man") which, while evidence of a love of all birds, are yet in no wise disregardful of the interests of the tiller of the soil. "The 'miserly agriculturist' is the accurate and forcible expression of Virgil; miserly and blind, in truth, for he proscribes the birds which destroy the insects and protect his crops. Not a grain will he spare to the bird which, during the winter rain, hunted up the future insect, sought out the nests of the larvæ, examined them, turned over every leaf, and daily destroyed myriads of future caterpillars; but sacks of corn to the adult insects, and whole fields to grasshoppers which the bird would have combated. With his eye fixed on the furrow, on the present moment, without sight or foresight, deaf to the grand harmony which no one ever interrupts with impunity, he has everywhere solicited or approved the laws which suppressed the much-needed assistant of his labour, the insect-destroying bird. And the insects have avenged the bird. It has become necessary to recall in all haste the banished." Here follow instances of the forced disappearance—consequent on an outcry such as is now raised against the sparrows in England—of crows and starlings from parts of various countries in Europe, resulting far otherwise than in the expected amelioration of the land. The writer continues:—"The sparrow, even, which attacks the grain, but also defends it—the thieving, pilfering sparrow, loaded with so many insults, and stricken with so many maledictions—it has been seen without him Hungary would perish; that he alone could wage the mighty war against the cockchafers and the myriad winged foes which reign in the low-lying lands; his banishment has been revoked, and the courageous militia hastily recalled which, if not strictly disciplined, are not the less the salvation of the country." A fit conclusion will be to urge, in the words of Michelet, that the adjustment of the proportion of the number of birds to the lands on which they live, be left to a higher authority:—"All toil, all appeal of man to nature, supposes the intelligence of the natural order. Such is the order, and such is the law; life has around it and within it its enemy—most frequently as its guest—the parasite which undermines and cankers it. Inert and defenceless life, especially vegetable, would succumb to it but for the stronger support of the indefatigable enemy of the parasite, the merciless pursuer, the winged conqueror of the monster."

Gardening Miscellany.

The first meeting for the year of the Fruit and Floral Committees of the Royal Horticultural Society will take place on Tuesday next, at South Kensington.

The Committee of the National Auricula, and National Carnation and Picotee Societies, will be held on Tuesday at the same place.

A Bee and Fruit Farming Company (Limited) is being formed to take over the Cray Valley Bee Farm at Hockenden, Kent, lately occupied by J. Garratt, Esq.

Mr. D. Webster, late of the Lawson Seed Company, has lately become connected with the firm of Messrs Hurst & Son.

It is proposed to hold a Grand National Dahlia Show at the Crystal Palace in September next, if sufficient funds can be obtained to carry out the programme. Those Dahlia fanciers who may feel disposed to assist in this direction should communicate at once with the Secretary and Treasurer, Mr. Thomas Moore, Botanic Garden, Chelsea.

The Rose Show at South Kensington will be held on July 7th, and not on the following day, as stated in our last.

The very beautiful and extensive floral decorations for the wedding of Lord Dormer and Miss Bald, of Upper Grosvenor Street, including the bride's exquisite bouquet, a gem in itself, the bridesmaids' baskets, and the 132 bouquets of Lilies of the Valley, as well as the very choice marriage bell suspended by a floral rope, were carried out by Captain Raikes, of Baker Street.

Messrs. Webber & Co., of Covent Garden, have decided instead of giving prizes for the best packed samples of Grapes, Peaches and Strawberries in one competition as heretofore, to give separate prizes this year for Strawberries in May, Peaches in July, and Grapes at one of the autumn shows, the competition to take place at the Royal Horticultural Society's Gardens, South Kensington. But few gardeners were able to compete under the former conditions; now there is a chance for all.

Hybrid Hollies.—A very remarkable case of hybridization has occurred in my grounds. My house stands in a demesne of broken ground, of which about 120 acres are woodlands, partly natural and partly planted. The natural growth is Oak, Ash, and Holly. Towards the end of the last century my father planted near the house many varieties of Holly; amongst them, and close to one another, were a golden-berried Holly and two or three of the old laurel-leaved variety. The golden berry bore its fruit in great profusion, and, being never touched by birds, was a striking object till late in the spring. In the severe winter of 1830, however, the birds found out that the yellow berry was even better to eat than the red, and have ever since paid their earliest attentions to it. This became manifest after some time from the appearance amongst the seedling Hollies, which are very abundant, of some specimens of the yellow-berried Holly exactly like the parent tree, which is a very prickly plant of no great growth, and every year we find additional specimens showing themselves. But about ten years since my attention was attracted by a young Holly with leaves almost smooth, and of most luxuriant growth. Looking more closely, I saw that the few berries which were on it were neither red nor yellow, but Apricot colour, and of a peculiar obovate form. This induced me to look about the neighbouring woods, and I found about twenty trees, of much the same age, generally presenting the same characteristics of growth and foliation, but with berries varying in colour from the ordinary coraline red to brilliant gold, and generally preserving also the same obovate shape. One very beautiful variety was, when gathered a week ago, of a pale pink, much like pink coral. Of the berries of the Apricot varieties the birds have made a clean sweep, the principal depredator being the missel thrush, a bird which is itself of comparatively recent appearance in this district.—*Enquirer, in The Field.*

BRITISH FRUITS AT NEW ORLEANS.

Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex, the only English nursery firm exhibiting Fruits at the New Orleans International Exhibition, have been awarded the Gold Medal and one hundred and fifty dollars for the best collection of one hundred varieties of Apples, Silver Medals and money prizes for collections of fifty, twenty, and ten varieties respectively; and for specimens of Cordon Apples and Pear-trees—one Gold, and five Silver Medals, and four hundred and twenty dollars in all. We had the pleasure of seeing the fruits before they were packed, and can bear witness to the fact that the samples were good ones, and that the collection sent out was a thoroughly representative one, creditable alike to the firm and the country which they represented at New Orleans. The whole collection consisted of about two thousand fruits, in two hundred varieties. Each fruit was first wrapped in paper, and then packed in layers of dry hay in strong packing cases. They were all sound, picked specimens, but to make up for any losses that may have taken place from decaying soon after the cases were unpacked after their long journey, more specimens were sent than were required in the various competitions. We append a list of some of the leading varieties of which specially fine samples were sent, and congratulate the Messrs. Cheal on the success which has crowned their enterprise:—

Gravenstein.	Alfriston.
Hormead Pearmain.	Minchull Crab.
Hoary Morning.	Pomeroy.
Hawthornden.	Mannington's Pearmain.
Fearn's Pippin.	King of the Pippins.
Striped Beefing.	Mank's Codlin.
Mère de Ménage.	Stirling Castle.
Dutch Mignonne.	Forge Apple.
Winter Pearmain.	Dumelow's Seedling.
Reinette du Canada.	Bull's Golden Reinette.
Blenheim Orange.	Curltail.
Emperor Alexander.	Tower of Glamis.
The Queen.	Rainbow.
Ribston Pippin.	Hollandbury.
Cox's Orange Pippin.	Royal Russet.
Beauty of Hants.	Adams's Pearmain.
Golden Noble.	Hanwell Souring.
Beauty of Kent.	Cellini Pippin.

BROCCOLI AND CAULIFLOWER ALL THE YEAR ROUND.

Some of the old school of gardeners may smile at the heading of this article, and while they may content themselves with furnishing a supply of these excellent vegetables eight months out of the twelve, may be inclined to question the possibility of securing a continuous supply at all times during the year. If there are any of your readers thus sceptical a visit to Covent Garden Market, or, indeed, to any of the great markets, Birmingham, Manchester, or others, will convince them that a supply, sometimes more limited it is true, may always be obtained. It may be urged that the supply thus furnished is not always supplied from the same sources, and that it is impossible to obtain a continuous supply all the year round in the same establishment. To this assertion I join issue, and while I admit that the cold and rigorous winters of the more northern districts are against obtaining a supply during December and January from the open ground as a rule, in the southern, western, and midland districts there is no difficulty. During these months a plentiful supply is generally supplied to the leading markets from Cornwall.

Thirty years ago in the south of England, with the limited supply of varieties then in existence, it was very seldom at any part of the year that I could not produce a dish when called upon, and now with the improved protecting varieties imbued with additional hardiness in their constitution, the difficulty is very materially lessened, and the excuse must be exceptional causes that cannot overcome it. The great secret to secure the desideratum is the selection of sorts to grow and the time when the seed should be sown, and upon this some little local experience is necessary, as sorts which may suit a warmer locality may not stand the test in a colder. Taking my own locality, which perhaps is one of the most unfavourable all things

considered for horticultural work, that can be found in the three kingdoms, I have seen whole rows of what should have produced a good spring crop cut down by the end of January, while in the next garden they have stood the test without a single loss. On inquiry the different results are found to have accrued from the difference in the hardiness of the varieties grown. Market gardeners in growing the large acreages which they do in the Vale of Evesham and Lichfield and Tamworth for the supply of Birmingham and Wolverhampton markets understand this, and amateurs and gardeners, too, may often obtain a wrinkle from a market-gardener's book.

As a rule, whatever the sort grown that has to stand the rigours of frost a sheltered spot should be selected for the growth, the effects of the destructive east and north-east winds during frost being more injurious than the frost itself. I have seen rows of winter Broccoli in this locality stand the rigours of the severe winter three years ago, with the simple protection of a row of Pea-sticks left standing by their side, while in the same garden, without this protection, other rows were cut off. These remarks apply to my own and other less favourable localities. In warmer districts the protection of the plants for early spring supply is a secondary consideration, and if the soil is well drained they will, in nine cases out of ten, take care of themselves.

And now for a selection of sorts to solve the difficulty of being able to cut a dish of Broccoli or Cauliflower all the year round. I will commence with March and April, and for the supply for these months there is none better than

Elletson's Mammoth Broccoli, now a very old variety, and grown in immense quantities for market purposes; one of the largest and best extant for general spring use. To carry the supply through May, previous to the hand-glass Cauliflowers coming in, several good varieties of recent introduction are in the market, but

Miller's Old Dwarf White Broccoli, when it can be obtained true, stands the test, or even a later plantation made of the Mammoth will prove useful. Seeds of these two kinds should be sown at the end of March or beginning of April. For supply in June and July resort must be had either to August-sown Cauliflower, protected during winter and early spring, or to seeds sown in February in frames or in boxes.

The Early Erfurt Cauliflower is a close, compact growing variety, producing large heads and not so subject to "button" as some varieties.

Walcheren Cauliflowers.—For August and September use the old Walcheren, from a good stock, is all that is required, and I have not yet found its equal to stand the hot weather of June and July. Seeds for this crop should be sown in March.

Veitch's Autumn Giant Cauliflower is one of the noblest introductions of late years. If sown in August, and given the same protection as other Cauliflowers, and planted out in early spring, and liberally treated, it will produce immense heads in September, earlier than the same variety from seed sown in February. From spring-sown plants of this variety the supply can be well kept up until the end of November, when the protecting varieties of Broccoli proper will be coming into use. Of these to carry on the supply until the end of January there are now numerous varieties to be had with more or less hardiness of constitution. The Messrs. Veitch have introduced an invaluable supplement to their older Autumn Giant, already referred to, in their

Self-protecting Autumn Broccoli, and Messrs. Sander, of St. Albans, announce for distribution this season a new

Mammoth White Autumn Broccoli, as to the quality of which I cannot do better than quote the testimony of Mr. R. Gilbert, of Burghley, whose contributions enrich the columns of The Gardening World. He says it is "a perfect wonder, large in size, beautifully white, remarkable flavour; but, above all, its protecting quality is really handsome, when full blown its large leaves arch over in such a way as no hands could have made them do; it caused quite a consternation among our people."

Snow's Winter White Broccoli, an old and well-tried sort, is depended upon by many of the Cornish market gardeners for their Christmas and New Year's supplies; it is very hardy and will stand almost anywhere. Seed should be sown at the end of March.

For cutting in February and the beginning of March, I have not yet found a better Broccoli than the old Wilcove White, a very strong grower, with very broad mid-ribs to its leaves, the centre ones well protecting the hearts from spring frosts. Seed should be sown at the end of March. Thus far I have traced succession through the year, and without egotism, I feel certain that in all moderately favourable localities, with the varieties named, the grower may depend upon being able to obtain a dish of Cauliflower or Broccoli "all the year round."—*J. Knight, Bilston.*

[We should be obliged if some of our readers North and South of Staffordshire would favour us with their experience on this subject.—*Ed.*]

GLOXINIAS.

Few plants have undergone such a complete change for the better during the last few years, as the Gloxinia, and the erect flowering type in particular. It seems but the other day since the introduction of a fine new variety was welcomed almost with as much enthusiasm as a new Orchid, and named sorts were catalogued at prices that would now be considered preposterous. All this has been brought about by the hybridists who have so much improved the flowers in every way, that a packet of seeds from a reliable strain now yields flowers in plenty that put the old-named sorts to shame. Nearly all the leading houses have strains of their own, which they keep improving by careful selection and crossing, and amongst them may be noted the "marbled" strain, which Messrs. James Carter & Co. grow as a speciality, and of the character and quality of which some idea may be gleaned from the annexed illustration. In this strain the mottled or marbled flowers, call them which we please, are singularly pretty and well varied in colour. Of the cultivation of the Gloxinia we need say nothing now, so recently has Mr. Roberts (p. 217) exhausted that subject.

ERECT-FLOWERED GLOXINIAS.

Thrinax graminifolia. — A graceful Palm of recent introduction, said to surpass the well-known Thrinax elegans in effect. The segments of the leaf are grass-like, giving a light and elegant appearance, a feature which constitutes the great charm of the genus. It is figured in the December number of the *Illustration Horticole.*

SELECT VEGETABLES.

(*Continued from p. 276.*)

BROCCOLI AND CAULIFLOWER.

WE group these together, there being no practical distinction between Broccoli on the one hand and Cauliflower on the other. Both grow in the same manner, and the same part of each is used as a vegetable. The only distinction that has ever been assumed to exist is in the longer season of growth required by the Broccoli to that of Cauliflower. The latter are also more tender, but all this only constitutes mere variety of one and the same thing. To wit, what is termed Walcheren Broccoli by one, is the Walcheren Cauliflower of another—which is right or which is wrong? Again, on the point of tenderness —Veitch's Autumn Giant Cauliflower seems much more robust, and more of a Broccoli type than Snow's Winter White Broccoli. Be that as it may, we make the following selection as sufficient to maintain a continuous supply, if sown at the proper seasons and under proper cultivation:—

Cauliflower.

1. EARLY ERFURT.
2. EARLY LONDON.
3. WALCHEREN.
4. VEITCH'S AUTUMN GIANT.

Broccoli.

5. SNOW'S WINTER WHITE.
6. KNIGHT'S PROTECTING WHITE.
7. LEAMINGTON WHITE.
8. CATTELL'S ECLIPSE.
9. LEDSHAM'S LATE WHITE.
10. PURPLE-SPROUTING.

Most of these may be obtained under various other names and titles. No. 1 is by far the earliest, and should be sown now to come in for early summer use. This plant is dwarf-growing and requires but little room, but produces large heads, of fine quality. The Snowball, Veitch's Earliest, Sutton's First Crop, Carter's Defiance Early, are some of the synonyms. Some of the extra early selections of the Erfurt Cauliflower are remarkably high priced. We once had the temerity to order 1 oz., for which something like £4 was charged. No. 2 is a good useful variety for general use, succeeding No. 1. No. 3 Broccoli or Cauliflower, whichever it may be, is the best variety for early autumn use and for a general crop. It may be had under a great variety of names. No. 4 is comparatively new to cultivation in this country, although long known in Italy as the Giant Naples. It is without doubt one of the best and most valuable of all for late autumn supply. The plant is of a large and strong growth, producing large heads of the finest quality. It should be sown in March. No. 5 is very valuable for furnishing a supply in midwinter. It is somewhat tender and it is also rather difficult to procure a true stock of seed. No. 6 is for early spring use. Many varieties of a similar character may be obtained. No. 7 produces fine large heads in spring. No. 8 is of similar character but later. No. 9 is the latest variety and keeps fine close white heads late into summer. No. 10, Purple-sprouting, is of quite a distinct character, one of the most useful and decidedly the hardiest and best flavoured Broccoli grown. It comes into use in early winter and continues in use until late in spring. It should be grown everywhere and by everybody.

BRUSSELS SPROUTS.

1. DWARF IMPORTED.
2. AIGBURTH OR DALKEITH.

One variety of Brussels Sprouts is all that it is necessary to grow, the differences existing between them being simply that of selection. Until a few years ago it was believed that Brussels Sprout seed could not be saved in this country, but required to be imported. That, however, has now been proved to be a fallacy.

CABBAGES.

1. EARLY ETAMPES.
2. EARLY YORK.
3. NONPARIEL or its varieties.
4. FULHAM OR BATTERSEA.
5. ST. JOHN'S DAY DWARF DRUMHEAD.
6. WINNINGSTADT.
7. ROSETTE COLEWORT.
8. EARLY RED ERFURT.

Of these No. 1 is the earliest variety grown. It produces small heads, and should be sown in autumn for early spring use. No. 2 is an old sort and one of the best where a true stock is obtained. It requires sowing in spring for summer and autumn use. No. 3 is excellent for a general crop. Many fine selections of this exist, such as Ellam's Dwarf, Carter's Heartwell, &c., either of which will answer. No. 4 is the great London market Cabbage, of which many scores of selections under various names exist. No. 5 is one of the finest varieties for amateurs to cultivate. The plant is very dwarf, the heads large, extremely tender like a lettuce, and of fine quality. It should be sown in spring for autumn supply. No. 6 is a very distinct variety, which grows in shape like a sugar-loaf and makes extremely hard solid heads. It is very useful in dry seasons, which it seems capable of standing better than other varieties. No. 7, the Rosette Colewort, is an extremely useful Cabbage to cultivate, but somehow its merits seem little known in private gardens. It should be sown in May, and if planted out 12 ins. apart will produce small heads for use during the winter season. No. 8 is a small-headed early variety of red or pickling Cabbage, which may be sown in spring for use in autumn.—*B.*

THE KNUTSFORD NURSERIES.

THE large tracts of land which Messrs. W. G. Caldwell & Sons hold at Knutsford, Cheshire, have been handed down from sire to son through several generations. Additions have as well been continually made, and even very recently a branch establishment has been opened in the more immediate neighbourhood of Manchester, for at Fog Lane, Withington, a plot of land has been secured and some glass houses put up. Here planters can inspect specimens of trees, shrubs, and plants, which in quantity can easily be supplied from the eighty acres of nursery-ground in the splendid soil and climate of Cheshire.

A reputation and business standing of over a century is surely a recommendation, but this of itself is not enough. The condition of the stock at the present time is the matter that most interests purchasers, and that settled satisfactorily, there then can be no fear and but little risk in taking over large quantities. Noted as these nurseries are for shrubs, conifers, and trees of all sorts, it is satisfactory to find that progress is the order of the day in every department, and that every class of these useful and ornamental adjuncts to the woods, gardens, and pleasure-ground is being increased at a surprising rate.

To give numbers would be extremely difficult. Special mention, however, should be made of the immense quantities of small ornamental and variegated shrubs and conifers that are grown for planting in beds and borders. When the bedding plants are all taken away, what can be nicer than to fill the beds with these little shrubs; then from October till April and May, in some cases seven months, the beds may be as interesting, if not quite as glaring as they are during the few months of summer.

Of such things as Cupressus Lawsoniana and its variety erecta viridis lutea, Retinospora plumosa aurea, R. pisifera aurea, Thujopsis borealis and dolobrata, green and golden Yews, neat and compact green and golden and silver Hollies, the small growing Thujas, &c., the stock is very large and clean, ranging from plants 4 ins. and 5 ins. high to others from 2 ft. to 3 ft. On one quarter we counted just 5,000 compact plants of Retinospora plumosa aurea of a bright golden colour. The stock of specimen Hollies, conifers and plants of an ornamental character is very large, fine well-grown specimens being apparent everywhere. Deciduous trees are also grown in large quantities, Limes, Purple Beeches and other trees meeting with a ready sale. Large quantities of all kinds of trees, shrubs and conifers are either grafted, struck from cuttings, or raised from seeds every year, to replenish the quantities continually disposed of.

Herbaceous plants here are a great feature and meet with a good sale. The glass erections are numerous. One house specially devoted in summer to pot vines is just now filled with such things as Camellias, Azaleas, Pelargoniums, &c., for cut flowers. The pot vines this season are stout and well-ripened, the stock comprising many sorts, the larger quantities, however, are divided amongst six sorts, of which Black Hamburgh, Alicante, Lady Downe's, Muscats and Foster's Seedling are the most in request. The other houses contain a good collection of the usual class of stuff, among them being a large stock of small, well-grown Crotons and Dracænas, as well as ferns in quantity. A few Orchids are grown and some good spikes of Calanthe Veitchii were brightening up one of the stoves. It is, however, outside that the chief interest lays,—in the thousands upon thousands of young shrubs, fruit-trees, &c., which need constant attention in the matter of transplanting, &c., and which under the favourable conditions of soil and climate which obtain here, all look clean and healthy. —*W. Swan, Fallowfield.*

"THE LOST DAHLIA."*

THE autumn before last [1835], that is to say, above a year ago, the boast and glory of my little garden was a Dahlia called the Phœbus. How it came there nobody very distinctly knew, nor where it came from, nor how we came by it, nor how it came by its own most appropriate name. Neither the lad who tends our flowers, nor my father, the person chiefly concerned in procuring them, nor I myself, who more even than my father or John take delight and pride in their beauty, could recollect who gave us this most splendid plant, or who first instructed us as to the style and title by which it was known. Certes never was blossom fitlier named. Regular as the sun's face in an almanack, it had a tint of golden scarlet, of ruddy yellow, which realized Shakespeare's gorgeous expression of "flame-coloured." The sky at sunset sometimes put on such a hue, or a fire at Christmas when it burns red as well as bright. The blossom was dazzling to look upon. It seemed as if there were a light in the leaves, like that coloured lamp of a flower, the Oriental Poppy. Phœbus was not too glorious a name for that Dahlia. The Golden-haired Apollo might be proud of such an emblem. It was worthy of the god of day; a very Phœnix of floral beauty.

Every Dahlia-fancier who came into our garden, or who had had an opportunity of seeing a bloom elsewhere (and, sooth to say, we were rather ostentatious in our display; John put it into stands, and jars, and baskets, and dishes; Ben stuck it into Dash's collar, his own button-hole, and Pear's bridle; my father presented it to such lady visitors as he delighted to honour; and I, who have the habit of dangling a flower, generally a sweet one, caught myself more than once rejecting the spice Clove and the starry Jessamine, the blossomed Myrtle and the Tuberose, my old fragrant favourites, for this scentless but triumphant beauty); everybody who beheld the Phœbus begged for a plant or a cutting; and we, generous in our ostentation, willing to redeem the vice by the virtue, promised as many plants and cuttings as we could reasonably imagine the root might be made to produce—perhaps rather more; and half the Dahlia-growers round rejoiced over the glories of the gorgeous flower, and speculated, as the wont is now, upon seedling after seedling to the twentieth generation.

Alas for the vanity of human expectations! February came, the twenty-second of February, the very St. Valentine of Dahlias, when the roots which have been buried in the ground during the winter are disinterred, and placed in a hotbed to put forth their first shoots previous to the grand operations of potting and dividing them. Of course the first object of search in the choicest corner of the nicely labelled hoard was the Phœbus; but no Phœbus was forthcoming; root and label had vanished bodily! There was to be sure, a Dahlia without a label, which we would gladly have transformed into the missing treasure; but as we speedily discovered a label without a Dahlia, it was but too obvious that they belonged to each other. Until last year we might have had plenty of the consolation which results from such divorces of the name from the thing; for our labels, sometimes written upon parchment, sometimes upon leather, sometimes upon wood, as each material happened to be recommended by gardening authorities, and fastened on with pack-thread, or whip-cord, or silk

* This delightful story, by Miss Mitford, which originally appeared in Chambers's *Edinburgh Journal*, January 7th, 1837, has lately been reprinted in *The Reading Observer*, from whose columns we take the extract here given.

twist, had generally parted company from the roots, and frequently become utterly illegible, producing a state of confusion which most undoubtedly we never expected to regret; but this year we had followed the one perfect system of labels of unglazed china, highly varnished after writing on them, and fastened on by wire; and it had answered so completely, that one, and one only, had broken from its moorings. No hope could be gathered from that quarter. The Phœbus was gone. So much was clear; and our loss being fully ascertained, we all began, as the custom is, to divert our grief and exercise our ingenuity by different guesses as to the fate of the vanished treasure.

My father, although certain that he had written the label, and wired the root, had his misgivings about the place in which it had been deposited, and half suspected that it had sliped in amongst a basket which we had sent as a present to Ireland; I myself, judging from a similar accident which had once happened to a choice Hyacinth bulb, partly thought that one or other of us might have put it for care and safety in some such very snug corner, that it would be six months or more before it turned up; John, impressed with a high notion of the money-value of the property, and estimating it something as a keeper of the regalia might estimate the most precious of the crown jewels, boldly affirmed that it was stolen; and Ben, who had just had a *démêlé* with the cook upon the score of her refusal to dress a beef-steak for a sick greyhound, asserted, between jest and earnest, that that hard-hearted official had either ignorantly or maliciously boiled the root for a Jerusalem Artichoke, and that we, who stood lamenting over our regretted Phœbus, had actually eaten it, dished up with white sauce. John turned pale at the thought. The beautiful story of the Falcon, in Boccacio, which the young knight killed to regale his mistress, or the still more tragical history of Couci, who minced his rival's heart, and served it up to his wife, could not have affected him more deeply. We grieved over our lost Dahlia, as if it had been a thing of life.

Grieving, however, would not repair our loss; and we determined, as the only chance of becoming again possessed of this beautiful flower, to visit, as soon as the Dahlia season began, all the celebrated collections in the neighbourhood, especially all those from which there was any chance of our having procured the root which had so mysteriously vanished.

Early in September, I set forth on my voyage of discovery—my voyages, I ought to say; for every day I and my pony phaeton made our way to whatever garden within our reach bore a sufficiently high character to be suspected of harbouring the good Dahlia Phœbus.

Monday we called at Lady A.'s; Tuesday at General B.'s; Wednesday at Sir John C.'s; Thursday at Mrs. D.'s; Friday at Lord E.'s; and Saturday at Mr. F.'s. We might as well have staid at home; not a Phœbus had they, or any thing like one.

We then visited the nurseries, from Brown's, at Slough, a princely establishment, worthy of its regal neighbourhood, to the pretty rural gardens at South Warnborough, not forgetting our own most intelligent and obliging nurseryman (Mr. [Martin Hope] Sutton, of Reading—Belford Regis, I mean), whose collection of flowers of all sorts is amongst the most choice and select that I have ever known; hundreds of magnificent blossoms did we see in our progress, but not the blossom we wanted.

There was no lack, heaven knows, of Dahlias of the desired colour. Besides a score of "Orange Perfections," bearing the names of their respective growers, we were introduced to four Princes of Orange, three Kings of Holland, two Williams the Third, and one Lord Roden. We were even shown a bloom called the Phœbus, about as like our Phœbus "as I to Hercules." But the true Phœbus, "the real Simon Pure," was as far to seek as ever.

Learnedly did I descant with the learned in Dahlias over the merits of my lost beauty. "It was a cupped flower, Mr. Sutton," quoth I, to my agreeable and sympathizing listener (gardeners *are* a most cultivated and gentlemanly race): "a cupped Dahlia, of the genuine metropolitan shape; large as the Criterion, regular as the Springfield Rival, perfect as the Mary, with a long bloom stalk like those good old flowers the Countess of Liverpool and the Widnall's Perfection. And such a free blower, and so true! I am quite sure that there is not so good a Dahlia this year. I prefer it to 'Corinne' over and over." And Mr. Sutton consented and condoled, and I was as near to being comforted as anybody could be, who had lost such a flower as the Phœbus.

After so many vain researches, most persons would have abandoned the pursuit in despair. But despair is not in my nature. I have a comfortable share of that quality which the possessor is wont to call perseverance—while the uncivil world is apt to designate it by the name of obstinacy—and do not easily give in. Then the chase, however fruitless, led, like other chases, into beautiful scenery, and formed an excuse for my visiting or revisiting many of the prettiest places in the county.

Two of the most remarkable spots in the neighbourhood [of Reading] are, as it happens, famous for their collections of Dahlias—Stratfieldsaye, the seat of the Duke of Wellington, and the ruins of Reading Abbey.

Nothing can well be prettier than the drive to Stratfieldsaye, passing as we do, through a great part of Heckfield Heath, a tract of wild woodland, a forest, or rather perhaps a chase, full of fine sylvan beauty—thickets of fern and holly, and hawthorn and birch, surmounted by oaks and beeches, and interspersed with lawny glades and deep pools, letting light into the picture. Nothing can be prettier than the approach to the Duke's lodge. And the entrance to the domain, through a deep dell dark with magnificent firs, from which we emerge into a finely wooded park of the richest verdure, is also striking and impressive. But the distinctive feature of the place (for the mansion, merely a comfortable and convenient nobleman's house, hardly responds to the fame of its owner) is the grand avenue of noble elms, three quarters of a mile long, which leads to the front door.

It is difficult to imagine anything which more completely realizes the poetical fancy, that the pillars and arches of a Gothic cathedral were borrowed from the interlacing of the branches of trees planted at stated intervals, than this avenue, in which nature has so completely succeeded in outrivalling her handmaiden art, that not a single trunk, hardly even a bough or a twig, appears to mar the grand regularity of the design as a piece of perspective. No cathedral aisle was ever more perfect; and the effect, under every variety of aspect, the magical light and shadow of the cold white moonshine, the cool green light of a cloudy day, and the glancing sunbeams which pierce through the leafy umbrage in the bright summer noon, are such as no words can convey. Separately considered, each tree (and the north of Hampshire is celebrated for the size and shape of its elms) is a model of stately growth, and they are now just at perfection, probably about a hundred and thirty years old. There is scarcely perhaps in the kingdom such another avenue.

On one side of this noble approach is the garden, where, under the care of the skilful and excellent gardener, Mr. Cooper, so many magnificent Dahlias are raised, but where, alas! the Phœbus was not; and between that and the mansion is the sunny shady paddock, with its rich pasture and its roomy stable, where, for so many years, Copenhagen, the charger who carried the Duke at Waterloo, formed so great an object of attraction to the visitors of Stratfieldsaye. Then came the house itself, and then I returned home.

Well! this was one beautiful and fruitless drive. The ruins of Reading Abbey formed another as fruitless, and still more beautiful.

Whether in the "palmy state" of the faith of Rome, the pillared aisles of the Abbey Church might have vied in grandeur with the avenue at Stratfieldsaye, I can hardly say; but certainly, as they stand, the venerable arched gateway, the rock-like masses of wall, the crumbling cloisters, and the exquisite finish of the surbases of the columns and other fragments, fresh as if chiselled yesterday, which are re-appearing in the excavations now making, there is an interest which leaves the grandeur of life, palaces and their pageantry, parks and their adornments, all grandeur except the indestructible grandeur of nature, at an immeasurable distance. The place was a history. Centuries passed before us as we thought of the magnificent monastery, the third in size and splendour in England, with its area of thirty acres between the walls—and gazed upon it now!

And yet, even now, how beautiful. Trees of every growth mingling with those grey ruins, creepers, wreathing their fantastic garlands around the mouldering arches, gorgeous flowers flourishing in the midst of that decay! I almost forgot my search for the dear Phœbus, as I rambled, with my friend, Mr. Malone, the gardener, a man who would in any station be remarkable for acuteness and acquirement, amongst the august remains of the venerable abbey, with the history of which he was as conversant as with his own immediate profession. There was no speaking of smaller objects in the presence of the mighty past!

Gradually chilled by so much unsuccess, the ardour of my pursuit began to abate. I began to admit the merits of other Dahlias of divers colours, and actually caught myself committing the inconstancy of considering which of the four Princes of Orange I should bespeak for next year. Time, in short, was beginning to play his part as the great comforter of human afflictions, and the poor Phœbus seemed as likely to be forgotten as a last year's bonnet, or a last week's newspaper—when, happening to walk with my father to look at a field of his, a pretty bit of upland pasture about a mile off, I was struck, in one corner where the manure for dressing had been deposited, and a heap of earth and dung still remained to be spread, I suppose, next spring, with some tall plants surmounted with bright flowers. Could it be?—was it possible?—No!—Yes!—Ay, certainly, there it was, upon a dunghill—the object of all my researches and lamentations, the identical Phœbus! the lost Dahlia!

FROST AND MEALY-BUG.

So far as I have been able to learn the general impression is that frost would destroy mealy-bug, if it were safe to expose the subjects on which it is found to such a low temperature, and so seldom is it found on subjects as it is safe or convenient to expose, that up to the night of November 26th I thought the same. On the morning of the 25th, I exposed three plants of Souvenir de la Malmaison Carnation, which I am sorry to say were infested with that tiresome pest, and on the following morning we had 14 degs. of frost, which I felt sure would have destroyed all life in the insects. Being desirous of cutting blooms from these Carnations at the earliest date, they were again placed in the house, and on examination a month afterwards, we found that the bug was still alive. We had suspected from its appearance since it was taken inside that the bug was not dead, and to settle the point, a day or two ago we took a plant into the stove and placed it in a warm position, when we thought the bug would be more in its element. After it had been there a few hours, I disturbed some of the insects, when it was easy to see them move with the naked eye, and with a pocket lens unmistakable proof of life was seen.

The reason why this question as to allowing frost to destroy the bug on vines, which are well known to bear frost without the least injury, has not been settled before this is, that in the majority of establishments the vineries have to be used for plants in the winter months, and if it were possible to take the vines outside and expose them through the winter, it would be of little avail, as the bug that lurks about in the walls, trellis, and every crevice and corner would be sufficient to infest the vines again another year. It would be interesting if some of our readers would give us their experience in destroying this pest in their vineries by frost.

I remember, some fifteen years ago, an amateur coming to the gardener under whom I was then serving, and seeking advice as to the best method of eradicating this pest from his vinery. The description he gave of it left no doubt as to what it was. At that time no such remedy as gas-tar and clay was known to him or myself, and we had difficulty enough with the bug on our own vines, so that our amateur visitor met with no encouraging advice or help from us. If my memory serves me right this house had neither hot-water pipes nor plants to protect in winter, so that the bug had no further protection than the glass roof, and yet by all accounts they thrived amazingly.—*C. Warden, The Gardens, Clarendon Park, Salisbury.*

The Amateurs' Garden.

Work to be Done in the Garden.—This is generally considered a dull time of year, but for the gardener who looks at all forward it is a busy and active one, for there is much to be done now in most gardens. Where the transplanting and pruning has not been finished that must be seen to at once, and the rubbish heap should also have attention without delay. Rubbish is generally considered as of no use, and is got rid of, but if properly treated by being turned, so as to be thoroughly broken down and rotted, it is one of the most valuable ingredients anyone can have in a garden. To set free the gases and render it at once available for plants to feed on, lime should be thrown over and mixed up with it; and, as soon as frost comes it will then be ready for wheeling on to the land. This, where vacant, ought to have the surface thrown up rough to let the frost in, the disintegrating and sweetening influence of which is great and is very necessary on heavy soils, which should be manured early, but those of a light nature should only be manured just before they are wanted for cropping.

The first things to be sown now are Peas and Beans. Of the former there are many kinds, all laying claim to be the earliest, but, after trying most of them, I have arrived at the conclusion that there are none better than Kentish Invicta for first gathering, to be followed on by William the First and Day's Sunrise or Advancer, which, sown at the same time, come in after the Invicta and keep up a succession. In putting in Peas at this season a warm, sheltered spot should be chosen, and it is a good plan to cover the seed with a little fine dry soil or ashes, which will absorb any excess of moisture in the soil and assist them to germinate. Among Beans the Mazagan used to be considered the earliest, but it is not so, as the Seville Longpod comes in before it, and, therefore, this sort should be chosen and sown at once in a sunny place out in the open. Beck's Dwarf Green Gem is valuable for growing on borders, as it only reaches a foot high and branches freely and bears profusely all up the stems.

To repair edgings to walks where they are of Box, the quickest way is to use a spud to dig out the dead parts or gaps, which may then be filled in rapidly without disturbing much soil. For kitchen-gardens dead edgings are the best, as they may be planted behind with Violets, Gentians, Thrift, and many other suitable plants that will partly hide the stones or whatever is used, and in summer salt may be sown for the destruction of weeds, which could not be done if Box or other like edgings were grown. For the fronts of shrubbery borders or other similar places, nothing looks equal to a margin of grass, ranging from 1 ft. to 2 ft. wide according to the width of the walk or ground behind, and a verge of the kind referred to may be easily kept, as the mowing-machine run over it once a week will keep it in excellent order.

What spoils edgings is badly made or ill-drained walks, as stagnant water is fatal to living plants. Such being the case, water should be carried off by gratings and drains, without which no walks are fit for use in the winter, as wet makes the gravel loose and rotten, and causes it to become full of weeds and moss. The readiest mode of carrying off the rainfall is to run a drain down the centre of the walk, and lead those from the gratings at the side to it, and if good gravel be used to surface the walks with, any so treated will remain firm and dry all the year round.

To protect plants, there is nothing equal to fresh fallen leaves, the only difficulty with them being to keep them where placed, but this may be done by throwing over them a thin layer of straw, and to hide this some Evergreen branches may be stuck in thickly around. By managing thus, Pampas Grass, Tritomas, and all such like plants, of doubtful hardiness, may be rendered quite safe, however severe the weather may be.

If the weather should set in wet there is plenty of work under cover, as all pots with plants in and those empty should be scrubbed or cleaned, and glass and paint washed, that full light may be let in to the houses or pits, besides which, it is essential to the health of the plants that they be cleared of all insects or dirt on the foliage, as any parasites or deposit there stops up the pores. Big leaved things, like India-rubber plants, Aralias, Palms, Camellias, &c., may be sponged, and others with smaller foliage may be cleaned by laying them on their sides and syringing them with dilute Nicotine Soap, which is a capital insecticide, but, like all others, should be washed off after being on a few hours.

Chrysanthemum culture: Summer-flowering Varieties.—These varieties of Chrysanthemum are now becoming general favourites with a large section of the public as well as the regular Chrysanthemum growers, and there can be no doubt as to their great value for border decoration, as they flower freely from July to November, and help to bridge over the time when flowers begin to get scarce. They are the best for ordinary culture out-of-doors, and are very easy to grow. Cuttings should be inserted during the month of February, and as soon as rooted they should be potted singly. If they are intended to be planted out they may be planted early in April. They require the same attention as to potting and pinching as previously given for the single varieties, but they can be bloomed in smaller sized pots. Good plants can be had in 4½-in. pots by striking the cuttings in May, and they make very useful plants for mixing among other subjects in the greenhouse.

The following general directions refer to all sections of the Chrysanthemum:—The soil for the final potting should consist of three parts of good loam and one of well-decayed manure, with a sprinkling of sand and a handful of bone-dust and a little soot to each pot will be of benefit.

After the buds commence showing, the plants will require to be regularly supplied with manure-water, but this should be given weak (about twice a week) at first, increasing the strength, and giving it oftener till the buds show colour, when it should be gradually withheld. An excellent liquid manure is made by putting into a tub a bushel of sheep's droppings and about a peck of soot. Several kinds of patent manures are now sold, and a very good one, according to my experience, is the Blood and Bone Manure sold by Mr. Smyth, of 21, Goldsmiths' Street, Drury Lane. I largely use it myself, and can strongly recommend it. It can be used in a liquid form with water, or if wet weather should set in, the plants can be top-dressed with it. I top-dressed some plants of the single varieties last season after I had cut the first blooms, and was able to cut a second lot of flowers as late as Christmas Day.

Insects must be carefully looked after, especially earwigs, as these do great injury to the plants. If the plants also get infested with green fly, they should be dusted with tobacco-powder early in the morning, when the dew is on the plants. On the approach of frost, generally about the first week in October, the plants should be taken into the greenhouse, or be placed under some temporary covering, to protect them from wet and frost, but plenty of air should be given on all favourable occasions.

Before concluding these notes, I will mention a few good varieties for amateurs to grow.

Commencing with the summer-flowering sorts, eighteen good varieties are:—Anastasio, Bois Duval, Chrome Stella, Early Blush, Frederick Marronet, Frederick Pele, Illustration, La Petite Marie, La Vièrge, Lyon, M. Pynaert - Van Geert, Mdme. C. Desgrange, Mdme. Picoul, Mons. A. Dufour, Mrs. Cullingford, Nanum, Souvenir d'un Ami, and Virginia. These will give a succession of bloom from July till November.

Forty-eight good varieties for cut blooms are:—*Incurved*—Empress of India, Golden Empress of India, Princess of Wales, Barbara, Queen of England, Princess Teck, Venus, White Venus, Angelina, Lord Wolseley, White Beverley, Mr. Bunn, Mrs. Rundle, Mrs. Dixon, White Globe, Jardin des Plantes, Alfred Salter, Bronze Jardin des Plantes, Mrs. Heale, Prince of Wales, Prince Alfred, Nil Desperandum, Lord Alcester, and Jenane d'Arc, the two last-named should be in every collection. *Japanese*—Angélé, Flamme de Punch, Mons. Moussilac, L'or du Rhin, Margot, Mastic, Roseum Superbum, Salterii, Comte de Germiny, Dr. Macary, Duchess of Albany, Fair Maid of Guernsey, George Gordon, J. Delaux, Peter the Great, Mrs. Marsham, The Cossack, Lucifer, Rubra Striata, Soliel Levant, Thunberg, Venus, Boule d'Or, and Cri Kang.

In growing plants for decorative purposes, care should be taken to select such as will give a variety of colour, and also a few early and late flowering varieties, and the following will be found a useful selection for an amateur's greenhouse.

The earliest to open is James Salter, followed by Elaine, Mrs. Rundle, George Glenny, Virgin Queen, Mdlle. Darnaud, Elegans, Anais, Cedo Nulli, Rifleman, Gloria Mundi, Tokio, The Daimio; later varieties are, Princess Teck, Fleur de Marie, Sœur Melanie, Mary Major, Meg Merrilies, Grandiflora, Julie Lagravère, Progne, Snowdrop, Thunberg, Magnum Bonum, Countess of Granville, Ethel, and Sarnia.

The foregoing remarks are intended to help young beginners in the cultivation of the Chrysanthemum, and I conclude by advising growers where practicable to visit each other, as a great deal more is learnt by observation than can be gained by reading.—*W. E. Boyce, Holloway.*

A Pretty Edging.—"Edging tiles, as a rule," says a correspondent of a contemporary, "have a hard and uninviting look. This rule was, however, decidedly broken in a case which I saw the other day. The garden was a small one in front of a house: there was an entrance gate in the centre, a flight of steps almost in front of that, and a walk running to the right and left. Owing to the conformation of the ground, the walks were much lower than the soil level, which was retained by an edging tile set upon a brick. The tiles were of a plain substantial pattern, and painted stone colour. The bricks at the base were covered with cement, the whole having a clean and inviting appearance. This, though, was not the charm, which consisted of the manner in which the edging was planted. This was done about two years ago, and the plants consequently were well established, and showed well their character. The collection was a varied and well-selected one. It consisted of mossy Saxifrages, some of which had crept over and down the whole depth of the tile—crustaceous species, which had formed fine silvery bosses, nicely overhanging the edge; various species of Dianthus, some of which crept over and had reached the walk below; several Aubrietias—green curtains now, masses of charming blue by-and-bye, and the moderate growing sorts of Sun Rose. I also noticed the Gentian, Blue Gromwell, Lithospermum prostratum, the pretty Astragalus monspessulanus, Calandrinia umbellata, (which, by-the-bye, was wonderfully healthy), some dwarf Campanulas, Erythræa diffusa, Iberis corifolia, Hippocrepis helvetica, and others. The whole were well arranged with reference to each other, and also with reference to the well-stocked borders behind, which were filled with good herbaceous plants and dwarf shrubs, and I shall most certainly make a pilgrimage next Daisy-time to see what must surely be a very charming little spot."

CATTLEYA AUREA.

This lovely variety has no other claims to be considered distinct from the Costa Rican C. Dowiana than those gained for it by reason of the widely different locality from which it is obtained, and some consequent slight difference in habit and constitution. Had all the plants which have been sold under the name of C. aurea been true, we should long before this have made a much more intimate acquaintance with it, than by reason of its rarity we have hitherto been enabled to do; but unfortunately by far the greater part of them, after the years of nursing necessary to bring them into a flowering condition, have proved to be C. gigas.

But this is easy to account for, if we refer to Mr. Butler's remarks made when he first collected this yellow Cattleya in 1876 for Messrs. Jas. Backhouse & Son, of York. By them we learn that he discovered it growing on the Cordillera, to the west of the Upper Magdalena, in New Granada, in company with C. gigas, and it would, therefore, seem that the plant cannot be got true unless collected in flower. C. aurea, which requires precisely the same treatment as C. gigas, is said by most growers to be much easier to manage than C. Dowiana. Its flowers exhibit great variety in their markings, even the sepals and petals varying in

the tints of their yellow and yellow-buff colour; while the rich velvety crimson of the labellum is in some forms veined down to the margin, as in that of the subject of our illustration, whilst some have the lower portion of the lip unmarked with yellow, the veining being confined to the upper half and throat.

The influence, too, of its neighbour, C. gigas, is already beginning to show itself, for last year a grand form quite intermediate in the lip between C. gigas and C. aurea, was flowered by Geo. Hardy, Esq., of Pickering Lodge, Timperly. This may be regarded as one of the finest things of the season, and it may well lead other growers to long for the appearance of such in their collections. If but for the sake of marking the importations from which such forms, however rare, may be expected, the name Cattleya aurea is well worth retaining.

Culture.—Cattleya aurea grows well either in baskets or pots if placed in a suitable situation where it gets plenty of light, but the plant is always safer in baskets suspended near to the glass of the roof, and small or weak plants should always be so treated It does not yet seem quite to have settled down to its proper time of growth and flowering, and therefore it must always rather be treated according to its stage of growth than to the season of the year.

Generally speaking, it sends up its young growth in spring, and the flower-spike with the increasing growth in July and August, and after the flowers are over is the best time to shift it, if it requires a fresh pot or basket. Directly after flowering, and when the growth is well advanced, the roots are put forth, and for the next two months during the period they are active, the plant requires the greatest amount of water, light and air. By the end of October the growths are mostly well made up, and from that time and throughout the whole of the winter the watering should be carefully and even sparingly done, the plant being kept in an airy part of the Cattleya-house in order to keep it from growing out of season. So managed, the plant grows equally as well as C. gigas, and when time has acclimatized it, it will no doubt flower equally freely. Our illustration was prepared from a plant which flowered in Major Lendy's collection at Sunbury-on-Thames.

CATTLEYA AUREA.

FRUITS.

Transplanting and Pruning Fruit-trees.—As it is now getting late, transplanting should be carried on with all speed and finished as quickly as possible, or it will be found that the trees will break but feebly in the spring instead of starting strong as they ought to do. That they may have every encouragement to do this it is necessary to exercise the utmost care in lifting that every young fibre may be preserved, and the larger and older roots saved from bruising or damage to the bark, as any abrasion or injury there is apt to make them die back, and if rot sets in there is no telling where it will stop. If the ends are damaged, as they must in some measure be, the right thing is to prune the torn part off by making a clean cut with a sharp knife, after which the smooth end soon heals over, and sends out fresh feeders that quickly supply the much-needed sap. Although the soil may appear good, it is always advisable to give young or any fresh lifted trees a little new, the best and most suited to their requirements being fibry loam from any old pasture or waste places by the road-side, and if for stone fruits it should be a little sharp or sandy, but for Apples or Pears the heavier it is the better the plants will do in it. The way to use it is just to chop it up roughly, as then the decay is slower and it remains sweet and open for a long time, gradually yielding up its fibre as the roots of the trees need it to feed on. That these may be protected from sudden change through frost, &c., the soil over them should be mulched by putting on a layer of littery manure, which may with advantage be left for the year, as in spring and summer it will be of great benefit in keeping out drought, and will to a great extent enable the trees to take care of themselves.

The knifing back these are subjected to is a big mistake, as by reducing the heads further than the removal of any shoots not wanted for laying in or leaving, the plants are retarded in their progress considerably, and the work of filling up a certain space on a wall or trellis takes double or treble the time it would if the trees were allowed to grow to their full length, as they ought to do. It is not till these have attained their full size that they should be pruned, as disbudding and summer pinching of any shoots that are taking an undue lead is all they want, and anything beyond such mild restriction is an evil; and one that makes itself felt on the plant.

In the pruning of established trees, the point to aim at is to keep them close spurred, and as there are generally more fruit buds than are wanted, some may be sacrificed by cutting away such as project far from the wall or branch they are on, as the closer the spurs are, and the less knarled they be, the finer will the fruit come that grows on them. Apples in orchards only require thinning, and this should be done annually by the removal of any branches that cross each other, as it is of the greatest importance that the heads be kept open and clear. What injures trees as much as anything is the moss that covers the bark after they attain a little age, and to preserve them in health, it is necessary to have it removed, which may easily be done by squirting over them some fresh lime-wash, as this destroys the parasite in very quick time. The way to prepare it is to slake the lime in a quantity of water, and then run it through a fine sieve, when it may be ejected on to the trees rapidly, by using a garden engine or syringe, and every branch covered. The same dressing answers admirably for Plums, Gooseberries, and Currants, to keep off the birds, which cannot, when the buds are so covered, do any injury to the bushes or trees, as the lime remains on till late in the spring.—*Alpha.*

Air-Roots on Vines.—How conflicting are the opinions that have from time to time been given as to the cause of the growth of air-roots on vines. Without pretending to infer that any of the authorities are wrong, I beg to state a few facts which have come under my notice. Some four or five years ago I remember looking through the garden of a reverend gentleman who kept one gardener whose life had principally been spent in the fields, so that he could not be expected to know much about vines. In this same garden there was a small house entirely filled with one vine, which had a stem probably 9 ins. in circumference. The man who was called the gardener could read, and he had read somewhere that "the bark should be removed from vines," so as to dislodge insects, and he did indeed remove the bark, for it was skinned down to the alburnum, and this was so much bruised and damaged that the sap oozed out and ran down the stem so badly that the vine could not supply the necessary sap for the growth, which was not of the strongest description, as may be supposed. The rods of this vine were covered with air-roots from end to end. The soil in the locality was of the best description for the roots of the vine to ramble in at will, being a deep loam resting on marl and an abundance of sandstone rock, affording the best of drainage. My impression is that it was the barking process that was the cause of this vine forming air-roots, coupled with syringing, with the object of obtaining what the roots and stem failed to supply. The other case I have to notice is that of some very old vines, the roots of which not having been disturbed for many years, have long got outside their allotted bounds. The subsoil in this case is clay, into which the roots have doubtless gone. These vines are covered with air-roots from beginning to end. "Atmospheric moisture," doubtless, many would say, was the cause; but not so altogether, or how are we to account for young vines planted in a prepared border, with concrete bottom, under the same roof and subjected to the same treatment not having a single air-root on one of them. I could cite many other houses, some of which have been in a measure under my charge, in which air-roots have been most abundant, but none of the gardeners in charge were advocates for lifting vines, or I think the air-roots would have been more scarce. In years past I was told by some that it denoted health and good treatment. What a happy state of mind to be persuaded thus! I candidly say for my part that I would rather be without them, and always feel there must be something wrong where they are freely produced.—*C. Warden.*

THE FUTURE OF THE POTATO.

The future of the Potato is a subject of much concern to persons who take an interest in rural industries, and it is undoubtedly of importance in connection with the problem of the feeding of our ever increasing population. Having been actively engaged during some thirty years in experimental Potato culture, and in the mysteries of the Potato fancy, both as an exhibitor and critic of varieties, I have arrived at some conclusions that have a practical bearing, and with your permission will endeavour to state them briefly.

In a general review it must be said that the systematic study of the subject during the past thirty or forty years—say since 1847—has advanced it considerably for all useful purposes. The students of the Potato may be roughly divided into two classes, the microscopists and the cultivators. Strange to say, those two classes do not overlap as one might *à priori* expect, for the microscopists to a man are not cultivators, and the cultivators to a man are not microscopists. The patient investigation of the several species of fungi that infest the Potato has resulted in the accumulation of a considerable mass of knowledge. Mr. Worthington G. Smith's definite tracing of the resting spores of the Peronospora being the crowning of the edifice—such as it is for the present. But all this knowledge appears useless in the face of the fact that may be regarded as the centre of interest for all the parties. When the disease occurs our knowledge of its origin and history does not aid us in any way to arrest its progress. Only two serious endeavours have been made, on the basis of this knowledge, to provide a preventive of the malady. Mr. W. G. Smith concocted a mixture of salts called "salus," the object being to fortify the plant against the fungus by providing for it a special kind of alkaline food. But the disease paid no attention to salus, and the preparation retreated to the realms of history. Mr. Jensen, of Copenhagen, proposed a system of high moulding and bending the tops with a view to cause the shedding of the spores of Peronospora at a sufficient distance from the growing roots to be incapable of harm; this has been tried with care by a committee comprising microscopists and cultivators appointed by the Royal Horticultural Society, and so far it has yielded only negative results. But these results, negative as they are, do forcibly hint that the Jensen system of moulding will afford no protection, while it is likely to injure the plant, check the growth of the crop, and add to the cost of cultivation.

The practical men have had better fortune. They have been engaged in trial cultures of sorts and systems, and their conclusions have been arrived at by comparisons of the weights, sizes, table qualities, times of ripening, and power to resist disease of the several sorts as influenced by the several systems One of the outward signs of progress is the International Potato Exhibition founded in the year 1875, an institution chiefly concerned in comparisons of varieties and methods, but ready at any time to aid the microscopists in any way that may be possible.

By favour of the Royal Horticultural Society, the Committee of the International Exhibition have been enabled to carry out at Chiswick a series of systematic trial cultures of new and old varieties, which are submitted to all the tests that appear of importance in the practical treatment of the subject. Every new variety to which the International Certificate of Merit is awarded may be regarded as having passed the ordeal satisfactorily. The experts who superintend these trials require the varieties to be of good appearance, good table quality, and in a general way distinct for commercial purposes. The results are the accumulation of a body of practical knowledge and the quickening of public interest in the true principles of selection and cultivation. Not a few of the practical men who are engaged in this business hold to the belief that in their department the antidote to the disease will be sooner discovered than in that of the microscopists. A certain few, who have a gift that way, are raising new varieties with a view to improve the "noble tuber" in all the qualities that are desired. I would name in this connection Mr. Fenn, of Sulhamstead; Mr. Dean, of Ealing; Mr. Clark, of Christchurch; and Mr. Ross, of Newbury. By the combined labours of these, a new race is being established without the aid of any blood other than that of *Solanum tuberosum.* And this new race unites great productiveness with high quality and a vigorous constitution. I will cite as an example of results the famous Magnum Bonum, one of many fine things from the seed-bed of Mr. Clark. This was first proved on my trial-ground at Hermitage, and was there first seen and secured by Messrs. Sutton, of Reading, who sent it forth for the advantage of mankind in general. In the first lifting of the trial crop in the presence of Mr. Martin Sutton, sen., and Mr. Martin Sutton, jun., we found the stools (or roots) to average 5 lbs. to 7 lbs. weight each, the tubers being handsome, and of the fullest Ware size.

There was no magic or mystery in the cultivation to produce these results. The seed sets were planted shallow on a bed of forbidding clay newly broken up from pasture, and were low moulded with lime rubbish obtained for the mere cost of carting, and the vigorous shaws were allowed to sprawl in the way of nature fully exposed to light and air without any harsh ridging up or bending down to check the growth or thwart the action of the healthy leafage. This variety has proved a true disease resister, and happily we have many such, the fruits of the labours made note of above.

For example we have Clark's Pride of the Market and Covent Garden Perfection; Sutton's Reading Hero, Fifty-fold, and Reading Russet; Dean's Midsummer Kidney and Chancellor; Ross's Magnet and Pride of Eydon; and Daniel's White Elephant. None of these are absolutely proof against disease—there is no living thing in such a happy case. The Potato plant is like every other plant, whether of Wheat, Rye, Hop, Hollyhock, or weed by the wall, subject to the assaults of fungi when certain conditions prevail. But, for some reason not as yet clearly explained, the varieties of Potatos differ greatly in relative susceptibility, and we have now a considerable list of sorts that hold their own fairly well in a bad year, and in a good year give heavy crops of the finest quality. The point of chief interest appears to be in the power of the tuber to resist the assailing fungus. Therefore it is that we are now beginning to select Potatos by the

same rule that is said to prevail in the selection of editors, members of Parliament, and military commanders—that is, thickness of skin.

In the raising of true hybrids, there is much to be hoped for, and the practical men lean rather to *Solanum Jamesi* than to *S. Maglia* for crosses likely to prove of commercial value. But it must not be supposed that we are urged by any great necessity to produce hybrids. What they will prove in respect of edible quality and power to resist disease none can predict; but, as the case stands, the Potato may be declared more healthy and more useful than it has ever been, and it should be so seeing how much care has been bestowed upon it.

As a matter of fact, within certain limits, determinable by the capabilities of the soil, the climate, and the plant, the crop will be what man may choose to make it. Give it a suitable soil, say, of fertile, well-drained sandy loam — the routine of cultivation provides for the green shaws full exposure to light and air—and protect the roots by low moulding, and it is then the most wonderful producer of starch known to us, while its nitrogen compounds, although insufficient to constitute it an independent food, are, nevertheless, in proportion to the average of other starch-producing vegetables, a few cereals excepted. We do not need independent foods, and we ought to praise God that there are none. Nations that trust to them, as to Rice in India or the Potato in Ireland, are for ever exposed to the risk of fever and famine. Such must be as the consequence of the violation of the behests of the Almighty and the laws of nature. To crop the land continually with one plant is to encourage the accumulation in the lands of the pests that prey upon it. But by variety and rotation of cropping we systematically purge the land and stamp out the parasites that nature provides to prevent our living on bread alone.—*Shirley Hibberd, Kew, in The Times.*

FLOWERS.

Seasonable Work in the Plant-houses.—Potting Palms.—The present will be a good time to go through all the Palms, from the seedlings in the store-pots up to the large specimens, and repot any that may require it. We would, however, recommend that care should be taken not to over-pot them. Palms in small pots are not only more serviceable for decoration, but will generally succeed better than when too much pot room is given, especially if the plants are grown where a humid atmosphere can be maintained. Therefore in potting off seedlings it is best to use the smallest size pots available, and in repotting to never give them more than one size larger, or where they have not much root they may be put back in the same size pots. The soil that we find suits Palms best is good light fibrous loam with a little sand added, or if the loam is inclined to be close or heavy, a little fibrous peat may also be added, and for the large plants a little good dry stable-manure may be used with advantage. In potting Palms the stems should be kept well above the surface of the soil, and should be potted as firmly as possible. Any palms that are not repotted should be occasionally supplied with manure-water, or a little artificial manure spread on the surface at this season of the year. Soot-water may be used liberally at any time, and this will give a dark-green healthy colour to the foliage.

Sagittaria montevidensis. — This beautiful aquatic, which is closely allied to the Arrowhead of our ditches and streams, is abundant in the marshes of the La Plata, where it forms great bushes, 5 ft. high; its large glossy sagittate leaves and numerous racemes of flowers producing a striking effect. It is widely dispersed in Tropical America, from Jamaica to Monte Video, and from Lima in Peru to Valdivia in Chili. Of the numerous aquatics which have been introduced into our gardens, it is one of the most beautiful, the snowy-white petals, with blotches of rich maroon, bordered with yellow, producing a charming effect. Its cultivation is very simple, little being required beyond being planted in a rich loamy compost, and plunged in a tank in the stove. It is well figured in the December number of the *Illustration Horticole*, also at t. 6755 of *The Botanical Magazine.*

VEGETABLES.

The Kitchen-Gardener's Calendar. — The wheeling of manure on to vacant pieces of ground, and the digging or trenching of the same as may be deemed necessary, should be pushed on to a finish as rapidly as possible, so that the ground may be in readiness for planting and seed-sowing. In the case of Onions, Carrots, and Parsnips, the seeds must be sown as early in the next or following month as the condition of the ground will permit of the work being done, without the soil adhering to the feet, but respecting this full particulars will be given in these columns in due time.

Young Lettuce and Cauliflower plants which are being wintered in cold pits and frames, or under hand-glasses, should have the sashes and covers taken off every mild day in order to keep the plants sturdy, so that they may be well hardened off by planting-time —say the middle of next month for the first and smallest planting, and afterwards at intervals of a week or two.

Celery plants, and also the young Lettuce plants which were planted closely together on warm borders last autumn for planting out in spring, should both have a slight covering of fern or some other protecting material put over them as a protection from frost. This covering, however, like that over the plants in frames and handlights, should be only put on when there is likely to be frost, and should be taken off as soon as it is gone. See that autumn-sown Onions, Spinach, Lamb's Lettuce, and Cabbages, together with plantings of Broccolis, Winter Greens, and walks are kept free of weeds. Look over breadths of Broccolis at short intervals, and cut all the heads which have attained to table size, and bend the leaves over those which are not sufficiently large for that purpose as a slight protection from frost.—*H. W. Ward.*

Carrots and Parsley: Cultivation under difficulties. — Amongst the many difficulties with which gardeners in all parts of the country have to contend must be included that of keeping up an adequate supply of good Parsley, and the trouble seems to be quite irrespective of soils, as we hear complaints from so many different quarters, with various kinds and conditions of soils and subsoils. The same difficulty, too, exists in growing Carrots. I know of very many gardens where the attempt to grow a crop of these roots has been met by failure year after year, in spite of many so-called remedies having been tried, that it has now been abandoned as not worth the labour. In this locality, however, this is not so very serious an affair, as there are several places in the neighbourhood where Carrots do well, and they are grown as a speciality for the market, so that it is easy to obtain any quantity required for the winter supply, and with a bed or two of Early Horn, in frames or specially prepared ground, the demand can generally be met.

But it is otherwise with Parsley required in a green state, as then it becomes a constant struggle to keep up the supply, and which is not always overcome by more frequent sowings, as, in our own case, it absolutely refuses to grow in the natural soil beyond the first rough leaf. No spot of ground we have about the garden is clear of the grub, which begins to attack it when at that stage, and then the case is hopeless. Deep cultivation seems to be no remedy, as our ground has a regular course of trenching about 2 ft. 6 ins. deep. Last autumn a piece of ground 40 ft. by 17 ft. was set apart and trenched up roughly, and having a dressing of 1 cwt. of salt applied in turning over the top spit; early in February another half cwt. was spread on the surface and left to dissolve, and at the end of the month the ground was well stirred with the fork and the crop sown. The seed gave a beautiful "braird," and went on so well, that I hoped I had at last got over the difficulty, but in the beginning of June, the usual symptoms appeared and gradually increased until at last the whole had to be cleared off, the roots being just in as bad a state as formerly. The best results I have yet had, were obtained by stretching the line, and in place of drawing drills, we inserted a spade at the side, working it backwards and forwards along the line so as to form a V-shaped trench. This was then filled up level with wood ashes and the seed sown. This year I mean to go on somewhat the same plan, but in place of the spade to make holes with the Potato-dibber and fill them with the ashes and sow on the top. This will afford the roots much more of that material to work in, than is the case in a gradually narrowing slit, and I hope the results will be such as to give no occasion to go begging, as I have sometimes been compelled to do.—*R. Stevens, Paston, Cornhill-on-Tweed.*

[The advice given by "M." in the following paragraph should be valuable to our correspondent, and others who may experience similar difficulties with their Parsley crop.—*Ed.*

Parsley.—In some districts gardeners are often sorely puzzled to know how to maintain a supply of Parsley through the winter months. There is not much difficulty in growing it during the summer months, as that which is sown early in March grows fast enough through the summer until towards the end of October, when it turns yellow, and eventually dies. This is frequently due, I think, to the prevalence of wire worms in the soil, and I know that in many parts of Lancashire this pest abounds. Some growers go to the extra trouble of taking out all the soil to a depth of 2 ft., and filling up with fresh soil, loam, or anything that can be procured different to the natural soil of the place, often with the result that in the autumn the same thing happens again—the Parsley turns yellow, and will not stand the winter.

I would advise those who experience the same difficulty to adopt the following method of cultivation, which I have found to answer admirably, and which has enabled me to keep up a continuous supply. Early in August fill a cold frame, or pit, with leaves, on which place about 1 ft. of soil, composed of loam, leaf-soil, and wood ashes, mixed with a little well-rotted manure. A turf-pit answers well if frames are scarce. Sow the seeds, and cover them lightly, but do not put on the lights for some time after, which will induce a much more stocky growth than that produced under the glass. Towards the end of October, should the weather be very wet, place on the lights, and as soon as the soil becomes a little dry, water the whole bed thoroughly with water mixed with paraffin at the rate of about two wineglassfuls to four gallons of water. Thoroughly mix the oil with a syringe when pouring the mixture on the soil. The oil seems fatal to all grub life, and has the effect of producing a deep green colour in the Parsley. The smell of the oil will soon pass away if the lights are taken off whenever it is not raining or snowing.—*M.*

Broad Beans.—In order to be able to make gatherings of Broad or Longpod Beans as early next May or June as possible, seeds of Seville Longpod or Carter's Leviathan should be sown at once in boxes three parts filled with rotten manure and good soil. Cover the seeds with soil and then place them in heat, and, as soon as the Beans have made a couple of inches of growth, gradually harden them off prior to transplanting them in a warm situation in rows 3 ft. to 4 ft. apart and 6 ins. to 9 ins. apart in the row. The individual plants should be taken carefully out of the box with a portion of the rotten manure adhering to the roots, and the soil should be pressed moderately firm about the latter in planting. Then put a stick to each plant for support, and afterwards draw a little soil up to them and protect with spruce boughs, as recommended for Peas at p. 288. Then lay on a good mulching of rotten dung on either side the rows, and when the Beans have attained to a height of 3 ft. pinch the points out, which will cause them to pod quicker than they would do if not stopped. Give plenty of water to the roots during dry weather. About the same time the sowing is made in the boxes one should be made out-of-doors in a favourable situation, and afterwards at intervals of a fortnight or three weeks until the middle or end of June, for yielding successional supplies.—*H. W. W.*

THE

Orchid Growers' Calendar.

Potting Cool-house Orchids.—I have many reasons for saying that I have always found the early part of the present month the best time in which to commence repotting Masdevallias, Odontoglossums, and all the other occupants of the cold-house. When they are repotted in January, or even in the beginning of February, should the work not be completed before, they have ample time to get firmly rooted and re-established before the hot season, which is the critical time with these plants, arrives. In spring and summer it is above all things necessary that an undisturbed root action should go on, in order that the imbibing roots may fully compensate for that which is thrown off by the leaves, and for the demand made on the vital forces of the plant in producing and perfecting the flowers.

Cold-loving Orchids make roots principally in the cold weather, and therefore if re-potted now, the new material is immediately made use of, and the plants will be in a fit condition to go through the summer, whereas if they are allowed to root into the old stuff, and are repotted later on, the roots will be broken and disturbed at a season when they cannot so well recover the check, and the hot weather will take more out of the plants than the roots can replace. Such plants always fall ready victims to thrip and other insects, as they (the insects) seem to have a particular liking for badly-nourished subjects, and a shyness in attacking robust, healthy specimens. Apart from all other considerations, January is a month when the time necessary can best be spared to give the proper attention to the matter.

Potting Materials.

No hurry need take place about beginning, but no time should be lost in preparing clean pots, baskets, a good supply of broken crocks, fresh sphagnum moss and fibrous peat. With respect to this last-named article, great difficulty in getting a good Orchid peat is experienced in the present day, and many deaths among the Orchids may be attributed to using the sandy grass and heath root peat often supplied. In many cases it would be better to leave the plants without repotting, or to use only sphagnum moss, than have anything to do with it. The proper kind should be light, and composed of bracken root, which seems to be almost as indestructable as a fibre, let it be kept ever so wet. Mr. H. J. Smyth, of 21, Goldsmiths' Street, Drury Lane, W.C., has recently shown me a very fine sample—the best I have seen for some time.

What to Commence With.

It is better to begin with the Masdevallias, follow on with the Odontoglossums, and finish with Oncidium macranthum and other odd cold-house plants, giving to each a shift into a proportionate-sized pot, but avoiding over-potting in every case, as it is injurious. The pots, of different sizes, being ready, crocked carefully a little more than half way up, a thin layer of sphagnum moss just sufficient to cover the crocks and keep the drainage open being placed in each, and a supply of peat, broken into lumps by the hand, and of sphagnum moss picked over in the same way, being in two separate heaps before the operator, all is ready to begin repotting in earnest. I always found it better to keep the peat and sphagnum separate, and to take of each in the process of potting as it seemed to be required for the particular place in which it was to be put, using generally about one-half of each for most cold-house plants. This I found to be a much better plan than to mix the materials together before using, as when placed in separately it is much less liable to cake as it frequently does when used previously mixed together. The fine soil which will always accumulate on the bench as the rough is used should be removed and put on one side for mixing up for use with the stove and greenhouse plants, and the old material comes in well for the same purpose. Some are great advocates for using charcoal in repotting Orchids, but I never recommend it, as although I know it to be good and desirable when it can be readily obtained, most of the best plants in the country are grown without it, and therefore it is shown to be not necessary, and if not necessary it is too expensive to be generally used. There are a few points that might be noted which, during the process of repotting, would be of service to the amateur.

Golden Rules for Potting.

The golden rules to be observed in potting Orchids are:—

1. Never repot a plant which is dry, but rather give it water, and leave it a time to moisten the ball before turning it out of its pot.
2. Never pot in dry material, but let it be about as moist as it is kept when the plant is in it—not wet, but moist in the same degree that living sphagnum moss always is.
3. Never pot in new pots, or use crocks of broken new pots until they have been soaked in water and partially dried again. This is an old-fashioned notion, but it is worthy of all respect, as I have found that plants potted into thoroughly dry new pots often have the ball cake and crack away from the rim of the pot, leaving the water to run off without moistening it.
4. Never repot a plant with an unbroken ball, but roughen it by picking out with a bluntly-pointed stick some of the old stuff.
5. Never leave a plant so that it will shake about after repotting, but never use a stick to fasten it if it can be secured in the pot with the potting material in the ordinary way.
6. Keep the back bulbs nearer to the rim of the pot on their side than the leading growth is to that on its side to allow it room to grow. Always clean every plant just before repotting, or during the time it is being transferred from one pot to another; and repot every plant except perhaps an odd plant or so, which circumstances may seem to say would be injured by it.

Top-dressing Orchids.

Top-dressing as a rule is to be avoided, as in many cases it does more harm than good through the false surface concealing that which is beneath it. I have many times seen a top-dressed plant with the surface looking in the proper condition, while the old stuff beneath has been either sodden and full of decayed roots, or dust dry, according as the false surface imbibed the moisture or shed it on to the old ball. Never use the crocks which accumulate from the plants turned out for repotting a second time without their being previously washed. Where a plant is so rooted into a basket or pot that it cannot be removed, take out as much of the old stuff as possible and replace it with new, and not merely put a coating on the surface, as is too often done. Any plant which it may be advisable to leave in its old pot should have the pot scrubbed before it is returned to its place. During the repotting any of the plants with far advanced buds should be left until they are past bloom, but unless the buds are likely to open within a fortnight or so the repotting may be done without any harm.

To be starved for want of water is the worst thing that can happen to the cold-house Orchids at any season of the year, and therefore, although for a few weeks after repotting, the watering of the plants should be very carefully attended to, they should not be allowed in any case to get dry, it being much better to give them too much than too little water. It is always best to have a temporary potting bench in the house in which the plants are growing and to bring in a small quantity of each thing required than to take the plants to the potting-shed unless it be very handy to the Orchid-house and can be reached without going outdoors. Once upon a time there sprung up a notion of mixing sand with the peat and sphagnum for Orchids, but the practice soon died out, as although it was found to keep a sickly plant just alive, it was also as certain to keep it from getting into health again. Good fibry peat and sphagnum therefore having stood the test of time prove to be the only good materials for Orchids, as they who have paid for their whims in using cocoa-nut fibre and other things well know.

The Temperatures in which the Orchids in the different houses will thrive well during January are:—

East India or Hot-house, 65 degs. to 70 degs. Fahrenheit, by day; 60 degs. at night.

Cattleya or Intermediate-house, 60 degs. to 65 degs. by day; 55 degs. at night.

Odontoglossum or Cool-house, 50 degs. to 55 degs. by day; 45 degs. at night.

The higher day temperature to be attained by sun heat only when possible.—*James O'Brien.*

ORCHID NOTES.

The Orchid Album.—The current number of this fine publication contains coloured plates of Saccolabium Blumei, one of the finest of East Indian Orchids; Cymbidium Devonianum, an elegant species of small growth, with well-furnished spikes of pale green flowers, spotted with purple brown, and a crimson lip, distinguished by two large blackish-purple spots on either side towards the centre; Odontoglossum vexillarium superbum, a high-coloured variety in Sir Trevor Lawrence's collection; and Vanda insignis, the beautiful and distinct species which has been so rare for many years. The last-named plate was prepared from a specimen in the collection of E. Wright, Esq., Gravelly Hill, Birmingham.

Lælia anceps var. Dawsoni.—Perhaps the nearest approach to the famed Dawsoni which has yet flowered among the white and blush varieties of L. anceps recently imported, is now in flower with Mr. Henry James, Castle Nursery, Lower Norwood. The lip has much the same bright crimson, and the throat the blackish lines and yellow tinge of L. a. Dawsoni; but the sepals, instead of being white, are suffused with pink. It is a very beautiful variety, hardly up to L. a. Dawsoni in form as at present seen, but time and good culture will no doubt greatly improve it. Other good forms of L. anceps and many other rare Orchids are in bloom just now in the well-grown collection at the Castle Nursery.

Orchids in Flower at Lake House, Cheltenham.—The following Orchids were in flower at the end of December, in the collection of G. Neville Wyatt, Esq.: Acrides Leeanum, Angræcum eburneum, Calanthe Veitchii, Cattleya Exoniensis, C. maxima, C. Holfordii, Cypripedium barbatum, C. concolor, C. Dominii, C. Haynaldianum, C. insigne, C. insigne Maulei, C, violaceum punctatum, C. longifolium, C. Spicerianum, C. Sedeni, C. venustum, Dendrobium bigibbum, D. Dalhouseianum, D. heterocarpum, D. infundibulum, D. superbiens (extra fine variety), Lælia anceps, Lycaste Skinnerii, L. lanipes, Masdevallia Tovarensis, Maxillaria grandiflora, M. venusta, Odontoglossum Alexandræ, O. Kramerii, O. Hallii leucoglossum, O. Pescatorei, O. Roezlii, O. Rossi majus, O. sceptrum, O. Londesboroughianum, Oncidium aurosum, O. cheirophorum, O. Forbesii, O. Suttonii, O. varicosum, Pescatoria Lehmanii, Phalænopsis amabilis, P. grandiflora, P. violacea, Saccolabium violaceum, Sophronitis grandiflora, several, one charming plant having eight large very highly coloured flowers open; and Zygopetalum Mackayi.

Orchids at the Royal Botanical Garden, Manchester.—With a sharp frost outside, it was a pleasure, about ten days ago, to turn into the vestibule attached to the Orchid-house, and to have the opportunity of inspecting the many plants in bloom, both here and in the other houses. The general health and vigour of the plants, too, tell plainly of still further additions that will by-and-bye be made to the floral display. A noticeable plant now flowering is Cypripedium Lowi, not particularly on account of the size of the plant, but of the five flowers on the spike. These being large in size, dark in colour, and much more spotted than is usually the case, make it at once a prominent and striking object. C. Spicerianum, too, is flowering. This beautiful species is a great favourite with Mr. Bruce Findlay, and, as though it appreciated the estimation in which it is held, it is almost always in flower. Fine forms of C. Sedeni and C. Dominianum are also in bloom, but the grand display is made up principally of C. insignis. This is an old and well-known sort truly, but when seen, as here, in a group, with nearly five hundred blooms open, fine in form and colour, in conjunction with seventy-two spikes of Amaryllis, chiefly aulica, and relieved with ferns, palms, and other fine-foliaged plants, it makes a display most interesting and beautiful. The old Cœlogyne speciosa is also flower-

ing, and the first flowers of Cattleya Trianiæ are open, a variety with pure white sepals and petals, an open lip of a bright rosy purple, and deep orange throat, and beautifully fringed with a white margin. Masdevallia polysticta is represented by about a dozen plants, with scores of spikes. The new range of Orchid-houses in the herbaceous ground is now complete and stocked with plants, the collection of Cattleyas, Dendrobes, and Odontoglossums apparently being much the better for their new quarters, and, no doubt, in the ooming season, will advance much more vigorously than was possible in the old houses in which for years they were located.—*W. Swan, Fallowfield.*

FLORICULTURE.

Cyclamens at Reading.—For some years past Messrs. Sutton & Sons, of Reading, have been singularly successful in developing improvements in the various strains of choice florists' flowers with which their name has become identified. As well as being successful in raising new forms they are also exceedingly adept cultivators of them, as anyone may learn for himself by paying a visit to their London Road Nursery. During the next few months the leading specialities in season will include Cyclamens, Chinese Primulas, and herbaceous Calceolarias. The former are now nearly at their best and in all respects remarkably fine. The collection of Primulas is a large one and particularly rich in novelties, both as regards flowers and foliage, and, we might add, of curiosities also, for some of the results here seen of cross fertilization are curious in a high degree. Most of the varieties are now sufficiently in bloom for examination, but will not be at their best for about another month. The herbaceous Calceolarias are in splendid condition, giving promise of a superb display later on.

The Cyclamens will be in bloom for a long time, and they are full of bloom now, making a display that is well worth seeing. An inspection of the houses and pits in this nursery reveals at once at least one of the secrets of the successful cultivation here carried out; there are no more plants grown of any kind than space can be provided for when they are fully developed. In this way overcrowding, one of the greatest evils in plant cultivation, is avoided, and the results are seen at once in the rows of thrifty, well-proportioned plants, each a model in itself. The even size of the plants is obtained by not keeping any second or third season roots, but by depending on seedlings raised every year and grown quickly on. The plants now in bloom have been grown on from seeds sown twelve months last November, and finer grown specimens in the time it would not be easy to find. To have first-rate Cyclamens, they must go well from the first, must from seedlings to the flowering stage be kept growing, and must be kept scrupulously free from insects to thoroughly develop the foliage.

Given these conditions and suitable houses and pits to grow them in, and there is not the slightest reason why the majority of gardeners should not have plants as good as these. The Messrs. Sutton have vigorously set their face against any attempt to develop the tendency to "doubling" which plants have from time to time shown, and in this we think they have acted wisely. A double-flowered Cyclamen cannot be so handsome as a single one, and therefore is not worth perpetuating. That is the idea which rules at the London Road Nursery, and any plant which gives indications of a desire to produce more than the regulation number of petals is quickly thrown away. The ideal Cyclamen, which the firm constantly has in view, is a flower of good proportions, broad at the base, with broad well-rounded petals, and the colours always pure. The new pure white variety, now called White Butterfly, but which was certificated by the Floral Committee under the name of Miss Lilian Cox, is purity itself in the whiteness of its blossoms, and a particularly neat growing plant, with handsome marked foliage; and the other favourite varieties of the normal persicum type are Reading Gem, with large pure white petals and purple base; Phœnix, very bright crimson; Roseum, bright rose with carmine base; and Rubrum, deep red.

The giganteum strain has undergone considerable improvement for the better since it has been in the Messrs. Sutton's hands. At first the leaves were heavy, and being produced on long stalks, were easily broken, and so much did the loss of a few leaves disfigure the plants, that it was hardly safe to move them about. All this has been corrected by subsequent selection of varieties producing shorter leaf-stalks, until the strain is now as dwarf and compact in habit as need be desired. The four principal varieties, all now in beautiful bloom, are giganteum album, giganteum roseum, giganteum roseum album, and giganteum roseum superbum, and the last-named has been certificated by the Floral Committee.

Letters to the Editor.

THE PERFUME OF ROSES.

If your correspondent "Spade," who asks for information on this subject at p. 285, has a volume of *The Florist and Pomologist* for 1876, he will find at p. 142, of the June number, that it was Mr. Curtis of Torquay, who described the seventeen different sorts of scent. The following is a copy of the paragraph which may interest some of your other readers besides "Spade": "Sweet Briar scent, as in the garden variety; Moss Rose scent, as in Common Moss and family; Austrian Briar scent, as in Copper Austrian and family; Musk Rose scent, as in Narcissus, old Musk and family; Myrrh scent, as in Ayrshire splendens; China Rose scent, an astringent refreshing scent, as in old monthly China and many others; Damask perpetual scent, as in Rose du Roi, &c.; Scotch Rose scent, as in the early double Scotch; Violet scent, as in White Banksia; Old Cabbage scent, as in the well-known double Provence; Otto perpetual scent, as in Charles Lefebvre, Madame Knorr, &c.; true perpetual scent, as in Chabrilland, Pierre Notting, &c.; Old Tea scent, as in the old yellow Tea or Magnolia Rose, and others almost unpleasantly strong for some tastes; Sweet Tea scent, as in Goubault, Maréchal Niel, &c.; Hybrid Tea scent, as in La France; Nectarine, or fruit scent, as in Socrates, Jaune Desprez, Aline Sisley, &c.; and the Verdier scent, represented more or less by all the Victor Verdier hybrids, such as Eugénie Verdier, Castellane, Countess of Oxford, Marie Finger, &c. The petals of the highly-scented varieties have on their inner surface minute perfume glands or vesicles, containing the highly volatile essence, under the microscope distinctly visible. Those on the petals of Sweet Briar and Moss are almost visible to the naked eye. Mr. Curtis concludes that the following are the most deliciously and powerfully scented varieties:—La France, Goubault, Devoniensis, Maréchal Niel, Bessie Johnson, Madame Knorr, Pierre Notting, and Charles Lefebvre."—*Rosarian.*

SOWING PEAS: NORTH AND SOUTH.

There is one point in connection with the remarks by Mr. J. Knight, in his article entitled "Peas for Exhibition," which appeared in your issue of December 20th, that I should like to refer to, viz., the running of the rows due north and south. The question of aspect in connection with crops that are grown in rows, is entitled to more consideration than in all probability it receives. Peas, Beans, or other vegetables, when planted due north and south, will always yield a much better percentage of produce than when the lines are run in other directions. I have frequently observed, especially in the case of tall growing Peas or Beans, that the rows running due north and south have yielded considerably more produce than those sown in other ways. Accepting this as a general rule, I think the matter of some importance to growers.—*C. F. Ward, London, January 5th, 1885.*

LATE CHRYSANTHEMUMS.

Your correspondent, "C. T." p. 285, desires the names of a few late varieties of Chrysanthemums, and also a few hints on retarding bloom for exhibition. He will find a list of late varieties in another column of this week's issue, p. 296, to which I beg to refer him, merely remarking that the following are very useful for decorative purposes, viz., Mons. a Dufour (this blooms in October), Elaine, Tokio, Julie Lagravère, Progne, Snowdrop (this, although small, is a fine late variety, and can be had in bloom in January), and Ethel.

As to retarding blooms for exhibition, I may say that if it is seen in October that the blooms will be too forward, the plants should be kept out-of-doors as long as it is safe, and when placed under cover they should have plenty of air and be kept as cool as possible. Blooms may be cut with a good stem and be placed in a dark cupboard in a cool room, where they will keep fresh for a considerable time.—*W. E. Boyce, Holloway.*

PLANT MANURES.

A great service would be rendered to those who have to grow pot plants well with indifferent materials, if some reader would indicate which constitute at once the cheapest and most successful kinds of pot plant manures. I do not care whether these be applied in powdered form, and mixed with the soil, or strewed over the surface from time to time, or whether best used in liquid form. I want the manures chiefly for soft wooded stuff, but would also like to know something of the best manure for Heaths, Ericas, Deutzias, Azaleas, Genistas and similar plants. Those who have rich turfy loam and ample decayed manure, know little of the shifts to which others are put in plant cultivation who have neither, but only poor soil material.—*Plantsman.*

SALT FOR VINE BORDERS.

Will some of your readers who have applied common salt to their vine borders inform me whether they have found it beneficial or hurtful to the vines? I remember a very old and able gardener informing me that he had some Asparagus beds near his vine border, which was outside, and on doing something which disturbed the soil near them, he found some vine roots. He consulted the editor of one of the gardening periodicals of the day as to whether it would be judicious to salt these Asparagus beds in which he found the vine roots, and the answer was not to salt them by any means. This occurrence came fresh to my memory on reading during the past summer, I think, that Mr. Johnstone, of Glamis Castle, used salt for his vine borders, giving them a dressing every year similar to Asparagus. Any information on this subject will be gratefully received by *W. C. C. S.*

POTATOS FOR AN AMATEUR.

I want to grow a few select kinds of Potatos in my garden during the coming season. I am an amateur having about thirty rods of ground, the which I am fond of cultivating, and as I am at once fond of Potatos and as fond of exhibiting in a small way, I should like to learn from some of your contributors who know something about Potatos, the names of what are esteemed to be, say, a dozen good sorts that would prove at once suitable for show and for table, also good croppers. I want kinds that are different from those generally grown about there, which, though big croppers are rather coarse in character, and do not satisfy me. Any few hints with respect to treatment and cultivation would also greatly oblige *A Sussex Amateur.*

THE SWEET WILLIAM.

"R. D.," in his interesting notes on the Sweet William does it no more than justice. The plant is not only thoroughly hardy, most easily raised from seeds or propagated from slips, but, if a good strain be obtained, it is a most useful addition to a bouquet. The great desideratum among growers, however, seems to be to get enormous heads of bloom, whereas the most useful and eligible habit is where the head is loose and broken up into numerous long twiggy shoots, each bearing from three to five pips.

The great fault of the flower, generally speaking, is to close early in the evening, just, in fact, when one would wish it for bouquet purposes to open as wide as possible. Another common fault is that the petals crowd each other so much that scarcely a single pip is fairly open. A few years ago I grew the Sweet

William on a plot occupying a couple of poles. The seeds were sown at the end of May the year before, dibbled out before they spoilt each other for want of room, and, with the exception of two or three hoeings between the rows, no further trouble was taken with them. Immediately an inferior flower apppeared it was ruthlessly destroyed to avoid mischief from impregnation by the pollen-carrying bees. At first there was a preponderance of light flowers, some of which were extremely delicate in their markings—pure white, for instance, with elegant discs of purple; white self, with lavender stamens and anthers, and many other varieties—there were at least forty. The most effective were a black crimson with purple anthers, a bright crimson with clear white eye, another with the most delicate though clearly defined Piccotee edge. For five or six weeks every morning brought me something new and beautiful. Friends would call and look over the bed with me, and we invariably found something fresh and also something to discard.

It is five years since I began to grow the Sweet William, and I flatter myself that I have at last a very beautiful strain. The habit of the pip is much improved, the petals lying neatly over without crowding so as to turn up the edges of the newer flowers like the habit of some of the better kinds of Pelargoniums. Where this habit became persistent in succeeding years, the flowers remained wide open in fine weather in the night. My bed lasted in flower from early June to the middle of October; the bloom during the two last months was carried on slender side-shoots. Any amateur wishing to try the experiment of raising seedlings of biennials could not do better than begin with the old Sweet William. He might then proceed to fresh delights in the way of Pansies, Polyanthuses, Antirrhinums, Carnations, and Auriculas.

RHODODENDRONS.

I am about to try half-a-dozen of the most effective Rhododendrons in pots for greenhouse decoration, and occasional removal to front doors. They have been planted in 12-in. pots in suitable stuff — is any precaution needed further than a sufficient supply of water?—*J. L., Littlehampton.*

HORTICULTURAL SOCIETIES.

Scottish Horticultural Association. — A meeting of this Association was held on Tuesday night, Mr. Mackenzie in the chair. Mr. James Grieve read a paper on "The Progress of Horticulture during the last Quarter of a Century." Commencing with an enumeration of the improvements effected and new introductions made within that period in conifers, ornamental trees, shrubs, florists' flowers, stove plants, fruits, and vegetables, Mr. Grieve proceeded to comment on the great increase which has taken place in the numbers who grow Orchids, and in regard to table plants, remarked that the amount of money now changing hands for these alone would astonish the wiseacres who were for ever talking of the good old days. As to cut flowers, again, what with births, deaths, and marriages, and the decoration of churches at Christmas, as much money now changed hands in a week as did in a year twenty-five years ago. Of fruit-trees, the Apple had been very much improved, and several varieties, if not new in the correct sense of the word, had been brought to the front to displace sorts formerly recommended. The Pear had not been so much improved; we had any quantity of fine Pears, but what we wanted in regard to this fruit was a better climate. In Peaches and Nectarines great changes had been introduced, especially with very early and very late sorts. The Apricot had not been so much taken in hand as it ought to have been; and the Cherry remained, to a great degree, what it was twenty-five years ago. Of Gooseberries, Currants, and Raspberries, the number had been thinned, the better sorts having come to the front. Strawberries had become a great favourite; various sorts had been added, and there were ten acres grown in Scotland now for one twenty-five years ago. There had also been a great increase in the growth of vegetables. The wages of working men in nurseries had increased about 50 per cent.; and although at present horticulturists, like every other profession, were undergoing a season of dull trade, they trusted soon to see a return to the golden harvests of former years.

In the course of the discussion which followed, Mr. Todd said there might be some flowers better developed than twenty-five years ago, but, with the exception of Roses, there had been very little progress; and the progress made had not been made in recent years, but in the beginning of the quarter of a century under review. In vegetables, many things had been improved, but the improvement had not been so very great. Peas had been introduced that were to be ten days earlier, or to produce double the crop; but still their Peas came in about the same week, and they had just about the same quantity. A great many of the introductions mentioned by Mr. Grieve had improved gardens immensely. The great change that had taken place during the last twenty-five years had been that the people had interested themselves more, and had become greater lovers of flowers and plants; but he was not quite sure that horticulture as a science had very much advanced during that period. The great increase in the means of communication had in some cases contributed to progress, while in some it had rather hindered progress by bringing the gardener into competition with foreign growers who enjoyed a better climate. Proceeding to ask if the gardener was a better gardener than twenty-five years ago, he desired to mention, as showing that he was not, a sad fact that took place last year. The council of the Royal Caledonian Horticultural Society, having to award the Neil prize, which was given once in three years to the most distinguished horticulturist of his time, could not find in Scotland a gardener worthy of it, and so had to give it to an amateur, and not one gardener in Scotland could be found to raise his voice against the award.

Mr. Lindsay contended that, on the whole, there could be no question that during the last twenty-five years horticulture had progressed very much. Mr. Munro remarked that the teaching of Darwin, although it had not done all that it ought to have done, had done more for horticulture as a science than anything else that had occurred during the last twenty-five years. The Chairman submitted that there had been as great progress in practical horticulture during the period in question as there had been in the science of that period. Gardeners all over the country at the present day were in possession of modes of cultivation, and produced results that the gardeners of dukes, earls, and princes could not produce thrity years ago.

DEATH OF MR. JAMES KINGSBURY.

We regret to have to record the death on the 27th ult., at Southampton, of Mr. James Kingsbury of the Bevois Valley Nursery, with which in former days was also associated the name of Windebank. Mr. Kingsbury was but sixty-three years of age when death removed him. He had been engaged a few weeks previously in advising a townsman with respect to the best arrangement of some shrubs, when stepping back he unhappily fell into a trap or cellar door open close by, and falling, suffered injuries which ultimately proved fatal. He was one of the early founders of the Royal Southampton Horticultural Society, and at all times an active horticulturist, was specially liberal in the loan of plants, &c., at local gatherings, and was deservedly esteemed by a large circle of friends.

A correspondent writes:—"I have learnt of Mr. Kingsbury's death with exceeding regret, because it removes another of those links which tied and linked memory to the past and life to ancient associations. Southampton is not a locality in which horticulture ranks very highly, though it has near and about it some few honoured workers. Fifty years since its most famous Horticultural Association was formed in the Old Spa Gardens, then the town head-quarters of Page's extensive nursery business, which had a wide reputation over the south and west of England. In time that house died out, and the leading trade was doubtless that done by Mr. Rogers of the pretty Red Lodge Nurseries, but the trade has always been most largely in ordinary nursery-stuff, especially in forest trees and shrubs.

"It was not until my late old friend Mr. Kingsbury came from out of his amateur occupation at Bishops Waltham and joined himself to another old friend, the late Mr. Windebank, and settled down as florists at Bevois Valley that genuine floriculture in Southampton found a trade home. Mr. Kingsbury's peculiar forte was found in hybridization, and in that direction he was not only an expert but an enthusiast. How much of chaff he found to the grains of wheat which he from time to time garnered we shall never know, but in those early days our floral standards with many things were not what they are now, and success was very considerable. With the Chinese Primroses wonders were accomplished, but when there came a dissolution of partnership, and Mr. Windebank removed to Bevois Mount, he took most of the Primula stock there, because the low-lying position of the Bevois Valley Nursery was less favourable for winter hybridization.

"What a lot of fine doubles were obtained by Mr. Kingsbury I cannot now detail, but they were numerous. Verbenas, Fuchsias, and Zonal Pelargoniums were the special favourites of my old friend, and many of the finest of these in commerce some ten or twelve years since were the creation of his hands. These went chiefly into trade through the once well-known houses of Henderson, St. John's Wood, and of Smith & Son, of Dulwich. Mr. C. Turner and Mr. Cannell also taking some good things under their care. I believe that the still famous Vesuvius Pelargonium was one of Mr. Kingsbury's, as also was May Queen and Kingsburyana silver bicolors, and many of our beautiful tricolors. Natural florists' flowers are fleeting, and the monument Mr. Kingsbury thus built will soon disappear."

It was at one time generally understood that Mr. Kingsbury raised Vesuvius, but he could give no proof of his having done so, and the Messrs. F. & A. Smith are now, we think, rightly credited with its production.

ANSWERS TO CORRESPONDENTS.

Roses for an Amateur.—*Dorset*, who asks for a list of about three dozen good Roses suitable for one who wishes to commence Rose culture, is recommended to make a commencement with the following sorts:—*Hybrid Perpetuals*—Abel Carriere, Abel Grand, A. K. Williams, Alfred Colomb, Annie Wood, Baroness Rothschild, Beauty of Waltham, Boule de Neige, Camille Bernardin, Captain Christy, Charles Lefebvre, Comtesse d'Oxford, Comte Raimbaud, Countess of Rosebery, Dr. Andry, Duke of Connaught, Duke of Edinburgh, Duke of Teck, François Michelon, General Jacquiminot, John Hopper, La France, Madame Eugène Verdier, Madame Gabriel Luizet, Madame Lacharme, Madame Therèse Levet, Madame Victor Verdier, Mdlle. Eugenie Verdier, Marie Baumann, Maurice Bernardin, Merveille de Lyon, and Violette Bowyer; *Tea Scented*—Bouquet d'Or, Glorie de Lyon, Madame Lambard, and Marie Van Houtte.

Apple Trees.—*R. Scott.*—The strong clay is the cause of the mischief, and you should drain the garden if possible. In any case you would do well to spend a little time on the "Normanton's" in scrubbing the affected parts with a dry hard brush, and then dress the trees with some fresh lime wash. Mix the lime and water well together and pass it through a fine sieve, before applying it to the trees with a syringe or garden engine.

Measures.—*R. Scott.*—A sieve measures 15 ins. in diameter and 8 ins. deep; and contains seven imperial gallons. A bundle of Celery may contain from six to twenty heads, according to size, but eight is the number in a first-class sample, and twelve in what are called seconds. A Mushroom punnet or basket is 7 ins. in diameter and 1 in. deep.

Names of Plants.—*Ireland.*—1. Zygopetalum Mackayi. 2. Oncidium flexuosum (see p. 12). 3. Tillandsia acaulis zebrina.

Plants for a Bank.—*F. M. C.*—We would recommend you to plant your bank, which is shaded with trees and shrubs, with Ivy, the ordinary trailing varieties, mixed with a few of the so-called Tree Ivies, or with St. John's Wort, Hypericum calycinum, and Vinca minor or any of its varieties. We should ourselves prefer the two latter to the Ivy.

Communications Received.—J. D. D.—J. A.—R. S.—J. K.—J. H. H.—A. H.—J. M.—J. D.—W. E. B.—W. P. R.—Ed. Pynaert—G. P. (many thanks)—J. C. & Sons—Alpha—E. J.—C. W. W.

Trade Catalogues Received.

Sutton & Sons, Reading.—Amateur's Guide in Horticulture for 1885.

William Cutbush & Son (Limited), Highgate, N.—Flower, Vegetable and Farm Seeds.

John Laing & Co., Stanstead Park, Forest Hill, S.E.—Flower, Vegetable and Agricultural Seeds; Begonias and other new Plants.

J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex.—Vegetable and Flower Seeds.

John Downie, 144, Princes Street, Edinburgh.—Vegetable and Flower Seeds, Gladioli, &c.

Henry Darby, 172, Caledonian Road, N.—Patent Paragon Hygienic Heater.

LONDON SEED TRADE.

January 7th, 1885.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report more business doing. Several parcels of Red Clover, White and Alsike have been sold, and prices of Red Clover are rather higher. No change in values of other clover. Spring Tares are 2*s*, per quarter dearer. Linseed and Blue Peas firmer, Bird Seeds unchanged.

COVENT GARDEN MARKET.

January 8th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Kent Filberts and Cobbs, per 100 lb.	60 0-
— Nova Scotian, per barrel	10 0-15 0	Pine-apples, Eng., lb.	1 0- 2 0
— Extra samples	18 0-	Pears, French, p. doz.	6 0-
Grapes, per lb.	1 6- 4 0	St. Michaels	5 0-10 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	0 4- 1 0	Horse Radish, bundle	3 0- 5 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	1 6-
Brussels Sprouts, p. lb.	0 4-	— Cos, each	0 2-
Cabbages, per dozen	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	2 6- 3 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 9- 1 3	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	0 6- 1 0
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s*. to 100*s*. per ton; Kent Kidneys, 80*s*. to 100*s*. per ton; Champions, 70*s*. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Pelargoniums, per 12 sprays	1 0- 2 0
Azalea, 12 sprays	1 0- 1 6	—scarlet, per 12 sprays	0 9- 1 0
Bourvardias, per bun.	1 0- 1 6	Pinks, various, 12 bunches	-
Camellias, 12 blooms	3 0- 8 0	Poinsettia, doz. heads	3 0- 9 0
Carnations, 12 blooms	1 6- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	12 0-24 0	Primulas, Chinese, bun	4 0- 6 0
— large, 12 blooms	2 0- 4 0	Pyrethrum, 12 bun.	-
Epiphyllums	4 0- 6 0	Roses, outdoor, 12 bunches	-
Eucharis, per dozen	4 0- 8 0	Roses, indoors, p. doz.	2 0- 6 0
Gardenias, 12 blms.	18 0-30 0	Roses (French), per doz.	1 6- 2 0
Heliotropes, 12 sprays	0 6- 1 0	Stephanotis, 12 spr.	-
Hyacinths, Roman, doz. sprays	1 0- 1 6	Tuberoses, per dozen	2 0- 4 0
Lapageria, white, 12 blooms	2 0- 3 0	Tulips, per doz.	1 0- 1 6
Lapageria, red, 12blms.	1 0- 2 0	Violets, doz. bun.	1 6- 2 0
Lily of the Valley, doz. sprays	1 0- 2 0	— French, doz. bun.	1 6- 2 0
Marguerites, 12 bun.	4 0- 9 0	— Parma, doz. bun.	7 0- 8 6
Narciss, Paper White	2 0- 3 0	White Jasmine, bun.	0 6- 1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Genista, per dozen	15 0-24 0
Chrysanth., dozen	-	Hyacinths, doz.	8 0-10 0
Cineraria, per dozen	9 0-15 0	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargoniums, scarlet per dozen	4 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	9 0-15 0
Epiphyllums, doz.	18 0-24 0	Solanums, dozen	9 0-15 0
Evergreens, in var., per dozen	6 0-24 0		
Ferns, in var., dozen	4 0-18 0		

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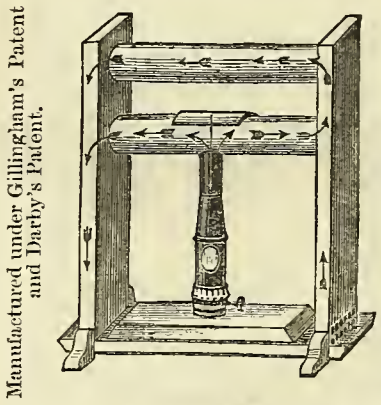

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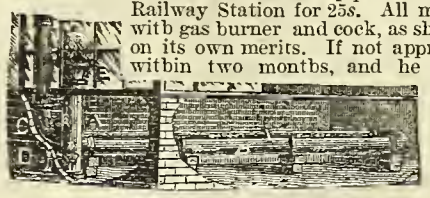

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THE GARDENING ILLUSTRATED WORLD

No. 20.—1885. SATURDAY, JANUARY 17TH. { Registered at the General Post-Office as a Newspaper. } ONE PENNY.

Birmingham Chrysanthemum Society.

THE NEXT EXHIBITION of CHRYSANTHEMUMS and FRUIT, in connection with this Society, will be held on WEDNESDAY and THURSDAY, NOVEMBER 18th and 19th, 1885.

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EXTRA Strong Fruiting Canes, 9 ft. to 10 ft., well ripened, price 6*s*. to 7*s*. 6*d*. each. Peaches and Nectarines in pots, splendid trees full of bloom buds, including Bellegarde, Sea Eagle, and Nectarine Peach (true to name), 5*s*. to 10*s*. 6*d*. each.

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CUTBUSH'S MILLTRACK MUSHROOM SPAWN.

IF ONCE USED no other will be willingly taken. Testimonials of high merit received every day.—"THE GARDENS, SANDRINGHAM.—I have tried all other Mushroom Spawn advertised, but none to be compared with yours, which I have used for the last *twenty years* without once failing a quick and good crop.—CHAS. PENNY, Gardener to H.R.H. The Prince of Wales."—Price Six Shillings per bushel, One Shilling extra per bushel (for packing), One Shilling per Cake free by Parcels Post.

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CHEAP OFFERS OF PLANTS & BULBS.

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Will supply any of the following, in choice named collections selected by them. Less quantity than doz. may be had at the same rate.

12 Orchids, 12 choice Varieties, 21*s*., 42*s*., 60*s*.
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12 Maiden-hair Ferns, 4*s*., 6*s*., 12*s*.; 12 sorts, 6*s*., 9*s*., 12*s*.
25 Ferns, choice sorts, 10*s*.; 25 hardy sorts, 10*s*.
100 Greenhouse plants, distinct collection, 42*s*., 63*s*.
12 Abutilons, choice, 6*s*., 9*s*.; 12 Bouvardias, sorts, 6*s*., 9*s*.
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Daphne indica, covered with flower buds, 1*s*. 6*d*., 2*s*., 2*s*. 6*d*.
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12 Greenhouse Rhododendrons, sweet scented, 9*s*., 12*s*., 18*s*.
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12 Azalea indica, choice, covered with buds, 18*s*., 24*s*.
12 Camellia, choice sorts, 18*s*., 21*s*., 24*s*., 30*s*.
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100 Hardy Herbaceous Plants, 21*s*., 30*s*., 40*s*.
12 New Giant St. Bruno Lily, 6*s*.
12 New white-flowered Lavender, 9*s*., each 1*s*.

BULBS, CARRIAGE FREE, REDUCED PRICE, end of the season, to clear out. A1 choice collections.

12 Hyacinths, 3*s*., 4*s*., 5*s*.; 12 Lilies, 4*s*., 6*s*.; 12 Scilla, 1*s*.
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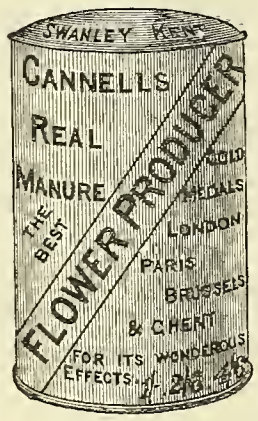
100 Gladiolus, 6*s*., 10*s*.; 100 Snowflakes, 5*s*.
12 Tiger Lily, 1*s*. 6*d*.; 12 Longiflora Lily, 3*s*. 6*d*.
12 Large white Lily, 2*s*. 6*d*., 3*s*. 6*d*.

1,000 beautiful hardy Flowering Bulbs, 21s.; Half the quantity, 11s. 6d.

This valuable and marvellously cheap collection includes Lilies, Hyacinths, Crocus, Tulips, Narcissus, Snowdrops, Anemones, Alliums, Gladiolus, Iris, Ranunculus, Scillas, Ornithogalums, Winter Aconites, Dog's-tooth Violets, Snowflakes, Star of Bethlehem.

Catalogue of cheap offers on application.

HENDERSON & SON,
MAIDA VALE NURSERY, LONDON.



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Not one, but all; and it is a surprise and the conversation with all wherever we exhibit; and whoever comes to see our flowers remarks, "How do they get such a quantity of Blooms with such brilliancy of colour, and nice small bright foliage?" The answer is, "Their REAL MANURE" and Fumigating Material.

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Supply all New Books at 25 o/o Discount for Cash. New and Second-hand Catalogues forwarded on Application.

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"NEW, RARE AND CHOICE FLOWER SEEDS" (Illustrated).

THIS most useful and interesting Catalogue, which everyone with a Garden or Greenhouse should possess, is **Now Ready**, and is being posted to all **Customers**, and may be had Gratis upon application. It includes perhaps the finest list of **Sterling Novelties** ever brought together. A Grand Collection of **Hardy Florist Flowers**, a specially fine selection of **Hardy Perennials**, and such as are easily and quickly grown. **Greenhouse Seeds**, all the most popular. **Hardy Ornamental Grasses, Showy Single-Flowered Annuals and Perennials.** The Catalogue is beautifully illustrated, and everything very fully described.

Also, in separate form, and complete, Collection of **Miscellaneous Bulbs**, adapted for spring planting.

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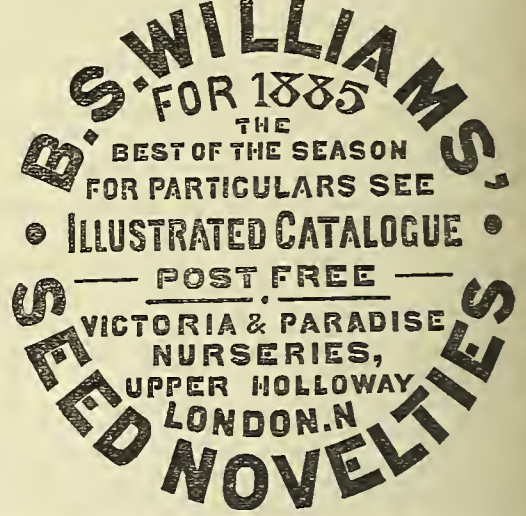
HALE FARM NURSERIES, TOTTENHAM, LONDON.



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Is now sending out his CHOICE STOCKS of POTATOS, and those desiring a change of Seed should send for Descriptive Priced List, which contains all the best for

FIELD, GARDEN & EXHIBITION.

No finer Collection of Potatos in the Kingdom.

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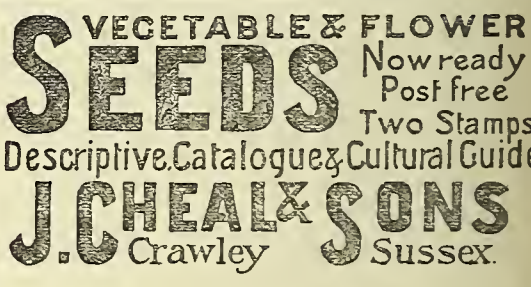

VINE & PLANT MANURE.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, will in future sell their celebrated MANURE under the name of "COWAN'S VINE and PLANT MANURE," in place of "Thomson's Vine and Plant Manure." The composition will be the same, and the high quality in every way be maintained. Bags containing 1 cwt., 20*s*.; ½ cwt., 10*s*. 6*d*.; ¼ cwt. 6*s*.; ⅛ cwt., 3*s*. 6*d*.

Circulars, with full particulars, on application to

The Liverpool Horticultural Co.

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THE VINEYARD, GARSTON.

ORCHIDS A SPECIALITY.

The stock at the Clapton Nursery is of such magnitude that, without seeing it, it is not easy to form an adequate conception of its unprecedented extent.

HUGH LOW & CO.

Very cordially and respectfully solicit an inspection by all lovers of this interesting and beautiful class of plants, whether purchasers or not.

CLAPTON NURSERY, LONDON, E.

Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JANUARY 17TH, 1885.

MARKET-GARDENING.—Farmers may grumble and growl about the troubles which beset them and the difficulties they have to contend with arising from weather and competition, but they are not the only workers of the soil or tillers of the land who find in their vocation much that is precarious. Market-Gardening is a very important vocation and one of special interest not only to the dwellers in populous places, but also to vast numbers who reside near to towns, because this form of gardening affords a large amount of labour, and for soil tilling the most remunerative kind of labour. To the great urban populations a regular supply of good wholesome vegetables is of the first moment, and myriads of persons, in these urban districts, find in the purveying of garden products profitable occupation. What gives food to the townspeople gives labour and life to the myriads of workers on the outskirts of the towns, and thus the land creates and recreates both food and wealth.

Market-Gardening needs special aptitude and training to render it profitable. No man, however great his love for gardening, can become a successful market grower of vegetables and other garden produce in a few weeks. It needs years of keen attention to the demands of the market and its caprices, and vissicitudes; to the ever-increasing element of both home and foreign competition; to the best methods of profitably and quickly disposing of produce; to the obtaining by the best methods of culture of that produce; to a correct knowledge of land and of its fitness for various crops; to the qualifications and capacities of the labourer; to the securing of a constant and ample supply of manure, in fact to a thousand things which demand the most practical knowledge and a well-trained intelligence. It is very doubtful whether the best farmer in the kingdom, if his training is of a purely agricultural nature, would make a successful market-gardener except after several years hard application and work, for the requirements of the two classes of cultivators are so diverse.

What would the well-to-do gentleman-farmer say, for instance, to the discomfort arising from going over night at least three times a week and at a busy time, perhaps every night but Saturday, some ten or twenty miles by rail to town, sleeping for six hours, then turning out at four o'clock in the morning to meet the waggons loaded with garden produce, and stand beside these for several hours until all is sold? That sort of life would be trying enough in the summer months, but in the winter a man needs to be well seasoned to stand it. This hard and irregular life, however, might be borne for the sake of the financial returns, were it not for the extraordinary competition which has grown up in all kinds of garden produce of late, and which finds its great strength on the Continent and in the Channel Islands, from which favoured climes come to us such enormous quantities of garden produce of every imaginable kind, that home-growers begin to wonder what the end will be.

It matters not what may be our own produce and howsoever good of its kind, the best growers find themselves checkmated on every hand, for the foreigner is acute and scents with marvellous quickness what is most required, or what is found to be with us exceptionally good. The foreigner seems further to have advantages over us of a climatic kind that give him a good start in the race. His labour is less costly, his rent little, often *nil;* his rates and taxes much lighter, and he is not burthened with tithes. Whilst our home growers are thus heavily handicapped financially, they too often see the rich promise of a season destroyed, as was the case last spring when April frosts so terribly nipped the fruit blossoms, and robbed the growers of that which represented countless thousands of pounds. Such trials and difficulties as these necessarily try men's tempers and fairness, and yet nothing is more rare than to hear any intelligent market-gardener complain of the nature of the competition to which he is subjected. He is so far in advance of the grumbling, growling farmer, who is ever calling upon some political Jupiter to help him, that he hopes for better seasons and prices, and struggles on gamely, working with a will, being content with meagre profits if he cannot get large ones, and is ever pegging away.

A real man of the world, and in his vocation brought into contact with much from which the farmer in his more secluded life is debarred, the market-gardener holds broad views of trade and commerce, and if he regrets that foreign competition cuts the ground from under him in one direction, why, he endeavours to carve out another line for himself which may prove more profitable. And further, he has the satisfaction of knowing that if his returns are moderate, at least the great masses of the population are being better and more cheaply fed—that, in fact, the competition to which he is subjected is, if no sport for him, at least full of good for them. How few farmers, alas! are there who take such a broad and generous view of things as this.

This little homily has been prompted by a chat we had the other day with a market-grower of various kinds of garden produce. He cultivates some hundred and fifty acres of land, one-half of which is laid down with fruit and flowers, and in that cultivation he employs just about three times as much labour as an average farmer would, pays more of rent and rates, owns and works more horses, and whose manure bill annually would make any farmer of three times this extent of land to stare. He was literally born and bred in his vocation, and has by dint of the greatest energy and devotion to his duties become a man of means; yet he is as much of a working man as ever, superintending his labourers when not at market, and giving to everything the utmost personal attention. He told us that trade was bad, prices low, competition enormous, and yet he has just added eighty acres of land to his previous holdings, though like a wise man not on a lease, but with two years' notice to quit. Land tenure is just now in a state of transition, and few men like to tie their hands with leases. Rents will have to be revised, and none can tell what may happen during the next few years.

Our informant tells us that all his former ground being covered with trees and flower roots —for flowers is a very important factor in Market-Gardening—he had been compelled to acquire some open land for vegetables, and thus the expansion of his holding. The fact is, the man who turns his hand to this vocation must not look back, and in working up a market connection he must have not only ample but regular supplies of produce according to the season. A fruit grower only during the past year would for one half the season have had nothing to take to market, but with ample supplies of flowers and vegetables he can keep the market going; and it is better to do that, if sometimes the profits are *nil,* than it is to have nothing to send. Of flowers, the most profitable are found in Crimson Wallflowers, Violets, Polyanthuses, Daisies, Narcissi, Jonquils, Stocks, and, indeed, almost anything that will bloom early and bunch well. Those who think a crop of Cabbages the chief market-garden produce are too hopelessly ignorant to be taught better.

THE NATIONAL CHRYSANTHEMUM SOCIETY.—In accordance with the terms of a resolution passed at a recent meeting of the general committee of this Society, regulations have been framed under which local or provincial societies may become affiliated with the National Chrysanthemum Society. Under these regulations every society paying an annual affiliation fee of half-a-guinea will be entitled to the medals of the National Society at cost price and to two certificates annually free of charge. Each affiliated society will also have the right to elect one of its members to the general committee of the National Chrysanthemum Society, and he will receive two free tickets of admission to the annual exhibition. Each affiliated society will also be supplied with an Official Catalogue of Chrysanthemums free of charge for the use of its committee. The medals, in morocco case, will be supplied at cost price as follows:—Gold Medal, £5 5*s.*; Silver Medal, 15*s.* 6*d.*; Bronze Medal, 8*s.*; but neither the medals nor certificates must be awarded in any other classes than for specimen plants or cut blooms of Chrysanthemums, and those Chrysanthemums bracketed as being synonymous in the National Catalogue must not be exhibited in the same stand, or disqualification will follow in all classes in which the Society's Medals are offered. Subject to these regulations, the committee of an affiliated society will be at liberty to offer the medals and certificates as they think most advisable; but no society will be considered to have become affiliated until it has received the sanction of the general committee of the National Chrysanthemum Society.

CELERIES.—We are not meeting with anything very novel in the way of Celeries, although the American White Plume is said to possess the property of requiring no blanching, as it turns white as the winter approaches. There is a yellow kind, of French introduction, which seems to possess a somewhat similar property, but a yellow Celery will hardly become popular, unless it should be found to have some speciality in flavour not found in others. We may well doubt the excellence for salading of any kind of Celery that has not been blanched in some fashion by the exclusion of the air, but still any really good kind that would give us as good as can now be obtained by blanching, without the necessity for such operations, would be a great gain. The exclusion of air and light, so far, seems to be essential to the blanching of Celery and the elimination from it of that element of bitterness which it seems difficult to believe can be found absent in any kind not blanched. Red Celeries seem to have grown into favour very much during the past few years, the most popular being Major Clarke's, Leicester Red, Sulham Prize, and the fine London Market Red, so largely grown in market gardens. What grand sticks this latter kind will produce may be seen abundantly in Covent Garden Market, or better still where grown by acres. The Leicester Red is a more compact kind, but does not make such fine sticks. The Old Incomparable Dwarf White, sometimes known as Sandringham White, White Gem, and by other designations, still remains one of the firmest and most compact of whites, and

the best keeper. It seems this year to be hardly so sweet as usual, and is perhaps suffering from the drought of the previous autumn. Matchless White and Grove White are also amongst the best sorts of this section. After all, good solid Celery very much depends upon soil and excellence of cultivation.

Wallflowers.—It is so commonly the rule in writing of Wallflowers to advise the sowing of seed in the month of May, that many readers, in the habit of adopting that advice, will be surprised to learn that some market growers of this fine old flower took advantage of the open nature of the season to sow seed last week, not small patches in frames, but large beds of several rods in extent, and such as will give them many thousands of plants. It is early sowing that so very largely tends to the production of early bloom, and early bloom is the most valuable. It is true that constant care in selection has enabled some of our market growers to obtain a strain that is naturally early, but still they always sow early that they may have big sturdy plants, each capable of producing a good bunch of flowers. Wallflowers are grown so largely around London that breadths of twenty acres in extent, especially under fruit trees, are not uncommon. The market people stick to the rich velvety blood-red kind because its colour seems to be the most favoured, but there seems good reason to believe that a fine early strain of pure yellow hue would be equally popular, especially as this latter colour is always constant. The tall Golden Wallflower is a fine early kind, but of leggy growth, whilst the rich Orange Bedfont Yellow has a stout sturdy growth, dark foliage, and blooms very early. No doubt when plentiful it will make a valuable market kind.

Greenhouse Heaths.—We remember, during the past year, making a call upon a gardener who had a collection of Ericas. He was impatient at their slow growth, and in order, as he said, "to push them on," he depended upon the one-shift system, he syringed overhead the last thing at night, and shut up close, and disastrous was the result. Others have tried novel modes of treatment. Some have had for their object the inducement of rapid growth; others, to obtain a superabundance of flower both in and out of season. Then, again, experiments have been tried on the soils, by using leaf-mould, and even a portion of loam, foul river sand, and even the scrapings of roads. In this way have unfortunate Heaths been tortured. The successful cultivator and exhibitor of Heaths may be disposed to look upon this statement with suspicion, but it is a record of facts that have and are occurring. The Erica is probably one of the very worst plants to bear experiments of this character; it is, to a great extent, an untractable subject, not conforming to any forced or artificial mode of culture. It is a slow-growing plant, and all the art of man cannot make it otherwise. It requires soil and treatment suited to its constitutional habits, and it will not thrive if any other be substituted; a dry atmosphere, any degree of cold short of freezing, plenty of air, and as little sun as may be, these are essential to grow Heaths successfully, and upon them depends the health of the plant.

Lilium auratum.—Some grand consignments of Lilium auratum and other Lilies are just now being received in fine order and sold by auction at Stevens's Rooms. On the 8th inst., at a very interesting sale of cool Orchids and Lilies, Mr. Stevens disposed of a fine lot of immense bulbs of L. auratum at a very low rate considering the high quality of the sample. The other Lilies and cool Orchids, too, went well and cheap, and it is most likely that some who went only after Lilies bore away some of the easily grown cold Orchids.

Gardening Miscellany.

The annual general meeting of the National Chrysanthemum Society will be held on Monday evening next, at the Old Four Swans, Bishopsgate Street Within, at 7 p.m. The principal business will be to receive the report and balance-sheet for 1884; to elect officers and committees for the ensuing year, and also to adopt schedule of prizes for the next exhibition to be held at the Royal Aquarium, Westminster, on Wednesday and Thursday, November 11th and 12th.

The Cambridge Botanic Garden Syndicate, recognizing the able manner in which Mr. Lynch has carried out the duties of his office since he became curator of the garden, have recommended the increase of his salary from £150 to £200 per year.

The Birmingham Chrysanthemum Society will hold its next annual exhibition on November 18th and 19th.

Those of our readers who visited the Vegetarian Society's dining-room at the International Health Exhibition may be interested to know that 161,000 meals, or an average of about 900 per day, were served during the season; and that financially the experiment was a great success. After paying all expenses, the Society has returned the guarantee fund subscribed, and has a balance of over £100 in hand, besides the crockery, tables, &c. The balance is being spent in providing vegetarian meals for the poor in several large towns.

Messrs. Wills & Segar, of South Kensington, had the honour of presenting to Prince Albert Victor, by special permission of H.R.H. the Prince of Wales, a lovely bouquet composed of Lily of the Valley, Parma and Russian Violets, Gardenias, and magnificent arching spikes of Odontoglossum Alexandræ, and Her Royal Highness the Princess of Wales was graciously pleased to accept the floral offering from Prince Albert Victor.

In addition to the prizes won at New Orleans by Messrs. Cheal & Sons, mentioned in our last, we are informed that they also exhibited the best plates of Beauty of Hants, Blenheim Orange, Emperor Alexander, Reinette du Canada, Ribston Pippin, The Queen, and Hoary Morning.

The Shropshire Horticultural Society will hold its spring show on March 26th, and its great summer exhibition in "The Quarry," on August 19th and 20th.

The will (dated August 17th, 1883), of Mr. George Bentham, late of No. 25, Wilton Place, Knightsbridge, who died on September 10th last, was proved on the 11th ult. by Sir Joseph Dalton Hooker and the Right Hon. Sir Nathaniel Lindley, the executors, the value of the personal estate amounting to over £23,000. The testator bequeaths £8,000 to Madame Wallon, the grand-daughter of his late sister; £2,000 to Sir H. J. J. Brydges, Bart., the brother of his late wife; £1,000 each to the Linnean Society of London and the Royal Society Scientific Relief Fund; and legacies to his executors, trustees, servants and others. The residue of his real and personal estate is to be held upon trust to apply the same in preparing and publishing botanical works, or in the purchase of books or specimens for the botanical establishment at Kew, or in such other manner as his trustees may consider best for the promotion of botanical science.

Live Plants in Bed-rooms.—At a medical conference recently held in France, it was demonstrated to the satisfaction of all the *savants* there present, that plants, as long as they are plants only, may safely, and even with advantage, be admitted to the elysium from which they have so often been exiled. These pretty ornaments, as a learned writer now declares, "far from being hurtful, are beneficial, inasmuch as they exhale a certain amount of ozone and vapour, which maintain a healthy dampness in the air, and besides that are destructive of the microbes which promote consumptive tendencies in human beings. It is only flowers, and not the plants which bear them, that do the damage. Ferns are innocuous; Roses and Sunflowers are pernicious—at least during the interesting period while they are in bloom.—*The Globe.*

CHEAP GREENHOUSES.

There has long existed what might well be termed a popular error in reference to the building and ventilating of greenhouses. That error has been this, that side ventilation is absolutely essential to the growth of plants and that such ventilation must be given through the agency of side-lights or sashes. Consequent upon this notion, it has been the common rule to design glass houses of nearly all kinds with glass sides above the walls and beneath the roof, these sides being chiefly in the form of swing or movable sashes opening outwards, and when so opened admitting a very free circulation of outer air. Not so many years since the man would have been held guilty of rank heresy who dared to assert that side ventilation for plant-houses was not essential. There are many very good gardeners who still hold to the ancient belief, in spite of the fact that myriads of examples can now be shown to the contrary.

If any one sceptical in this matter will but pay a visit to some of our large market plant nurseries, they may see scores of houses full of plants of many kinds, all luxuriantly healthy; indeed, there are no such wondrous pot-plants in the world as are those grown for market in good nurseries. And yet in not one of these houses is there side ventilation. We have seen in that remarkable and instructive plant nursery at Swanley, associated with the famous Mr. H. Cannell, literally dozens of long houses built without sides, except of course the brick or concrete walls from which the roofs spring, and in very many cases these long span sideless houses are side by side so close that the narrow space of perhaps not more than 12 ins. between the walls is filled up with clay and then surfaced with tar or asphalte, slightly hollowed so that all the rainfall on the roofs on either side runs into this channel, and is in that way conveyed away from the walls and houses. All damp is prevented, no spouting is required, and the broad furrow admits of ample access to the roofs for cleaning and repairing purposes.

In not a few cases we have seen, where there is good natural drainage, the inner path of the house sunk some 16 ins. in the soil so that side walls are hardly needed. Such houses consist almost entirely of span roofs and gable or door ends, and are cheap beyond compare.

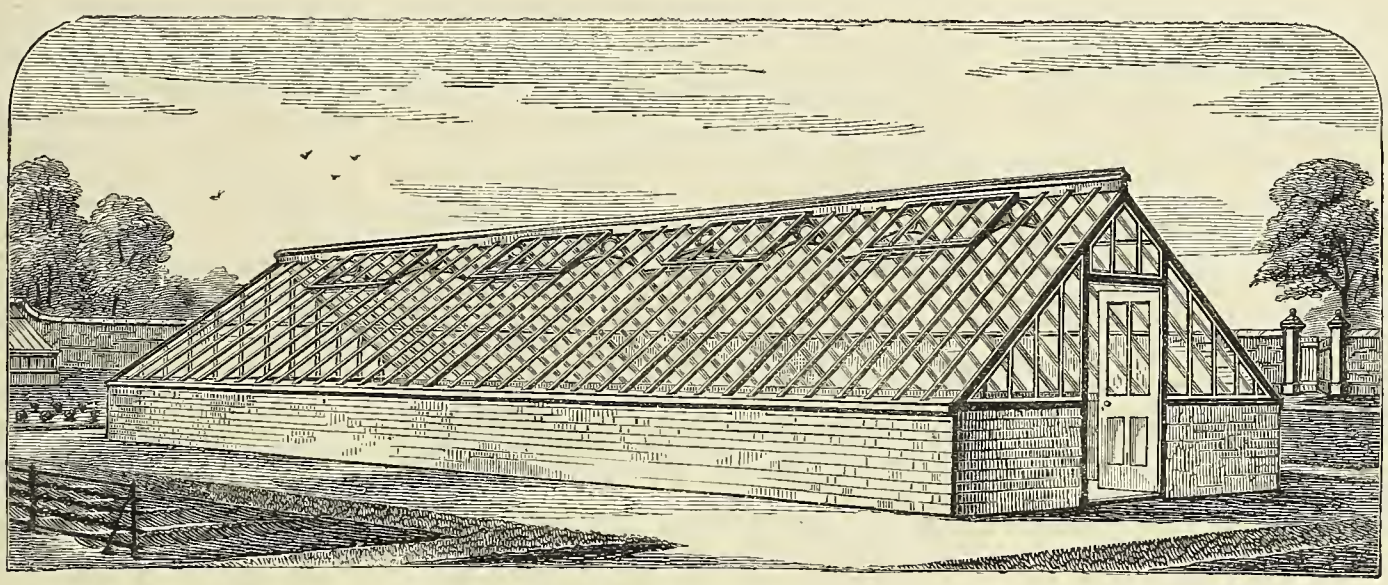
It need hardly be said that plant-houses of this simple kind are not of greenhouse builders' designs. They are the product of practical plant growers, who, having in the exceeding sharp competition of the day to produce plants very cheap, have erected their own houses from simple designs and thus been enabled to obtain what they need at a minimum of cost. Not merely is the form and design simple, but the materials employed are also purposed to secure the greatest amount of light with the least possible amount of obstruction. Thus we see in these cheap houses no solid rafters or beams. The wooden bars forming the roof are just stout enough to support the glass and give needful strength to the entire structure and yet are ample for the purpose. The glass is of the fullest width consistent with strength, and being throughout of exactly the same dimensions enables the builder to obtain it at the lowest possible price. Added to these advantages, the principle of the design throughout is so simple that even an amateur having the materials to hand may put up his own house with little difficulty.

Through the courtesy of one of our most eminent building firms, that of Messrs. Boulton and Paul, of Norwich, we are enabled to present our readers with a very admirable and exact illustration of one of the span-roof houses such as we have been describing, and which this enterprising firm, stepping aside from horticultural builders' customary designs, have wisely adopted. The house illustrated may be of any length or width, but as a rule the width is about 10 ft., thus giving a centre walk of say 2 ft., and broad stages or beds on either side, each 4 ft. in width. That is an excellent width for amateurs, as all plants are thus brought within easy reach of the grower. As will be seen, the only ventilation given is by means of the doors at either end, which may be left opened or be closed as desirable, and by means of flaps in the upper part of the roof; within, side walls either of brickwork or concrete may be built on either side of the centre path, and the beds thus formed between

these and the outer walls filled up with rubble of any kind and surfaced with fine gravel or ashes, make a stage for plants that lasts for ever. Or an open trellis-wood stage may be erected on either side of the house and be supported simply by means of cross pieces and stout uprights, thus leaving the spaces beneath the stages available for other purposes.

Of course such houses as these if heated, can only be so effectually by means of hot-water piping, and, in the case of a long house, it is well to have the boiler fixed on one side, but half way along the building. Then with pipes running either way, all the house is evenly heated. Sometimes the pipes are fixed on the top of the wall adjoining the path, at other times are carried round or along just beneath the roof on either side. Fixed how they may be, however, the space to be heated is so small that the needful warmth is soon obtained. By fixing the pipes near the glass, a fairly dry atmosphere is maintained, and that is of the greatest service at this season of the year.

We may very well call attention also to another feature common nowadays to market plant-houses, and that is the absence of putty on the top. This seems to have been the product of a sort of dark age in greenhouse building. At least it is certain that in myriads of cases it is now dispensed with as worse than useless, for it is found to promote the secretion of moisture and lead to drip and decay. In glazing a house, the great thing to ensure is that the glass shall be thoroughly and evenly bedded in putty. Then the panes are secured by means of copper brads, the projecting putty is cleaned off, and if some three coats of paint be given to the bars and edges of the glass, the latter is far more secure and water tight than if secured by means of top putty. These matters are full of interest to all, but specially to amateurs who want to obtain a greenhouse cheaply. The accompanying illustration shows all we have sought to convey, and as to prices, the builders will be happy to afford all the needful information.



A CHEAP GREENHOUSE.

THE CHINESE PRIMULA.*

Amongst our autumn, winter, and spring flowering plants, there are none, I think, which surpass the Primula sinensis for general usefulness. For edging the conservatory or greenhouse stages it is indispensable, and we may look in vain for anything to take its place, with its beautiful green foliage and brightly-coloured flowers, from the purest white to a deep red or crimson. The Primula throws up its flowers in continuous succession during the whole of the dull winter months, and is so easy of cultivation that anyone possessing a greenhouse, or even a pit, may grow it well.

A great many fine varieties are offered at the present time, but, for general purposes, I believe there is none much better than a good strain of Fimbriata rubra, and alba. We have this season the finest strain of the above varieties (from Messrs. James Dickson & Sons, Chester) that has ever come under my notice, most of the individual blooms measuring from 2 ins. to $2\frac{1}{2}$ ins. in diameter, and one bloom I measured was $2\frac{3}{8}$ of an inch.

The single varieties of Primula sinensis are raised annually from seed, and the time of sowing depends very much upon the time the plants are wanted to flower. For autumn and winter blooming the seed should be sown anytime during the month of February, but if not wanted until spring any time from the middle to the end of March will be soon enough. It is not advisable to delay the sowing of the seeds much later than this to get good strong plants, and the pots well filled with roots before the dull weather sets in. Some cultivators recommend successional sowings. I have failed to see the utility of such a practice, as out of the same pot or pan of seedlings we never get the plants all of the same size, hence a succession of plants can be obtained from one sowing. When sowing the seeds, if small pans are not available we take 6-in. pots and fill them about three parts full of pot sherds, which are covered over with moss or rough leaves. The pots are then filled to within three-quarters of an inch of the top with a light compost made up of two parts of loam to one part of leaf-mould and one of sand, passed through a fine sieve. The surface is made level, but not pressed over firm, and on this the seeds are evenly sown, and a little fine sifted leaf-mould and sand sprinkled over the top. We are never particular about having all the seeds covered, as there is a danger of burying some of them in the attempt to do so, in which case they will not come up. A square of glass is placed over them, and covered with a little moss or something to prevent the strong sun from drying the surface too much. The seed pots are generally placed in a temperature of about 60 degs., but a lower temperature will do. More failures arise at this period in the cultivation of the Primula, and all other plants raised from seed, than during all the rest of their growth; as when the seeds are germinating if they are allowed to get dry they never get over it. Very often the blame should rest here, when it is put on to the seedsman.

When growth commences the glass is removed for a short time every day, until it can be dispensed with altogether, care being taken to keep them well shaded from the strong rays of the sun. I would recommend the glass to be kept over the pots at night as long as possible, to prevent snails and cockroaches from getting at the plants. As soon as they have made a rough leaf or two they are sorted into different sizes to get a succession, and pricked into pans or pots, in much the same compost as that before mentioned only it is not this time passed through a sieve, but made moderately fine with the hand. They are then put in the shade for a few days until they commence rooting afresh, when they are placed as near the glass as possible, where a little air can be given to keep the plants dwarf and sturdy, but still keeping them lightly shaded from the full rays of the sun.

As soon as the plants are ready they are potted into thumbs or 3-in. pots, according to the size of the plants, using this time a compost of two parts of fibry loam to one of leaf-mould, with plenty of sand to make the whole porous, and a little charcoal dust if convenient, as it gives the foliage a nice, healthy, green colour. The plants are again placed near the glass in an airy position, where they can be shaded a little from the strong sun-light during the middle of the day. As soon as the pots are fairly well filled with roots, but not pot bound, the plants are shifted into 4-in. pots, using the same compost as before, only a little rougher. They are then removed to a cooler temperature, keeping them close for a few days until they get a fresh start, when an abundance of air is given them, of course, weather permitting. About the end of June they are placed in a cold frame upon a bed of ashes, and if the frame is turned to face the north they will require no shading, if not, we shade them for a couple of hours at midday on bright days.

When they are ready for fresh potting again they are shifted into 5-in. and 6-in. pots in the same compost as before, but with a little soot added. Six-inch pots are the largest size we use, and for all ordinary purposes these are large enough. Some cultivators use 7-in. and 8-in. pots, but I have seen as good—I think better—plants in 6-in. pots than in the larger ones. As the Primula is not a strong rooting plant it is more apt to damp off in the larger pots, and I have very seldom seen many roots on the outside of the ball when turned out of a 7-in. or 8-in. pot; the healthiest and greatest number of roots are to be found generally in 5-in. pots, which is the best possible proof that it is not advisable to over-pot them. About the end of September or the beginning of October the plants are removed from the frame to a dry, airy house, with a temperature of from 45 degs. to 50 degs. at night. Some of the strongest plants are allowed to flower at this stage, and the blooms of the others are pinched out to flower later on, according as they are wanted.

In potting Primulas, some are careful not to bury the collar of the plants for fear they should damp off, and even go to the trouble of putting little sticks round them to keep them from tumbling about. It is very important that the plants should be placed sufficiently low in the pots to keep them firm, and by placing them low they also make more roots, for the Primula roots all up the stem. There need not be any fear of the plants damping off through deep potting.

Watering is one of the most important points requiring attention in the cultivation of the Primula. At no time should the plants be allowed to get too dry. I have noticed plants that were allowed to get over dry, damp sooner after being watered than those

* A paper read at the last meeting of the Preston and Fulwood Horticultural Society, by Mr. Campbell, The Gardens, Farrington House, Preston.

that were kept on the wet side. A kind of intermediate state of moisture suits them best. After the plants have fairly well filled their flowering-pots with roots, they are greatly benefited by some kind of weak liquid manure. It adds greatly to both the size and substance of the flowers, and also assists the spikes to rise well up above the foliage, which is a very important matter, as the higher the flower-spike rises up the better it shows itself off. I consider this is the true indication of good culture, and the object which every grower should keep in view.

Where it is desirable to save one's own seed some of the best plants should be set aside for that purpose. The plan we usually follow is to pick out the best and healthiest plants, taking both size and colour of the flower into consideration, and place them upon a shelf or stage where they cau get plenty of light and air, and be attended to with water the same as if the plants were in the conservatory, and not dried and roasted, as is sometimes done. The pods of seeds are picked off as they ripen. The best and greatest quantity of seeds I ever saw obtained from an equal number of plants was collected by Mr. Pratt, of Longleat, when gardener at Hawkstone. After the plants had served their purpose for decoration, they were turned into a cold frame upon a bed of ashes, and well attended to with water. In the month of June the lights were totally removed, and they well repaid our trouble, which was only the watering, and airing for a mouth previous to the removal of the lights.

For cutting purposes, the double varieties supersede the single oues, as they are well adapted for buttonhole and bouquet making, for which purpose they are largely in demand in the market at the present time. Where the family resides some time in London and cut flowers have to be sent from the country seat, Double Primulas should be extensively grown, as they travel better than most flowers. Like the single varieties, of late years a great many fine new sorts have come into circulation, but I must confess that I am only acquainted with the older ones. The old Double White when well grown is as good as anything I know, but although very common, it seldom receives that amount of attention and good cultivation which its intrinsic worth merits. When properly treated, however, it not only forms an attractive plant, but is also equally as serviceable for decorative purposes as the single.

The double Primulas are not like the single varieties, raised annually from seeds, but are propagated by cuttings or division of the shoots after they have done flowering. The shoots are cut off with a heel, and placed singly in thumb-pots and tied loosely to a small stake. They are then plunged in a moderately brisk bottom heat of about 80 degs. or so, but not in too moist an atmosphere, or they will probably damp off. The compost that should be used is composed of one half loam and one half leaf-mould, with plenty of fine sharp sand. As soon as the cuttings are well rooted, they should be potted into 3-in. and 4-in. pots, according to the size and condition of the plants, using a compost of two parts of loam and one of leaf-mould, with plenty of sand and a little charcoal dust. They should be placed in a gentle heat of about 60 degs.—but not pluuged—where a little air can be given, and the plants be well shaded from the sun's rays. As the plants get established more air can be given, and when ready to shift they should be potted into 6-in. pots, which is the largest size I would recommend, using the same compost as previously recommeuded. Some cultivators recommend that a little rotten cow-dung be mixed with the soil, but as there is always the possibility of a little white maggot being in the cow-dung, which is very fond of the Primula, and which eats its way up the centre of the stem, causing the plant to flag, until it gradually loses its hold of the soil, I cannot recommend its use. I remember once having a batch of nine dozen plants under my charge which all at ouce started to flag, from what cause we could not understand until we came to examine the roots, when we found as many as three and four of these maggots inside the stem. Out of the nine dozen we only managed to keep two and a half dozen through the winter. Since that time I have been very careful about using cow-dung.

The Double Primula requires an intermediate temperature for the proper development of the blossoms, and they are also greatly benefited by weak soot-water applied once or twice a week. The watering should be carefully attended to, the plants at no time being allowed to get too dry, nor yet be kept too wet.

THE CULTURE OF MELONS.

In order to be able to cut ripe Melons the first week in May, the seeds of such excellent varieties as Cox's Golden Gem, High Cross Hybrid, and Bleuheim Orange should be sown at once singly in 3-in. pots half filled with fine loam and leaf soil, covered lightly with some of the same compost, and then plunged to the rim in sawdust in a box, about 3 ft. long, 10 ins. wide, and 6 ins. deep, placed over the front hot-water pipes in a forcing-house, or any other suitable place, and covered with glass until the seedlings appear, when they should be removed to a shelf near the glass, to prevent them from becoming drawn. Top-dress them with soil about the same temperature as that in which the little plants are growing when they have made a couple of inches of growth, taking care in doing so not to injure the stems, which, at this stage of growth, are liable to sustain injury from the slightest pressure of the hand. In the meantime, the bed in which the plants are intended to be fruited should be got in readiness.

A suitable house for the production of early Melons, is a low, span-roofed structure, running east aud west, and having narrow borders, about 2 ft. wide, and the same in depth, with hot-water pipes underneath for supplying bottom-heat, and screw valves for regulating it, on either side the pathway. If such a house is available, the 3 ins. or 4 ins. thick of brick-rubble forming the drainage over the pipes should be seen to, and, if necessary, re-arranged. This done, place over it about 16 ins. thick of long manure, just as it is received from the stables, treading it firmly together, and over it put a couple of inches thick of rotten manure, after which the mounds, consisting of a light, rich fibry loam, should be made one foot deep in the centre and at 3 ft. apart along the centre of the beds. At the same time cover the intervening and surrounding space with a couple of inches thick of the same soil, which will absorb and retain the ammonia emanating from the fermenting manure underneath. But should the loam at hand be of a stiff, adhesive, and poor nature, one-fourth of old lime rubble and horse-droppings should be added and well incorporated with it before forming the hillocks.

After the mounds have been made a day or two, to allow of the soil becoming slightly warmed, the plants, while moist at the roots, and before the latter have become pot-bound, should be turned carefully out of the pots, so as to disturb the roots as little as possible in planting them on the mounds. The soil should be pressed moderately firm about the roots, and afterwards be watered with tepid water to settle it. A stick sufficiently loug to allow of the bed subsiding 9 ins. or 10 ins. within three weeks or a month from that date should next be put to each plant for support, and, for the present, tied loosely to the first wire of the trellis, which should not be nearer to the glass than 15 ins., so that soil, plants, and supports may all subside together. Shade the plants from bright sunshine uutil the roots have taken well to the fresh soil, after which it should be discontinued.

Damp the plants overhead, and the walls and path generally morning aud afternoon on bright days, to promote a genial atmosphere in the house, and at the same time to prevent red-spider from attacking the plants; and ventilate freely during favourable weather to secure a short-jointed consolidated growth in the plants. As the roots protrude through the sides of the hillocks, add a couple of inches of the same compost as that in which the plants are growing, and continue to make such additions until the intervening space is filled with soil, leaving, however, the base of the plants and the soil some 6 ins. higher than that between the plants to prevent the stems and the soil immediately surroundiug them from getting too damp by the lodgment of water.

Training the Plants.—Do not stop the leading shoots until they have nearly reached the top wire of the trellis, the object being to secure an equal set of fruit, and distribution of the same over the plants. This can be easily accomplished by pinching out the first flowers that show on the laterals proceeding from the base of the individual plants, and afterwards trained to the first set of wires. Thus treated, the plants will produce side shoots from the base of each leaf-stalk the entire length of the stem, and in the production of which the latter will thicken considerably, and so form a large rapid channel of communication between root and leaf, a fact the value of which cannot well be over-estimated. Train the shoots thinly over the trellis, and stop them when they have made two or three joints of growth. When five or six flowers are open on a plant, impregnate them when the pollen is dry with a small camel's hair brush in the ordinary way. Stop the fruit-bearing shoots at one joint beyond the fruit, and when it can be seen which fruits are going to swell, remove all superfluous fruit from the plants, leaving from four to six—according to the variety and the strength of the plants—of the most even-sized and best placed fruits on each plant for a crop, after which all superfluous growths should be removed, and be afterwards kept persistently pinched out so as to prevent anything like over-crowding of the shoots.

The syringe should be withheld from the plants when they are in flower as well as when the fruit are approaching maturity, and during both these stages of growth the atmosphere must be kept rather dry and airy. Give copious supplies of tepid diluted liquid manure to the plants when swelling their fruit, and should green or black-fly get the mastery of the syringe, fumigate lightly with tobacco paper a couple of evenings in succession, and ventilate somewhat freely the following day, weather permitting. A night temperature of 70 degs. should be aimed at, and 5 degs. higher by day, with fire, running up 10 degs. or 15 degs. higher, with sun-heat and plenty of atmospheric moisture at closing time, which, like that of putting on air, should be determined by the season and condition of the weather at the time. Air, however, should be put on when the temperature has reached 80 degs. in the morning, and taken off in the afternoon when it has declined to 85 degs.—say at from two to half-past three.—*H. W. Ward.*

NATIONAL ROSE SOCIETY.

At the late annual meeting of this Society, the new bye-laws which had been prepared by the executive committee were, after some discussion, carried unanimously. The first rule recites that the Society shall be known as the National Rose Society, and the second that it shall cousist of members paying an annual subscription of 10*s.* or £1, at their discretion. The third, fourth, and fifth rules deal with the election of officers, the alteration of bye-laws, and the time of holding the annual meeting. By the sixth rule the general committee is limited to forty members, exclusive of the officers aud the local secretaries, who are to be *ex officio* members of the committee. The members are to be elected by ballot at the annual meeting, and one-half of them are to retire according to seniority each year, but to be eligible for re-election. By the seventh rule the general committee is to meet twice anuually, in November for makiug arrangements for holding the annual meeting, and in January for the election of the executive committee, which, by the eighth rule, is limited to eighteen members, of which not less thau five will be required to form a quorum.

The uinth rule states that all members are to receive a copy of any publications issued by the Society, as soon as published, and to be allowed to exhibit at the Society's Shows. Members paying £1 are to be eutitled to six tickets, and those paying 10*s.* to half that number. The tenth and three following rules govern the affiliation of local societies. Local Rose or Horticultural Societies may become affiliated ou payment of a fee of 10*s.* 6*d.*, provided a sum of uot less than £15. is offered in prizes for Roses, and the sanction of the executive committee is obtaiued to the affiliation. Societies that have become affiliated are to be allowed to offer for competition the medals of the National Rose Society, which medals may be obtained for the following charges, namely—Gold medal, £2; silver gilt medal, 12*s.*; silver medal, 10*s.*; and bronze medal, 3*s.* 6*d.* No medal is to be awarded by an affiliated society for any seedling Rose, or for any decoration or vase of flowers.

By the regulations made for the exhibitions it is enacted that one metropolitan show shall be held in each year, aud provincial shows where practicable, and also that exhibitions of the Society, or of the societies affiliated with it, shall not extend over more than one day. By the third regulation exhibitors cannot enter in more than one division in the schedule, in addition to the extra and open classes, and by the fifth no exhibitor can take more than one prize in any class, unless specially permitted by the schedule, neither may two or more persons exhibit from the same garden, or nursery. Regulation six deals with synonymous Roses, as follows :—

"The following Roses which are bracketed together are considered synonymous, and therefore must not be shown in the same stand. For instance, Marie Finger must not be shown in the same stand as Eugénie Verdier.

Charles Lefebvre Margeurite Brassac Paul Jamain	Baron de Bonstetten Monsieur Boncenne
Exposition de Brie' Ferdinand de Lesseps Maurice Bernardin Sir Garnet Wolseley	Avocat Duvivier Maréchal Vaillant
La Rosiere Prince C. de Rohan	Eugénie Verdier Marie Finger
Comtesse de Choiseul Marie Rady	Duchess de Caylus Penelope Mayo
Chromatella Cloth of Gold	Adam President
Climbing Devoniensis Devoniensis	Alba Rosea Josephine Malton Madame Bravy Madame de Sertot."

By the eighth regulation "all Roses must be exhibited as cut from the plants," and "artificial aid of any and every kind is strictly prohibited, with the exception of wire or other supports, which are to be used only to keep the blooms erect." It is provided by the ninth regulation that "Under exceptional circumstances any three members of the general committee have power either before or after the decision of the judges has been given to declare any exhibit disqualified; and their decision will be final." The competition at the Society's exhibitions is limited to the members, except the members of a provincial society on the occasion of the National Rose Society holding an exhibition in conjunction therewith. No seedling Rose which has won a prize is to be shown in the class for new seedling Roses, and "No person shall be allowed to compete as an amateur who habitually sells Rose plants or Rose blooms, nor any person in the employ of a nurseryman." Any objection raised as to the rightful qualification of an exhibitor shall be referred to the executive committee for arbitration, and their decision shall be final and binding on both parties.

THE ISLE OF PURBECK.

There are, doubtless, many amongst your readers who are unacquainted with the Purbeck Island, both as regards its name and its geographical position, and to whom a few notes respecting it may not be altogether uninteresting. It is generally said that in connection with the least known place, as with individuals, there is something in connection therewith which may in a greater or lesser degree be described as a characteristic; such is certainly the case with Purbeck; its distinguishing feature, however, shall be noticed later on. Having a choice of two routes, we take the most circuitous one, for the double purpose of meeting with a greater variety of scenery and of enjoying a short sea voyage, or to be more accurate, we should say a pleasant trip in the English Channel—for there it is, be it remarked, where our objective point is situated. A journey by rail of some fifty miles or thereabouts from our starting point near the far-famed Westbury White Horse, through a delightful country on a bright warm August morning, and we arrive at that fashionable and well-known sea-side resort Weymouth.

Finding we shall have a few hours to spare here, a portion of our time is devoted to visiting the principal points of interest, but which may be said to consist chiefly of such objects as have no special claim for comment in the pages of a horticultural paper. From the admirable and slightly crescent-shaped esplanade, we have a good view of the bay with its many craft of pleasure parties flitting hither and thither, the sands with their bathing machines and innumerable other attractions for young and old, in the way of performing acrobats, niggers, quack doctors, &c., all of whom with their varied and nondescript paraphernalia seem to be plying a good trade. Having enjoyed a little of this diversion, our footsteps are directed towards the low white cliffs in the distance on the left, in quest of wild flowers.

Hordeum jubatum is found in plenty, but of such a stunted appearance as compared with the same plant under cultivation, that a tyro might easily mistake it for something else; and let us here parenthetically remark that this plant is worthy of the attentions of any gardener and deserves to be more widely cultivated than it seems to be, as it is very useful for cutting when in flower for decorative purposes. Echium vulgare, Viper's Bugloss, and a few other plants of a less noteworthy character, are all we meet with in this direction.

Leaving the pier in the steamboat "Victoria," we have a pleasant trip of two hours up the Channel, and are delighted with the beautiful coast scenery of this part of Dorsetshire, which surpasses in loveliness our most sanguine expectations, being as such things invariably are, in marked contrast to our preconceived ideas respecting it. Lulworth Castle standing on a lofty hill and almost hidden by trees, together with the pretty village of Lulworth at no great distance from the waters edge, are pointed out as objects of interest, and with the aid of a Binocular, a desire is soon created for a closer acquaintance with the place. Nearing St. Albans' Head, the coast assumes quite a rugged appearance, and is exceedingly picturesque. Rocks and cliffs of various hues and tints and forms, jutting out into the sea here and there, forming miniature bays and promontories, with caves in various places, the rocks towering in the air in a perpendicular direction and of just sufficient height to give them an awe-inspiring look, rendering them inaccessible to everything save the feathered tribe, is the best description we can give, though it falls far short of accurately depicting the true character of this part of the coast.

Rounding St. Albans' Head, we find ourselves in close proximity to Swanage, our port of debarkation. The town is delightfully situated, and the formation of the land in its immediate vicinity is of such a character as cannot fail to rivet the attention and draw forth involuntary remarks of admiration from anyone viewing it from the sea for the first time. A ramble up the hill side reveals nothing of an exceptional nature in the way of botanical treasures. Senecio Jacobæa, S. erucæfolius, Galium Mollugo, G. verum, Hieracium Pilosella and Echium vulgare may be mentioned as being met with. The last named plant is very abundant, and never do we remember to have seen it so dwarf, or looking so pretty as on these hills at Swanage.

The chief feature of the Isle of Purbeck may be said to consist of its extensive quarries of stone, which varies in quality from beautiful freestone to the finest granite and which have gained a high reputation of long standing amongst builders and contractors. A drive of five miles through a pleasant country, the centre of the stone industry, and passing on the way the villages of Langton and Acton, brings us to the Kingston end of our first day's journey. We are early astir the following morning, wending our way in the direction of Chapman's Pool, in the hope of meeting with something new and acquainting ourselves with the local flora. Most of the above-mentioned plants were found, also Campanula patula, C. rotundifolia and Carex glauca, the latter being somewhat scarce. A dense fog rising from the sea and coming inland at a rapid rate, made a hasty retreat to our starting point *sine quâ non* and brought an end to botanising for a short time. The village of Kingston merits a passing word of comment, if only for the purpose of noting its new church, a truly noble structure, built, we believe, entirely of stone excavated in the locality. It certainly is the prettiest village church we have hitherto seen. Much might be written respecting it, but space forbids, and long may it stand as a memento of the kindness of heart of the noble person at whose expense it was built. Examining the walls of the old churchyard, we find no less than four species of British ferns, viz. :—Scolopendrium vulgare, Ceterach officinarum, Asplenum marinum, and A. Adiantum nigrum.

From Kingston to Encombe, the seat of the Earl of Eldon, is but a short distance, and in the extensive park here, with its undulating surface, well-kept drives and stately trees, there is much to admire. Nestling in a deep depression at the foot of a steep hill, and surrounded by beautiful woodland is Encombe House, a square-built mansion of stone, in front of which is the flower-garden and a fine expanse of ornamental water, with water-fowl, and numerous aquatic plants growing therein. The shrubberies and private grounds which stretch away to the not far distant sea beyond, are highly favoured by nature in their formation, being rich in dingles and dells, rockwork and vistas. One very interesting feature here, from a botanical point of view, is the vast quantity of Scolopendrium vulgare to be met with at almost every turning; there must be acres of it, and as evidence of its being in its most favoured natural habitat and of its robustness, one has only to mention the fact of huge clumps with from one to two hundred fronds in each, and some of the latter measuring 30 ins. in length and 4 ins. in width.

No description of the Isle of Purbeck, however brief, would be complete without some reference to the historical Corfe Castle, situated little more than a mile from Encombe and standing on a high hill commanding extensive views of the surrounding country, as well as a good strip of the Channel, with Bournemouth and Poole Harbour in the distance. The present state of the ruins together with the massive blocks of solid masonry scattered about as it were in the wildest confusion testifies to the substantial character of the work of our forefathers and of the "troublous times" in which they lived, and is evidence of the strong fortress, as it once was, having been the scene of many a hard-fought battle. Corfe Castle is said to have been built so far back as the reign of Alfred, to protect that part of the coast from the invasion of the Danes. In the following century it came into the hands of King Edgar, was enlarged by him, and at his death bequeathed as a dowry mansion to his wife Elfrida. We next find King John occupying it as a royal residence, and as a place of confinement for State prisoners, amongst whom, at one time, were no less than twenty-two knights and barons, captured with Arthur, Duke of Brittany, and who met with the horrible fate of being starved to death. It was here where Peter of Pomfret was hanged on a gibbet with his son, for haviug ventured to foretell the year in which the cruel tyrant would lose his crown, and previous to his execution was dragged at horses' heels to Wareham, a distance of five miles, thence through the streets of the town and back to Corfe.

In 1471 its possessor was Edmund Beaufort, Duke of Somerset, he having taken up the cause of Queen Margaret when she landed at Weymouth, lost the battle of Tewkesbury on the 4th of May, and two days afterwards was beheaded, with the forfeiture of all his estates and honours. Centuries roll by, and in 1634 it passed into the hands of Sir John Banks, by purchase, but like so many old English castles in Cromwellian days was reduced to ruins, and serves now as a landmark of the country and as a grand historical relic of bygone days. With this our remarks must come to a close, but of our first personal acquaintance with the Isle of Purbeck and some of its people we shall hope to retain pleasant recollections in our memory so long as that faculty is given to us to enjoy.—*J. Horsefield, The Gardens, Heytesbury, Wilts.*

Vegetarianism.—At a meeting of the Vegetarian Society held at Exeter Hall, on Monday evening, Miss Anna Kingsford, M.D., protested against the representations of those who seemed to think that vegetarians wished to send men out like Nebuchadnezzar to graze, to make them eat Cabbages in the morning and grass in the evening. She maintained, however, that men were classed anatomically and physiologically with the apes, whose teeth were not flesh-tearing teeth. The apes used their teeth for cracking nuts, and never for masticating mutton chops or eating saddle of mutton. Flesh-eaters were liable to many diseases from which vegetarians were free. She had cured herself of tubercular consumption by living on vegetable food. Having been told that she had not six months to live, and that she must eat raw meat and drink port wine, she had gone into the country and tried cold porridge and fruit, and was there that day on that platform. She had found the shoemaker to make her shoes without leather, and she assured her audience that they did equally well for the muddy streets of London and for climbing the hills of Switzerland.

The Amateurs' Garden.

Spring Flowers.—The Chrysanthemum having receded into the past and midwinter reached, the gardener begins to anticipate his spring flowers, and wonders if nature will be merciful during the next two months; or, aided by hard destroying frosts, nip much promise of vernal beauty in the bud. So far, everything is full of hope. Really there is little break in the floral succession. Christmas Roses (Helleborus niger) are already throwing up their flowers out-of-doors; under glass, in a cold house, plants lifted a few weeks ago and potted are fast expanding their beautiful pure white flowers. This is the way to have Christmas Roses in full beauty. When the plants are out-of-doors the flowers have so many obstacles besetting them at midwinter—frost, rain, snow, cutting winds, &c., it is only by covering them with a handlight, or some such protection, that the flowers can be had in a fit state for indoor decoration, but when grown in a cold house no such precaution is necessary.

The Snowdrops will soon be pushing themselves through the soil. Mr. Barron has a collection of single and double varieties at Chiswick, some of them being extremely precocious, the result of careful selection of seedlings made by Mr. Melville, of Dunrobin. Mr. W. Ingram, of Belvoir Castle, once said that he "educated his plants," meaning thereby that by careful selection of early-flowering spring plants he has them in bloom much earlier than usual. It is this kind of education that Mr. Melville carried out in connection with spring's harbinger—the Snowdrop. The pretty little Crocus biflorus, which is largely grown in Holland as the Scotch Crocus, comes in with the Snowdrop; the flowers are white with dark stripes, and it is very pretty. C. vernus gives us a lot of pretty varieties, and C. reticulatus (Cloth of Gold) with C. aureus (the Large Yellow) must be added to these.

The varieties of the Polyanthus and Primrose are already in bloom; to flower in the autumn is a characteristic of the Auricula also, and they go on flowering till April. As such fine strains of Primrose and Polyanthus can be raised from seed no garden should be without them, as they do so well in a sandy loam. In small flower-beds they can be planted in masses of different colours with good effect, and they are charming dotted about on the edge of a mixed border.

Then there are the charming Hepaticas, a class of plants that dislike often being transplanted, unless under very favourable circumstances, and even then a considerable time is required for them to grow into good, well-established plants, but they are always well worth a little extra trouble. In old-fashioned gardens in Kent, where there is a deep, moist sandy loam, we have seen large clumps of Hepaticas that have been left undisturbed for years and which are objects of great beauty in early spring. Once let the plants become well established in the ground and then they will bear a great deal of exposure to hot sun and drying influences. Hepaticas root deeply, therefore they should have a deep soil.

The Wallflower is a most charming spring flower, and by means of careful selection types have been procured that flower very early. Something, too, depends upon the time of year when the seeds are sown. Many sow too late in the year to admit of the plants growing on to a good size. It is best to sow in a bed in the open-air at the end of May or beginning of June, and prick the seedlings out in beds to flower, doing this at a time when it is showery. Then the plants grow into nice bushy specimens, and flower early in autumn and all through the winter when the weather is mild, and they give rare heads of flowers in March, April, and May. The best strains of Wallflower are Harbinger and Covent Garden Blood Red, both fine dark types; and of yellow-flowered varieties, Bedfont Giant Yellow, Carter's Tom Thumb, and Belvoir Castle Dwarf Yellow.

Then there are the pretty Forget-me-Nots, especially the early-flowering Myosotis dissitiflora; Double Daisies of variety; some pretty Aubrietias, to which reference was recently made in The Gardening World; the yellow-flowered Alyssum saxatile compactum; the crimson-purple and white Houesty's; the white Arabis albida; and hardy border Auriculas. Here, then, is a comprehensive list of flowering plants, a good number of which can be raised from seed, and therefore procurable at a comparatively moderate cost. Many an amateur gardener can make his garden smile with floral beauty in spring, and well-filled beds have a much more cheerful appearance during winter than when allowed to remain empty.—*Quo.*

Double Wallflowers.—There have been in cultivation in English gardens for years past two, what we might term, common types of double Wallflowers—the purple and the yellow. They are by no means plentiful, but they are both very handsome and of great decorative value in early spring. I think there are two or three types of the yellow as well as the dark, but perhaps any apparent difference might be traceable to cultivation. They do well in any good garden soil in which they can root deeply, and as they do not produce seed, they can be readily increased by means of cuttings. These should be taken off with a heel—that is, near the main stem, and be inserted in pots, pans, or a bed of light sandy soil. They strike all the more certainly if they can be covered with a hand-glass, but they will need to be looked at sometimes, so that damp does them no injury. The best time to take cuttings is in midsummer, or earlier, as they grow into nice flowering specimens by the following spring. When in Hertfordshire during the summer I saw in a cottage-garden a very dwarf and free-growing double yellow Wallflower that I fancied was distinct from anything I had previously seen. I obtained some cuttings, and having grown them into good plants, shall have ample opportunity to test its distinctness in spring. The plants are partly in pots, and really this is a capital way in which to grow these useful double Wallflowers. Then there are the German double Wallflowers, of which fine strains are imported from the Continent. Somehow they do not appear to find a great deal of favour with the flower-loving public. Seed should be sown in May, and the plants be grown on freely, and in August planted out in the open ground to flower. Very fine and varied strains can be had, and we strongly recommend amateurs to grow a few plants. They are generally of very robust growth, they produce very fine spikes of flowers, the individual blossoms being in not a few instances very large, and both varied and striking in colour. Really all the double Wallflowers are well worth a place in gardens.—*R. D.*

JAPANESE PRIMROSES.

By these I do not mean the greatly over-rated Primula Japonica, but P. Sieboldi and its charming varieties. P. Sieboldi was introduced by the late Mr. John Gould Veitch, under the name of P. cortusoides amœna, probably in the belief that it was a very fine form of P. cortusoides. It is now made into a species and called P. Sieboldi, Siebold having been the first to describe it. The first form of it was rose-coloured, then came the white and lilac varieties, and later the rose and white variety known as Grandiflora, the inner or upper surface of the petals being white, the reverse rose. For some reason or the other these fine hardy Primroses have never been appreciated by gardeners as they deserve to be. One may go into a great number of private gardens in the month of April and not see one of these pretty Primulas, yet P. Japonica, much as it was written up at the time of its appearance, is scarcely worthy of mention by the side of the beautiful P. Sieboldi and its varieties.

It appears inexplicable, but it is not less a fact, that these fine forms were under cultivation in this country for a considerable time before new varieties were obtained from them. Perhaps this arose in some measure from the fact that P. Sieboldi amœna, which is most generally cultivated, rarely matures its seed. It is a very disappointing plant in this respect. It will display large, plump seed-vessels, apparently full of seeds, but when they are fully ripe there is nothing within them. But by means of persistent crossing several growers were fortunate enough to obtain seeds and were successful in producing new varieties. M. Victor Lemoine, of Nancy, France, who appears to send to England more good things than any other florist on the Continent; Mr. James Allen, Shepton Mallet; and Mr. A. Dean, Bedfont, are specially deserving of mention. Later in point of time, Messrs. George Geggie & Co., Waterloo Nursery, Bury, did, and are still doing, good work in producing new types. And it may be truly said of all the varieties in this section, that they are easy of culture with proper attention and extremely beautiful when in bloom.

This section of hardy Primroses are among the earliest to flower. They make a quick growth in early spring, and when of good strength they throw up fine trusses of bloom freely. They are truly deciduous, dying down in autumn, and completely resting. The species and its varieties throw out creeping roots just below the soil, and these break up into fresh growths from various points. They succeed best under pot-culture for flowering in the greenhouse and conservatory. In the open rock-garden, where they can have special care, they will do well and last, but when planted out in ordinary garden soil in the open border they are apt to perish after a season or two. Soil is a matter of some importance, the best compost, perhaps, is one made up of fibry loam, leaf-mould, pulverized manure, and some grit in the way of rough sand to keep it open. The pots in which they are grown should be well drained, for the roots are impatient of excessive moisture.

Opinions differ a little as to the best time to divide and re-pot. I think it is best done in the autumn, though some prefer to do it in early spring. In the act of re-potting place the root just below the surface and press the soil firmly about it. I can especially recommend this class of plants to amateurs, for they do well in a cold house and do not require heat at any time, and there are so many pretty varieties that a good collection can be got together at a comparatively small cost.—*E. W.*

JOHN LEE.

Our portrait on this occasion is that of one of the most noteworthy and most honoured of living English horticulturists. John Lee comes of an excellent ancestry, for his grandfather, James Lee, who founded the Hammersmith Nursery, was a man of mark in his day, having, in addition to his practical work, published in 1810 a book on the science of Botany, based upon the system of Linnæus, with whom he corresponded. This work contains also a portrait and sketch of the life of James Lee by Dr. Thwaites. It was a book of some importance, it went through five editions, and is frequently quoted or referred to as an authority by Loudon and others. James Lee furnishes the example of a Scotch gardener rising to eminence. He was a native of Selkirk, born about 1715, and in due time he turned his face southward, coming to London with a view of seeking occupation, if not a fortune. He was fortunate in obtaining employment in the gardens of Syon House, and afterwards at the Duke of Argyll's place at Whitton, near Hounslow. In 1745, James Lee, in conjunction with Mr. Lewis Kennedy, then gardener to Lord Bolton at Chiswick, as his partner, founded the Vineyard Nursery at Hammersmith, now considerably curtailed of its former dimensions by means of railway extension and other metropolitan improvements. Actually vines were grown, fruit was ripened, and wine manufactured on this spot as late as the middle of last century; and here also were cellars for storing the wines. It would be interesting to know what varieties of Grapes were grown there in those days.

The nursery business soon became one of great repute, and was known far and wide. James Lee died in 1795 at the good old age of eighty years, his partner, Mr. Kennedy, having died previously. The nursery business was carried on by the sons of the two partners till the year 1817, when Mr. Kennedy retired, and the establishment became the sole property of James Lee, father of the subject of this sketch. He died in 1824, and John Lee succeeded to the management of an extensive and lucrative business at eighteen years of age, he having, however, had the advantage of a few years' previous insight into the working of the same. Charles, a younger brother, eventually joined him as partner, and they carried it on until 1876 under the title of John and Charles Lee, when John retired, and

William Lee, the son of Charles, became associated with his father, and on the occasion of his lamented death a few years since, became the responsible manager of the business.

Under the management of the brothers John and Charles the business grew in importance, and branches were established at Ealing, Isleworth, Hounslow, and Feltham. Years ago collectors were sent out to the Cape. One of these was sent up the coast with two waggons and six oxen to get Zamias, and succeeded in securing a large number, which were sent home in a vessel that was unfortunately wrecked on the Goodwin Sands and the consignment lost. A few were washed ashore on various parts of the south coast, and were, no doubt, regarded with something like wonder. Of the many valuable new plants sent out by the firm only a few can be named. To the founder of the nursery we owe the introduction of Fuchsia coccinea, the only species brought to this country during the last century. It had been brought home by a sailor who gave it to his wife, and James Lee, being one day at Wapping, saw it in flower in the window of a dwelling, and, after some difficulty, succeeded in securing it. The first China Rose came into their possession in 1787. They had a collector in the United States of America who sent them home several new Oaks and other notable subjects; from the Cape of Good Hope came many new Heaths, Ixias, and other South African plants. The well-known variegated Pelargonium, Lady Plymouth, still cultivated in many gardens, was sent out by John and Charles Lee, and later the equally popular Flower of the Day, raised by Mr. F. R. Kinghorn in 1848. It is given to but very few men to be able to boast of an active business career extending to a period of fifty-three years.

Though in his eightieth year Mr. John Lee is hale, hearty, and active, still able to take his share of work in matters affecting horticulture. On two occasions he has occupied a seat on the Council of the Royal Horticultural Society, he has been connected both with the Fruit and Floral Committees of that body. He was one of the founders of the Gardeners' Royal Benevolent Institution; has been a subscriber to its funds from the first, and for many years has been Chairman of its Committee of Management, and one of its trustees and auditors. Indeed he is now regarded as the honoured father of the Institution. Both John and Charles Lee were active members of the executive Committee of the International Horticultural Exhibition held at South Kensington in 1866, and the former is associated with other horticultural institutions of a beneficial character. That his useful life may be spared to reach a yet greener old age is the hearty desire of a very large circle of attached friends.

JOHN LEE,
FATHER OF THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

EPIPHYLLUM TRUNCATUM.

THE great demand that has sprung up during the last few years in gardens throughout the country for all kinds of plants suitable for house and conservatory decoration, has been the means of bringing many good old plants again into prominent notice, and which, although they had been under cultivation for many years, had not been grown in sufficient quantities to place them in so important a position as their intrinsic merits deserved. This, I think, is clearly the case with Epiphyllum truncatum, for in gardens of the most humble pretensions, a few plants were generally grown, together with various species and varieties of Cactus, which when in flower were sure to be greatly admired, but the great objection to Cactuses is, that their flowers are of such short duration. This, however, is not the case with Epiphyllums, for their flowers will continue in full beauty for several weeks—if kept in a suitable structure—and they are altogether such useful plants that I think a few remarks on their cultivation may be of service to those who have not hitherto taken any special interest in them.

These plants are grown under widely different conditions in various gardens. Occasionally they may be met with, doing well, when grown constantly in the tropical heat of a plant-stove, and in other places they are grown in the intermediate greenhouse or vinery, but perhaps the latter structure is found the most convenient in which to grow them in the majority of gardens, because the varying conditions to which the vines are subjected from the time they are started, till they ripen their fruit, suit them admirably. The only time they require to be removed from the vinery is when they show their flower buds, which of course is regulated in some degree by the time the vines growing in the same house are started, but by keeping some in cool houses while others are being pushed on, their season of flowering may be extended from September to February. Those that are wanted to flower during the autumn months, should be transferred to a house where they can have a temperature ranging between 55 degs. to 70 degs., because vineries are at that season of the year kept

too cool and airy to allow them to open their flowers to perfection. But it must be borne in mind, after the flowering is over, that those which have been placed in heat should not then be returned to cool quarters, but be kept growing on in a suitable temperature, till the advance of the season has rendered their old quarters congenial to their requirements.

The plants may be potted just as they are starting into growth, or after the growth is completed and ripened. The former time is the best, but it is sometimes more convenient to perform the operation at the latter period. Epiphyllums do not require much pot-room, nor do they like to be disturbed at the roots. Once in two or three years is quite often enough to repot them. Various composts are used to grow them in by different cultivators, some using a large percentage of lime rubble, but I fail to see the advantage of so much of this, if the pots are well drained in the following manner:—Prepare the broken crocks by passing them, first through the inch sieve, next through the half-inch and then the quarter-inch sieve. The crocks that are left in each sieve after the smaller ones have passed through to the next will form the three sizes for crocking. Place the largest at the bottom of the pot, the next size over them, and the smallest on the top, with a little rough peat over the whole, to keep the soil from getting among the drainage. If the pots are crocked in the above manner, the following compost will be found to suit the plants:—Three parts turfy loam, to one of peat, one of leaf soil, one of lime rubble, and plenty of sharp sand. No manure will be required if the plants receive an occasional application of liquid manure, while they are making their growth.

From the time they have completed their growth till they begin to grow again they should be kept rather dry at the roots, but at no time should they be kept dry enough to cause them to shrivel. Epiphyllums are generally propagated by grafting, to which I shall presently allude, but it is a good plan to put in a batch of cuttings, which should be taken while they are making their growth, with a portion of firm wood at the base, inserted in small 60's and placed in a warm moist house, and when rooted potted on as required. They will then make nice useful plants for placing in positions where their flowers can droop over the sides of stages or be suspended in baskets.

Grafting can be performed at any time, provided the plants from which the grafts are taken and those used for stocks are placed in heat a week or ten days before that operation is performed, which, after all, is a most simple one, the chief essential to success being to have a sharp knife that will make a clean cut. There are various modes of grafting, but for this purpose I have found crown and saddle grafting the best—the former to be adopted for the larger, and the latter for the smaller shoots. Crown grafting is performed in this way: First cut the stock down to the required height, then make a split in the centre about an inch in length, and remove a small slice on either side of the split so that the stock is of the right form to receive the wedge-shaped graft. Next select a small shoot for the scion with two or three joints, giving preference to those shoots that are firm at the base, as it will be found that the central rib contains more woody matter than do soft shoots, and there is no danger of their shrivelling before the union is effected. All the preparation that these shoots require is to take a slice off each side of their central rib so as to make them wedge-shaped; fit them into the prepared stocks and bind up carefully but firmly with soft matting, then tie some damp moss over the part that has been worked, and the operation is completed.

For saddle grafting the stock should be cut into the shape of a wedge, and the mid rib of the scion slit and fitted on to the stock, and tied up with matting and moss as in the other case. The moss should be kept damp with the syringe till the grafts begin to grow, when it should be removed. The best stock to use is the Pereskia, but they will do very well grafted on Cactus speciosissimus.

Training may be carried out in many ways to suit the fancy of the cultivator and the purposes for which the plants are required. They are very useful when grafted on stems from 6 ins. to 2 ft. in height, and trained to umbrella-shaped trellises; treated in this way their flowers show off to advantage when seen studding the surface of the trellis and drooping in rich clusters around. Another good plan is to graft the stocks at several places up the stems, putting a pyramidal-shaped trellis over them, to train the shoots to as they extend. They also make useful plants when grown from one graft, worked on stocks of various heights, and allowed to grow on without any training. I would advise any one who has a few plants of either of the stocks above mentioned to get them into heat at once and treat them in the way described, and I am confident they will be well repaid for their trouble when they have grown the plants into a good flowering size.—*H. Dunkin.*

THE OLDFIELD NURSERIES, ALTRINCHAM.

The Oldfield Nurseries of Messrs. William Cibran & Son are situated on the south side of Manchester, sufficiently far away to escape the smoke and injurious vapours of the cotton metropolis, and yet near enough to be easily reached by road or rail. Altrincham and Bowdon have long enjoyed the reputation of being situated in one of the most healthy and delightful districts in the vicinity, and certainly the size and vigour of the fine old trees in Dunham Park is a standing proof of the reputation being well deserved. In such a locality these nurseries are placed, not all in one spot, for additions have continually been made, and fresh situations secured as the need for such extensions has arisen. The glass erections are at the original Oldfield Nursery, where in former days a small number sufficed, but fresh ranges are now being put up, as it is found that the demand for cut flowers and soft wooded stuff, together with the ordinary run of stove and greenhouse plants, ferns, &c., is so great that every season the houses are found unable to meet the requirements of the business.

The number of flowering plants raised and distributed in the course of a single season is immense, and now that a new business house has been opened in Market Street, Manchester, where all kinds of cut flowers may be obtained, extra care and attention are required to keep this branch well stocked with choice things. The houses at the present time are filled with plants in a waiting condition, as it were, but in a very short time every one will have to contribute largely to the increase of the spring and summer stock. On the roofs of some of them we observed good plants of Lapagerias, and in others, again, the same plant is being layered for young stock. Of Stephanotis floribunda and Jasminum gracillimum, the pure white flowers are in great demand. Ipomœa Thompsoni, Thunbergia Harrisii, Dipladenias, &c., are also grown largely for cut-flower purposes. Of Roses, a large stock of Teas are grown in pots. Maréchal Niel, with rods from 12 ft. to 15 ft. long, is seen in fine health and condition; and a very large number of hybrid perpetuals are grown every season and easily disposed of. Small ferns are also raised by the thousand, Adiantum cuneatum and A. Williamsii being two of the most popular. Another useful plant for producing white flowers is Rubus coronarius flora-plena, and it is very easily managed in a greenhouse if care be taken to keep the shoots well tied out.

The beautiful greenhouse hybrid Rhododendrons are grown in quantities, as also are the forms known as Davies' varieties, which bear, large sweet-scented, and mostly pure white flowers. Of Chrysanthemums about a thousand sorts are grown, two hundred of them being Japanese varieties. A number of new sorts from America are just now on their trial, and several have proved to be exceptionally good. Double-flowered Zonal Pelargoniums are also grown in quantities, and the two sorts most in request are F. V. Raspail and W. E. Gladstone. Among bedding Pelargoniums, Chelsea Gem is largely grown, also other sorts in quantity. Among plants seldom seen mention may be made of the following, which are grown largely and well: Linum trigynum, Clematis indivisa lobata, Hibbertia dentata, Bignonia jasminoides rosea, Clematis Billardierii, Acacia pubescens, A. affinis, A. Riceana, A. grandis, and A. longifolia magnifica.

Large stocks of young Palms are raised every season, Kenteas and Cocos being chiefly in request, also Pandanus utilis, and Euterpe edulis. Of Spiræa japonica about fifty thousand clumps are forced every season, and of Lily of the Valley an immense stock of single crowns are used. On Christmas Day hundreds of spikes were ready for cutting, and all through the season they will be produced in quantities. Solanums, Cyclamens, Show Pelargoniums and Primulas have each one or more large low houses set apart for their special culture, and are in grand condition. The strain of Primula grown here is noted for its fine size, substance, colour, and form. Cinerarias and Calceolarias are done by thousands, and the former are just now coming into flower. Bouvardias, Tree Carnations, Heliotropes, and Begonias of the tuberous-rooted section, are also a great feature here.

The grounds outside are not quite so interesting just at present, but the large stock of herbaceous and alpine plants will, in their season, afford much beauty and interest. The Phloxes, Delphiniums, Penstemons, Irises, &c., are of the choicest forms, being in great demand. Space will not allow of further enumeration, but sufficient has been said, I think, to give an idea of the extent and character of the business carried on by the Messrs. Cibran.—*W. Swan, Fallowfield.*

FLOWERS.

Seasonable Work in the Plant-houses.—All the different sections of Pelargoniums should have attention now. The early flowering French varieties will want tying out, and where the pots are well filled with roots they should be supplied with manure water, say, once a week, and later on a little oftener. In potting on any for later blooming the addition of a little horn-manure will be found very beneficial. The Cape species should now be potted into their flowering-pots, but the compost for these should not be too rich or they will make too much growth, and will not flower so freely. To flower these successfully it is also necessary that they should be grown fully exposed to the sun, and those with the thick fleshy stems should be watered very sparingly. The ivy-leaved sorts (any old plants that are to be grown on) should be shaken out and potted back into smaller pots where necessary. The same compost as used for the French varieties will suit these very well. After they are potted they will root and start into growth more freely if they are placed in a house that is kept close, and at rather a higher temperature than the ordinary greenhouse. Cuttings that were rooted in the autumn should also be potted off as early as possible. The single white varieties of the ivy-leaved Pelargoniums are very nice for window-box work, and where extra stock for this purpose is required, cuttings put in now and grown on in heat will make nice plants for the purpose. Autumn-struck cuttings of Zonal varieties should be potted off as soon as opportunity will allow, and if grown on in a warm house or pit, as close to the glass as possible, will make nice plants for early flowering in pots.

Turves and Moss v. Pots.—Mr. H. Dunkin's instructive note on the advantages of growing young bedding Pelargoniums in turves in preference to pots is to the point, but, as Mr. Gilbert says at p. 283, it is not every gardener who can procure the tough fibrous turf which he so well describes, and if he can it is generally put to a different purpose than growing bedding Pelargoniums in. I think that if I were to attempt to claim advantages for pots as compared with moss (the turves I have never had at my disposal) they would far outweigh those that can be claimed for mossing. In the spring, when the bulk of this work is performed, all who have had to assist in the preparation of the plants for a large flower-garden are aware of the shifting and changing about from place to place that is necessary, first to ensure a start in root action after being disturbed, and next to gradually harden them until they will eventually stand out-of-doors. This has to be performed often with very moderate conveniences, and it is often the case that positions can be found for pots where boxes would not stand. With regard to putting crocks in pots for bedding plants that are not to stand in the same more than a few weeks, I would say, Why use them at all, while a handful of the roughest of the compost will suffice if the pots do not stand on flat boards or soil, in which case they might become water-

logged. A year or two ago we had not sufficient pots for our bedding Pelargoniums, so were perforce compelled to do without them and make the best use we could of moss in the manner described by Mr. Gilbert. We adopted the plan, not for one season only, but for two, the last one, however, I should say reluctantly, for we had resolved not to again attempt it, and this principally on the ground of the time and labour required. The time taken up in mossing the plants and tying each with a piece of matting took us about as long as it would have done to pot three plants, and, instead of the work being performed in a week, it took three weeks, and in our case it did not prove nearly so satisfactory. I contend that the pot system has more to recommend it than might be supposed or it would not be so generally adopted, and, if my advice is worth anything, I would say to all those who can, Get pots and use them.—*C. Warden.*

Euphorbia Jacquiniæflora. — Allow me to supplement the list of midwinter flowers published in your issue for January 3rd by naming Euphorbia Jacquiniæflora as a very handsome and serviceable one. We have some half dozen plants in 4-in. pots (cuttings taken in the summer) plunged in cocoa-nut fibre refuse in a Cucumber-house, that have an average of 15 ins. of flower growth upon each single stem, and nothing could be prettier to brighten up a dull day. A few years ago we had a fine old plant in a pine stove planted out in a sort of slate trough, which gave us capital returns in the way of cut flowers. Since then, owing to alterations in the houses and other causes, the plant has died. Before this season we lost several plants, which I attributed to over-watering. Euphorbia Jacquiniæflora is impatient of being over-potted as well as over-watered, but with judicious management it will prove itself to be the best winter stove flowering plant we have.—*T. Simcoe, The Gardens, Lake House, Cheltenham.*

FRUITS.

Fruit Culture under Glass.—Vines.—All vines which have not already been pruned should be so treated without further delay. The laterals should be cut back to within half-an-inch of a good plump bud, irrespective of its distance from the main stem; removing at the same time with the knife all the intervening buds, excepting the one close to the base, which should be allowed to form wood for next year, when the shoot from which it sprung should be cut out as soon as the bunch of Grapes is removed from it. This done, remove all loose bark from the rods, and wash the latter well with a stiffish paint brush and soft soapy water (at the rate of 4 ozs. to the gallon), taking care in dabbing the brush and soapy water into every crevice of the spurs not to damage the buds in doing so. Prior to doing this, the glass and wood-work (the latter with soapy water) should be thoroughly washed, as also should the brick-work be washed with hot lime. The vines having been hung horizontally together over the front pipes, the surface of the border should then be pricked over more or less, according to the position of the roots, the loose soil should then be removed, and be replaced with the same quantity of a compost consisting of three parts of good loam and one of lime rubble and wood ashes well incorporated, following this with a surface dressing of a couple of inches thick of horse-droppings, and a good soaking of tepid water before the house is started.

Peach-trees.—The sooner trees in late houses are pruned, washed with soft-soap and water if necessary, and tied in proper positions to the trellis the better. I need scarcely say that as much of the old wood as can be dispensed with should be cut out, as well as superfluous young shoots, and some of those left should be shortened back to a wood-bud where necessary to secure a balance of growth in the individual trees. This object should never be lost sight of in pruning trees of any description. The shoots should be thinned out to from 4 ins. to 6 ins. apart, and these should be trained at the same angle on either side the centre of the tree, and should not be tied too tightly to the wires, otherwise they will not have room to grow without sustaining injury by the ties.—*H. W. W.*

VEGETABLES.

The Kitchen-Gardener's Calendar.—Weather permitting, make a small sowing of Nantes Horn Carrot on a south border, in drills about 1 in. deep and about 1 ft. apart, scratching a surfacing of fresh soot into the ground with a rake before doing so. It will enrich the ground as well as render it distasteful to wire-worms, which are sometimes very destructive to this crop. In a like situation, sow a pinch of seeds of Early London and Veitch's Autumn Giant Cauliflowers, Early Ulm, and Drumhead Savoys, Snow's Superb Winter White Broccoli, Large Carentan Leek, green and white Paris Cos Lettuce, Grand Admiral, and All the Year Round Cabbage-Lettuces, and Aigburth Brussels Sprouts, in beds 4 ft. wide, and having alleys 1 ft. wide between each. Cover the seeds lightly (about a quarter of an inch deep) with soil from the alleys, which should, if not already so, be broken fine before putting it over the seeds, and afterwards be raked and patted gently with the back of a spade to compress it.

Peas.—Make a good sowing of such varieties of Peas as Carter's Telephone or Culverwell's Telegraph thinly (about 3 ins. to 6 ins. from seed to seed) in drills (running north and south) 3 ins. deep, and 8 ft. to 10 ft. apart, the intervening spaces to be afterwards planted with three to four rows of Cauliflowers.

Make a planting of the largest of the autumn-raised Cabbage plants in a favourable situation in rows at from 20 ins. to 2 ft. asunder, and the same distance apart in the rows. Cover Seakale and Rhubarb crowns, first with a little wood or coal-ashes, and afterwards with a few inches thick of either long manure or half decayed leaf-mould as a protection from injury by frost. And for a like purpose, as well as at the same time to manure the soil, lay on a surface-dressing of a couple of inches thick of leaf-soil on herb-beds.

Forcing Department.—See that the supplies of Asparagus, Seakale, and Rhubarb are kept up by putting fresh roots of each into frames, or whatever convenience there may be at hand for their growth, at intervals of a fortnight or three weeks. The same remarks are also applicable to French Beans, Mustard and Cress (seed of the last two should be sown in boxes every week), Mint, and Tarragon.—*H. W. Ward.*

Broccoli and Cauliflower all the Year Round.—In reply to your request at p. 293, for information upon the above important vegetables, I beg to send you my experience. This place is situated in a high, cold and exposed part of North Yorkshire. The soil is of a strong argillaceous nature, therefore adapted for the growth of Broccoli, although not so well for Cauliflowers except in warm summers, such as that of last year. During the past two and-a-half years, we have not been a day without one or other, and to obtain this, we grow the following varieties with very satisfactory results — viz., Veitch's Extra Early Forcing and Walcheren: these are sown about the middle of August, and duly planted under hand-lights in a warm sheltered corner. Extra Early Forcing is not much known, nevertheless it is a distinct and valuable variety, dwarf and compact in habit. The heads are close and as white as snow—in short, it is a real gem either for a gentleman's table or exhibition purposes. It comes in about a week or ten days before Walcheren. A sowing made in January under glass of the same varieties make a nice succession, for the latter part of June and July, then a sowing out-of-doors in March of Walcheren and Dickson, Brown & Tait's Eclipse carries us into the autumn. I prefer Eclipse to Autumn Giant, inasmuch as it contains all the good robust, hardy qualities of the Giant without its strong flavour. Another sowing of these two sorts made early in April with the winter Broccolis takes our supply well into November. Then comes in one of the most valuable additions that has been made to Broccoli in modern times, viz., Veitch's Self Protecting. This fine variety bridges over the season between Cauliflowers and Broccoli of the old stamp; it may be had in use from October to January, and is then succeeded by Snow's Superb Winter White, which is in turn succeeded by Cooling's Matchless, Leamington, and Ledsham's Latest of All. This last is a very excellent new variety, but with me not so late as Veitch's Model, which might be described as a dwarf and compact form of the Wilcove. In every sense of the word it is a model late Broccoli that lasts until the middle of June, when Cauliflowers again become plentiful. So close and compact are the protecting habits of this kind that during spring it might easily be taken for some kind of Cabbage, reminding one of Gilbert's Chou de Burghley, but, unlike that variety, you may rely upon getting one hundred excellent heads of Broccoli from one hundred plants.—*James McIndoe, Hutton Hall, Guisborough.*

Allow me to supplement Mr. J. Knight's list of these vegetables by naming the Westwood Park as one of the best Broccolis I have ever grown for use during May. If I have a fault to find with it, it is that of turning in too quickly, so that if any large quantity is planted they are all ready nearly at the same time. This would be no fault, however, in the eyes of a market-grower. Carter's Champion and Carter's Summer come in about the same time, but I never could make out much difference between them. These come in about the end of May and beginning of June. Then one of the best varieties, which will carry us well into June, is Ledsham's Late White. It is impossible to say too much in favour of this sort—a comparatively new one. A few years ago I grew for two seasons a variety named Saunder's Mammoth Autumn Broccoli, whether the one mentioned as being sent out by Messrs. Sander, of St. Albans, I am unable to say, but the name was spelt as I have put it, and it was said to have been grown for some years by a market-grower. I have quite forgotten which firm sent it out. It was a splendid large-headed and white sort, but too large in growth to please, so I have lost sight of it. I find the same fault in Veitch's Self Protecting. The same firm's Autumn Giant Cauliflower is good, but many of the plants are apt to come blind. A very fine one that I have grown for several years as a companion to this, and following it closely, is Dixon's Eclipse; in fact, I like it better, for although the head is not so large, it grows more evenly.—*R. Stevens, Paston.*

Anent Parsley.—I have read with much interest, in last week's Gardening World, "M.'s" method of keeping up a continuous supply of Parsley, and shall try his plan next autumn, though I have a very successful way of my own for keeping up a supply of good, fresh Parsley all through the winter and spring. My plan is this: I sow the Parsley seed, Moss Curled variety, the last week in August, making a band 6 ins. broad and 12 yds. long down one side of a border in the kitchen-garden. As winter approaches and bad weather threatens, I place over my Parsley *Pea-guards*, which have been previously covered with strong canvas, and then oiled. By this simple means, my plants are preserved in perfect condition, and ready at all times, no matter what the weather may be, for culinary purposes or for garnishing. During favourable weather, the Pea-guards are just lifted off to one side, and replaced as occasion may require.—*Tom Jerrold.*

The French Vintage in 1884.—The official returns as to the vintage in France last year show that the total yield was 782,566,335 gallons, or 27,000,000 gallons less than in 1883, but 90,000,000 gallons more than in 1882. The yield was larger in thirty-nine departments than in 1883, notably in the Gers, the Pyrénées, Orientales, and several other departments in the south; but it was much smaller than in the previous year in the north-east and the east, owing to the severe frosts of the early spring. The ravages of the Phylloxera diminished the yield in several of the southern departments, and about 120,000 acres of vineyard had to be rooted up in the course of the year. More than 60,000,000 gallons of "wine" were made from Raisins, mostly imported from Greece, and from the lees of the Grapes after they have been pressed. Upon the other hand, there is a slight increase in the quantity of wine made in Algeria, upwards of 18,000 acres having been planted in vines since the beginning of the year. It so rarely happens that Apple-trees "bear" a large crop two years in succession that it is not surprising to find that the cider crop, which reached the enormous total of 540,000,000 gallons in 1883, was not quite half as much last year.

THE

Orchid Growers' Calendar.

Odontoglossum Londesboroughianum.—Those who have not succeeded in growing and flowering this Orchid will do well to try the plan recommended by Mr. O'Brien in his excellent and very interesting note upon the subject at p. 284. I have flowered it for the last three years under rather different treatment to that practised at Mr. Pollett's. The plants here are grown and rested in the Cattleya-house. They are fastened to charred blocks of wood, and then placed in pots, the remaining space in the pots being filled up with broken charcoal alone, as I have found that they thrive far better without any moss or peat about their roots. When the plants begin to grow, great care is taken not to allow any water to lodge in or about the young breaks, but when the bulbs are about half made up I drench the roots with water, and continue doing so until the bulbs show their flower-spikes. After flowering comes their resting season, when they are kept as dry as a deciduous Dendrobium. It is possible to grow Odontoglossum Londesboroughianum well and yet not flower it. The other day I saw a quantity of well-grown plants, and not 10 per cent. of them had flowered. My experience teaches me that without plenty of sun and light to bring about a well-hardened or ripened bulb this Orchid will not flower. The first plant I had to deal with refused to flower at all for two or three years until it was hung up close to the glass by the side of a Cattleya Walkeriana. The best varieties of this Odontoglot (such as we are fortunate enough to have here) far surpass in richness and depth of colour any yellow-flowered Oncidium that I am acquainted with, and it is only by seeing the different varieties side by side that we can realize the superiority of one variety over another.—*T. Simcoe.*

Lycaste lanipes.—This I look upon as a very chaste and free-flowering Orchid. It usually blooms late in the autumn, but with us it is finely in flower now, and two bulbs have produced twenty-two flowers! which would be of ivory whiteness but for a slight suffusion of green; the lip is flat, and beautifully fringed. Those who are not well acquainted with this Lycaste may be glad to know that it will thrive under exactly the same treatment as L. Skinneri.—*Thomas Simcoe, The Gardens, Lake House, Cheltenham.*

Dendrobium formosum giganteum.—A striking instance of what may be done with this plant by good culture, even when it has got into what is supposed to be an irreclaimable state, is now to be found in the gardens of John Gwynne, Esq., at Kenton Grange, near Edgware. About two years ago Mr. King, the gardener, took in hand two plants of it which had steadily been going back until they had got into a very bad state. They were placed on bare blocks and suspended in a rather cool intermediate house, and water was given them from time to time to keep them from shrivelling. They soon sent forth new growth and roots, and then water was given to them every day, as there was no stuff about them to get soddened. The growths when completed were small but healthy, and sufficed well to carry the plant over until the next growing season. The growths made last year are marvellous, some of them being nearly 2 ft. in length and proportionally thick, and they were moreover in flower for three months last summer, their large snow-white and orange blooms being very beautiful. Mr. King attributes his success to their being kept in a tolerably cool and rather dry temperature all the year round, and to their being on bare blocks and rather profusely watered at the root.

Cypripedium niveum.—This lovely species frequently refuses to grow freely; and I have found that when a plant or plants once get into an unhealthy state, they seldom start into vigorous growth again. A mixture of turfy-loam, peat, sphagnum, broken bits of pots and charcoal is the best compost, according to my experience. The plants do not thrive when the compost is pressed too firmly round their necks, it chokes them, and they die off gradually, one leaf after another dropping off. Keep the plants near the glass in the warmest house, but if they are in a bad state, it will be best to start with a healthy lot.—*G. G.*

Cypripedium Spicerianum requires treatment very similar to that of C. niveum, but it is a more vigorous growing plant. I do not know whether twin flowers are produced by cultivation, or whether it is that isolated varieties in a collection have this characteristic. The finest grown plants I have seen were in a corner of a house in Messrs. Veitch's nursery at Chelsea, the one devoted to Phalænopsis, and two or three only gave twin flowers. We have but one plant in our collection of Orchids, a small one, which produced two twin-flowered stems and a single one. I have seen this species growing in turfy-loam, and making healthy development.—*G. G.*

Cypripedium insigne.—This old species is not so much valued as it ought to be, the typical variety is very pretty, and some of the varieties such as Maulei are amongst the finest of Ladies' Slippers. A large group of well-flowered specimens is now a good feature in the Orchid-house at Kew, one plant of Maulei is there to show its superiority over the typical varieties. This species succeeds well in the coolest house.—*G. G.*

Masdevallia Tovarense.—One of the prettiest of white flowers at present in gardens is this chaste Orchid, and it is now so plentiful that we may even expect to see it as a pot plant in the market. It seems difficult to realize the fact that only a couple of years ago or so people used to run about with five or ten guineas ready for a plant of it if they could get it. It ought to be generally known that it is wasteful to cut spikes of flower of this plant, as the old spikes go on flowering for years. The flowers ought therefore to be cut and wired where possible, for by letting the old spikes accumulate with the new the plants can in time be got to be covered with flowers.

Lycaste Smeeana.—This, one of the earliest complications of L. Skinneri, which hitherto has kept pretty distinct, is now in flower with Henry Little, Esq., at Hillingdon Place, near Uxbridge. Its petals, which are longer and narrower than those of L. Skinneri, are white, and the lip is prettily suffused with rose. It is a very pretty variety, looking like a Lælia Skinneri, with the shape of L. Deppei. A pretty white margined form of Odontoglossum vexillarium rubellum is also finely in bloom with Mr. Little.

Orchid Sales.—The sale of the last portion of the Fallowfield collection of Orchids is announced to take place on Tuesday, February 3rd, at Messrs. Protheroe & Morris's Rooms. At the sale of the third portion on the 6th inst., some plants in flower realized very good prices. A white variety of Lælia anceps from St. Albans, fetched twenty-four guineas; an Odontoglossum Pescatorei with a large dark spot on the lip, was knocked down for twenty guineas, and another fine white variety for ten guineas. An unusually good variety of Cattleya chocoensis fell to a bid for eleven guineas. A nice piece of Cypripedium selligerum majus fetched twenty guineas, and the sale wound up with 400 lots of imported plants of Odontoglossum Alexandræ, for which there was a brisk demand.

Alocasia guttata var. imperialis.—A new variety under this name is figured and described in the December number of the *Illustration Horticole.* The leaves are about 1½ ft. long by 9 to 12 ins. wide, purple beneath, greyish-green above, with blackish-green veins, and the spathe white. It is said to surpass the species for effect. Both were imported from Borneo, the species by Messrs. Veitch, and the variety by the Compagnie Continentale d'Horticulture of Ghent. It is a charming and effective plant.

VINES AND VINERIES.

These will now be demanding attention, for soon the sap will again be in rapid circulation, and if vines are not pruned at once they will bleed, as it takes some little time for the wounds made by the knife to heal or close at the pores, and if the fluid once begins to escape there is no stopping it, for it rises and flows with such force that styptics fail to keep it in, and the drop, drop, day after day, causes a serious drain to the plants, which become so weakened after the heavy loss that they have the greatest difficulty in starting their buds, and when they do this it is but feebly, as the young shoots have nothing behind them, and they flag from want of support. In pruning vines it is only necessary to leave one eye at the base of each shoot that has to be removed from the spurs, which, if more are allowed to remain, soon get long, and not only become unsightly, but knarled and knotted, when they impede the circulation and thus starve the Grapes.

When the rods get in the unsatisfactory condition referred to, it is a good plan to run up fresh ones between the others, and the first year after this is done they should be cut back half way so as to make them break below, and where they do this the spurs of the old vines may be removed to make room for the new shoots, which will then have light and room for the leaves. If there is any fear of the wounds bleeding, they should be smeared by just rubbing them over with thin white lead, which I like better than the styptics sold, as they kill the wood where they are used, which dies back some way, and if the cut happens to be close to a bud that is destroyed by its strength. The pruning over, the next thing is to think about the cleaning, which is a very important matter, as by a thorough routing out and washing insects may be got rid of, and a fresh and fair start made for the season.

The skinning of the vines, however, so commonly carried out, cannot be too much condemned, as it is a most barbarous practice, productive of much harm, especially when they are peeled close, as the inner skin is bruized, damaged, and exposed, which causes contraction and prevents further swelling, as may be seen with vines that have been subjected to this unnatural treatment. All the bark that should be taken away is that which hangs loose and ragged, beyond which all ought to remain, as it forms a shield and protection against the sun's rays, and the drying influence it has on the rind. If scale, thrip, or other insects are supposed to be lurking on the stems, they may be got rid of by a washing or dressing of nicotine soap, which is a powerful and safe insecticide to use, as, unless put on unnecessarily strong, it never injures plants, but cleanses them and makes them look bright and clean after. The quickest way of applying it is to syringe it on, but in doing this it should be made to wet every part, as it only kills where it touches; but if made to penetrate every lurking-place, there is no escape for the parasites.

Not only is it requisite to be particular about the vines, but the paint, wood-work and glass should be thoroughly washed, which may be done by the aid of a good scrubbing-brush and big dusting-brush, the latter being of great use for the glass, as the long, soft hairs may be brushed over its inner surface rapidly to set free the slimy deposit on it, which can then be rinsed off by a force of water sent on by the garden engine, and as soon as the walls have got a little dry, the next thing is to give them a thin coat of lime-wash, when all will be ready for the season's campaign, and forcing may begin at once, with every chance of success; but to render this more certain the border must be covered to keep out the frost. Some pile on a lot of fermenting material, but that, like the peeling, does much more harm than good, as though it may start the roots into active motion, it causes a closeness of the soil, from which it shuts out the air. Instead of the hot stuff, reeking and steaming, it is far better to place a few dry leaves on, and throw over them a little fresh straw to prevent them from being blown about, which light covering will preserve sufficient warmth, and afford all the protection the vines need against changes of weather.

Forking over the surface, or the digging of vine borders, is bad, as neither can be done without damaging the surface-roots, every one of which should be encouraged and preserved with the greatest care,

as they are the feeders that are most to be depended on in keeping the vines in a healthy fruit-bearing condition. Nothing helps them so much in these respects as a top dressing, given either now or later in the spring, when it acts as mulching, and gradually enriches the soil below by the washing it undergoes on rain passing through it. The best mixture I have ever used, and one that has produced the most satisfactory results on the vines, is lime, soot, and manure, which I store together, and turn over in a shed, so as to keep all dry till the time comes for putting it on. The soil of a vine border may be rich and good, but if it lacks calcareous matter there is much in it that the roots cannot make use of, and lime is essential in getting fine Grapes, although I do not care for it put in the border, in the form of rubble, as is done by many.—*Alpha.*

SWAKELEYS.

Swakeleys—the fine old mansion—the seat of T. T. Clarke, Esq., near Uxbridge, lately had a narrow escape from destruction by fire. The fire broke out in the ball-room, which was considerably damaged, and a valuable picture destroyed before the flames were extinguished. Swakeleys is a fine specimen of the Elizabethan style of architecture, and the destruction of the historical house would have been a loss to the country. It was built in 1638, by Sir Edmund Wright, whose daughter, marrying Sir James Harrington, one of Charles I.'s judges, he became possessed of it, *jure uxoris.* Sir Robert Vyner, Bart., to whom the property was sold in 1665, entertained Charles II., at Guildhall when Lord Mayor. Samuel Pepys, in his Diary, records a visit he paid there on September 7, 1665. He describes it as "a place not very moderne in the garden nor house, but the most uniforme in all that ever I saw, and some things to excess. Pretty to see over the screene of the hall (put up by Sir J. Harrington, a Long Parliament man), the King's head and my Lord of Essex on one side, and Fairfax on the other; and upon the other side of the screene the parson of the parish and the lord of the manor and his sisters. The window-cases, door-cases, and chimnys of all the house are marble. He (Sir R. Vyner) showed me a black boy that he had, that died of consumption, and being dead, he caused him to be dried in an oven, and lies there entire in a box."

EXTRAORDINARY TITHE.

Mr. J. Headley, of Goudhurst, Kent, writes on January 10th: — "The Ecclesiastical Commissioners of England—through their agents—have just seized the whole of my Hop poles in two gardens for the payment of the above, up to October last, and will proceed to sell the same by public auction on Thursday afternoon next, if the amount be not previously paid. Although extremely inconvenient and unpleasant to me, I am determined to offer passive resistance to the law, and allow it to take its course, thereby adding one more to the many practical protests that have been made against this unfair and and obnoxious tax. I do hope Mr. Gladstone may see this letter, and that he may be induced to do something in the next session to relieve the Hop, Fruit, and Vegetable growers from this great impediment to employing capital and labour. Mr. Gladstone will recollect advising the farmers to grow more jam and less corn, but he surely forgot at the time this burden on fruit land. It may not be generally known —but it is no less true—that in a great many parishes, particularly in Sussex, this extraordinary tithe amounts to more than the actual rent of the land itself, and is an extra tithe over and above the ordinary tithe. This is handicapping the home grower with a vengeance."

Ardisia polycephala.—This is a neat little stove-plant, though larger than the well-known A. crenulata. The leaves are dull full-green in colour, and obovate in shape. In the summer months it bears short racemes of white flowers, which are followed at the present season by shining jet-black berries of the size of peas, which remain in perfection for months. It succeeds under the same treatment as the better-known A. crenulata, and may be seen in the stove at Kew.

Letters to the Editor.

SALT FOR VINE BORDERS.

In your issue of the 10th inst., p. 301, a correspondent expresses a wish to know whether any of your readers have used common salt as a dressing for vine borders, and mentions my name in connection with the subject. I may tell your correspondent that I have used salt as a dressing for vines and other fruit-tree borders for many years, and with marked success. I apply it in the following way:—To three barrowfuls of soot and three of fresh slacked lime I add a small barrowful of common salt, or a little less than a sixth of the whole, and well mix them together. This compost is sown on the border pretty thickly in spring, before being mulched over with a covering of rotten dung and allowed to be washed in by the summer rains, or in the event of a dry season with the watering-pot. Inside borders are treated in the same way, and the result is quite a success.

I tried this compost first upon a row of Raspberries, and the good effect of it was so convincing that it struck me at once that what was good for Raspberries would be good for vines, and ever since I have applied it as stated. Of course, your readers are aware that salt must be used with great caution, and must not be allowed to come in contact with any tender herbage in the open-air, or death will be the result.—*Geo. Johnston, Glamis Castle, Forfar, January 14th.*

SPARROWS AND THE FRUIT-BUDS.

In the comments on the damage caused by sparrows in your issue of the 3rd inst., you mention the fact of their taking the Corn, Peas, &c., but that, in your opinion, the damage they do is more than counter-balanced by the number of insects they destroy. This view of the question I beg to fully endorse. But among the many indictments preferred against these impudent, although withal interesting, little birds, there is yet another, for this morning I watched three or four of them sunning themselves on a Plum-tree, and occasionally picking off something—apparently the young buds. To verify this I inspected the sprays on which they had been standing, and discovered that many of the buds had been pecked away, fully 50 per cent. of those originally there. Is the fact of sparrows taking the young fruit-buds generally known?—*W. C. J., January 6th, 1885.*

PASSIFLORA CŒRULEA.

One would hardly suspect that he was in the latitude of London and in the middle of January if he could be suddenly dropped down in front of a large villa which the writer has now in his eye. On the front of this house a large Passiflora cœrulea is trained, and last autumn this plant was loaded with its beautiful orange-coloured fruit. After Christmas we should usually expect to find that all the glory had departed, but not so in this exceptional winter. The foliage and fruit are still almost as bright as ever, and the plant remains a picture of beauty. Truly this is one of our most beautiful hardy climbers.—*X.*

TOMATOS IN WINTER.

Will some of your practical readers give me the benefit of their experience as to the best sort or sorts to grow for producing fruit from December to the end of March, and also say where examples may be seen at the present time, either ripe or ripening? Hints as to treatment would also be acceptable, providing they are supported by a reference to practical illustrations. Much having been written of late on the flavour of the Tomato, will anyone give me the name of a variety that might be taken as a standard of flavour? The latter question cannot probably be satisfactorily answered, except by those who may have grown an extensive collection during the summer, but I should be obliged for any hints on the subject. —*Inquirer.*

POTATOS FOR AN AMATEUR.

I would recommend "A Sussex Amateur" to try the following sorts as being valuable both for exhibition and table, viz.:—*White Rounds:* Schoolmaster, Dalmahoy, Fillbasket, and Sutton's Early Regent. *Coloured Rounds:* Grampian, Vicar of Laleham, and Pink-eyed Don. *White Kidneys:* Myatt's Improved Ashleaf, Early King Offa, and Snowflake. *Coloured Kidneys:* Wonderful Red and Beauty of Hebron, and I may add other four sorts, Clyffe Hall, Reading Russet, Queen of the South, and Sir Garnet Wolesley. There are numerous other sorts that are good for exhibition, but I mention the best that will combine the following qualities—Best for table, best (if well grown and shown) for exhibition, and good croppers. With respect to treatment I assume that he has his ground in a hearty, healthy condition, well worked, loose and friable, and free from weeds. He cannot go far astray in turning it over repeatedly. His land being ready for planting, he must have his seed at hand. If medium or large Potatos, cut into proper set size—a single eye, if healthy and strong, will be quite sufficient; when cut, be careful to spread out the pieces thinly, so that the flesh wound may heal up and dry, and this should be seen to at least three or four days before planting. According to custom the planting may either be done in drills on the level or in furrows; if the spade is used the level will be the easiest and most simple. Make the drills 28 ins. to 30 ins. apart, and plant the sets about 12 ins. from each other. If the land has had no farmyard-manure dug in during the winter, give a fair quantity in the drills, but not over much, as Potatos are easily ruined by too much manure. Besides the farmyard-manure add a little artificial, say Peruvian guano, which gives the Potato a start. A few weeks after planting he cannot go wrong in forking between the rows, taking care not to break any of the sprouts; and this may be continued at intervals as often as possible until the Potatos are ready to earth up. This should also be done if possible three times, and always when the soil is a little damp, as it will stick closer up to the haulms than when dry and powdery. To secure good Potato crops get good sound seed from some distance, having an entire change of climate and soil.—*Wm. Kerr, Dargavel, Dumfries, N B.*

If "A Sussex Amateur" wishes to have some good Exhibition Potatos during the coming summer he should first prepare his soil by trenching it 2 ft. in depth, breaking the bottom well up and keeping the best soil on the surface. A liberal dressing of stable manure and a free sprinkling of soot should be dug in as soon as the trenching is done, and the ground may lie till the end of March or first week in April ere it is planted. In doing this, make the rows for the earliest kinds 3 ft. apart, and the coarse growing late kinds 3½ ft. apart. Begin by straining a line across at one end of the trenched ground, and throw out a furrow beside it the width of the fork, and about 4 ins. in depth, and thus working backward, so that the furrow is not trodden in. Then lay the sets in the furrow 15 ins. to 18 ins. apart, according to growth. Give, if to be had, a free dressing of wood ashes, and then fork in the soil, throughout leaving the surface smooth and even. Carry on this plan till all the ground is planted, and just as the plants come through the soil the spaces between the rows may be forked up, and the soil will thus be light and friable for earthing.

Your correspondent will find a first-class selection of kinds, both for show and table in the following:—Midsummer Kidney, white, and Beauty of Hebron, pink, first early kidneys; Sunrise and Early Border, first early white rounds; Cosmopolitan and Fidler's Success, second early white kidneys; Cardinal, red, and Edgcote Purple, kidneys; Schoolmaster and Prime Minister, late white rounds; and the Dean and Bedfont Rose, late coloured rounds. A good deal of nonsense is written by those who do not know about the merits of new kinds of Potatos. The new ones here mentioned are first-rate at all points.—*D.*

As an old Sussexonian I have great pleasure, in reply to an inquiry of "A Sussex Amateur," in your last week's issue, in recommending the following twelve sorts of Potatos to meet his requirements—namely, "a dozen good sorts that would prove at once suitable for show and for table, also good croppers." *White Kidneys*—Early May Flower (early), Cosmopolitan (medium season), Woodstock Kidney (medium). *White Rounds*—Sutton's Early Border (early), Bresee's Prolific (medium). *Coloured Kidneys*—Beauty of Hebron (early), Sutton's

Prizetaker (medium), Fenn's Bountiful (medium). *Red Rounds*—Sutton's Reading Russet (medium), Vicar of Laleham (medium). *Coloured Rounds*—Radstock Beauty (medium), Blanchard (medium).

The above are now well in commerce and are tried, and proved favourites, and can be bought cheap. If exhibition varieties only are wanted no doubt International, white kidney, and Mr. Bresee, coloured kidney, have produced some of the finest dishes that have been staged at the great Potato Shows this year, but, unfortunately, on many soils their quality is not to be commended, although, for beauty and cropping combined, they are probably unsurpassed in their two sections. If The Dean can be obtained I would substitute it for Vicar of Laleham, from which it is a seedling and a great improvement, but being of modern introduction it is not everywhere to be obtained.—*J. Knight, Bilston.*

HORTICULTURAL SOCIETIES.

Royal Horticultural. — *January 13th.* — The winterly weather experienced in the metropolis early in the week, prevented all but a very few flowers being sent to South Kensington on Tuesday, consequently the meeting was one of the smallest on record. There was, however, a good gathering of members of the Committees as composed last year, the new lists for the present year not having been sanctioned by the Council. Baron Schroeder, The Dell, Egham (Mr. Ballantine, gardener), showed in Odontoglossum Schroederianum, a very fine novelty of the crispum type, with large flowers, pure white ground, heavily barred and blotched with rich purple-brown—a pretty flower which gained a First-Class Certificate. From the same rich collection also came a distinct and pretty variety of Masdevallia chimœra named Shieldsiana, and cut blooms of a lovely variety of Cattleya Percivaliana, in which the tints of orange in the throat and crimson and purple on the labellum were of the brightest description.

Sir Trevor Lawrence Bart., M.P., Burford Lodge, Dorking, showed several plants in flower of an interesting hybrid Cypripedium, the result of crossing C. punctatissimum and C. Spicerianum. It has a large white dorsal sepal, in some cases cup-shaped as in Spicerianum, and the others flat as in the normal forms. The very pretty Barkeria elegans, with light rose-pink sepals and petals, and a blotch of the richest purple on the lip, came from the collection of F. A. Philbrick, Esq., Q.C. (Mr. Heims, gardener), and was awarded a First-Class Certificate. A hybrid variety of Odontoglossum Alexandræ, named Josephine, with medium-sized flowers spotted with crimson, was shown by R. H. Measures, Esq., The Woodlands, Streatham, and Mr. H. James, The Castle Nursery, Norwood, besides exhibiting a very fine variety of Cattleya chocoensis (noted in our last issue), had a very good form of Sophronitis grandiflora, Odontoglossum Alexandræ var. Trianæ, a large-flowered variety of good form, pure white ground, spotted with pale brown; and a flowering specimen of Odontoglossum aureo-maculatum. A first-rate variety of Odontoglossum Jenningsianum came from W. Vanner, Esq., Chislehurst, together with an excellent form of Odontoglossum Rossi majus.

Mr. B. S. Williams introduced to public notice for the first time another valuable addition to the evergreen section of Amaryllis, in a charming hybrid between the evergreen A. vittata and a deciduous variety named Defiance. It has been named Comte de Germiny, and was awarded a First-Class Certificate. Like its prototypes, Mrs. Garfield and Mrs. William Lee, it is a remarkably free bloomer, but is quite distinct from them in colour, being a bright rose, shaded with crimson, and prettily veined. Messrs Cannell & Son, Swanley, brought up some plants in flower and cut blooms of that valuable warm-house winter-blooming plant, Centropogon Lucyanus, the merits of which were duly acknowledged by the award of a First-Class Certificate. The same firm also showed the æsthetic Cineraria cruenta, and C. cruenta improved, a vastly superior thing to the former, having larger blooms, broader florets, and deeper rosy purple colour; and cut blooms of Mrs. Charles Carey and Ceres Chrysanthemums, both white-flowered Japanese varieties, highly appreciated for their late flowering propensities. An anemone-flowered Pompon named Queen, but much resembling Virginale, came from Mr. J. Child, gardener, Garbrand Hall, Ewell.

Mr. R. Clarke, Twickenham, received a First-Class Certificate for the brightest ruby-crimson coloured Cyclamen we have yet seen, and which is named Albert Victor. The plant is a neat grower, and its pale green handsomely mottled leaves show off its rich coloured blossoms to the greatest advantage. Messrs. Hooper & Co., Central Avenue, Covent Garden, exhibited a small collection of winter flowering Carnations, the pick of the basket being Irma, a rich satin-rose flower of good size and substance, combined with a dwarf free-flowering habit. Messrs. Page & Sons, of Teddington, also sent some choice Cyclamens in Acme, rose pink, and Excelsior, pure white.

The Fruit Committee had before them a very beautiful lot of Apples sent up by Mr. Ingram, of Belvoir Castle, to illustrate the character of the orchard produce of North Leicestershire, and the capabilities of its heavy soil as a commentary on the report made by Messrs. Harrison & Sons, of Leicester, in their remarks on Leicestershire Apples published in Mr. Barron's Apple Congress Report. The culinary varieties were of the first size and quality, free from spot or blemish and brightly coloured. The Blenheim Oranges were of a size and colour such as is not commonly seen even in the South, while of Rosemary Russet, Peasgood's Nonsuch, Lord Derby, Stirling Castle, Betty Geeson, Beauty of Kent, Bramley's Seedling, Warner's King, Rymer, and Gloria Mundi the samples were all that could be desired. The dessert varieties shown were equally fine of their kind as regards size and colour, the leading sorts being King of the Pippins, Court of Wick, Winter Pearmain, Cox's Orange Pippin, Pomme d'Api, Ribston Pippin, and Margil. The Committee recommended the award of a Bronze Medal. Messrs. Richard Smith & Co., of Worcester, sent some examples of a seedling Apple raised from Blenheim Orange, resembling a small Russet, pleasant in flavour, and a late keeper. The tree is said to be a free bearer, and the sort much liked by fruit growers in the Worcester district. Messrs. Elsdon & Co., Milton, Cambridge, also exhibited samples of a seedling Apple which the Committee considered a very good one, and requested to see it again. The fruits are of medium size, somewhat flat, and prettily coloured.

National Auricula, and National Carnation and Picotee Societies (Southern Section).—Committee meetings of these Societies were held on Tuesday, in the conservatory of the Royal Horticultural Society, South Kensington, Shirley Hibberd, Esq., in the chair. The following members of the recently constituted committees were present: Dr. Masters, Dr. Hogg, Messrs. H. Cannell, J. James, E. Hill, B. S. Williams, H. A. Rolt, C. Turner, H. J. Veitch, J. Laing, and J. Douglas, honorary secretary. The rules for exhibitors were revised and the schedules for each Society were ordered to be printed. Judges were appointed for both Societies. The treasurer was instructed to apply to Mr. E. S. Dodwell for a statement of the accounts of the two Societies, and for a remittance of the balance of cash in his hands belonging to the respective Societies.

The following are the rules for exhibitors which were adopted after some discussion on clause 5:—

1. An exhibitor can win one prize only in one class, except in the class for seedlings, in which there is no limit; and in single specimens he may not exhibit more than two in each class, but may win two prizes with both exhibits.

2. At the time when the judges commence their work all persons present save the officers and their assistants shall retire from the exhibition. The decision of the judges shall be final.

3. All plants and flowers shown in the schedule classes must have been the *bonâ fide* property of the exhibitor or his employer at least two months previous to the date of the exhibition.

4. Plants and flowers submitted for certificates must be staged separately from collections, in a place allotted by the Committee, and shall be adjudicated upon by the judges only, save that the judges may, at their discretion, obtain the assistance of other persons in making their decisions.

5. No person shall be allowed to compete as an amateur who publishes a list of plants for sale, or who advertises them in any form whatever, with the exception of seedlings of his own raising.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

On Wednesday evening, the forty-seventh annual meeting of the subscribers to this Institution was held at the Bedford Hotel, Covent Garden, under the presidency of Edward Tidswell, Esq., the Treasurer. From the annual Report we learn that eleven pensioners died during the year; that the forty-first annual Festival held last summer had been a great success; that £600 Consols had been added to the reserve fund; and that an increased amount had been paid in pensions. The collection made in aid of the Pension Augmentation Fund had also been most successfully carried out, the amount collected up to December 15th, 1884, being £1,762 4*s.* 3*d.*, to which must be added the sum of £489 15*s.* received up to January 14th. The generous donor who had promised £500, conditionally upon £1,750 being raised during the year to increase the reserve fund to £20,000, had been communicated with, and in due course the promised sum will be paid to the bankers. The report also alluded to the loss the Institution had sustained by the death of the Duke of Buccleuch and H. G. Bohn, Esq.; to the election of the Duke of Westminster as President, and of George Lambert, Esq., as a Vice-President; and to the fact of a Sub-Committee having been appointed to revise, where necessary, the rules of the Institution, more particularly those referring to the amount of the pensions. The number of pensioners on the list at the close of the year was forty-nine women and forty-four men. The following are the balance-sheets presented:—

Statement of the receipts and payments of the Gardeners' Royal Benevolent Institution for the year ending December 31st, 1883.

Dr.	£ s. d.	£ s. d.
To Balance, 1883		366 6 4
,, Annual Subscriptions	1,189 2 6	
,, Donations	786 15 1	
,, Advertisements	53 11 0	
	2,029 8 7	
,, Dividends on Stock	456 15 0	
		2,486 3 7
		£2,852 9 11

Stock in Three per Cent. Consols, £15,950.

Cr.	£ s. d.
By Pensions	1,372 0 0
,, Secretary's Salary	160 0 0
,, Printing	121 1 6
,, Stationery	20 1 6
,, Book of Cheques	2 1 8
,, Hire of Committee Room	5 0 0
,, Advertising	8 9 0
,, Expense of Annual Dinner	74 2 8
,, Postages, Travelling Expenses, and sundry Petty Expenses	100 19 9
	1,863 16 1
,, Purchase of £600 Consols	602 5 0
	2,466 1 1
,, Balances, viz.: £ s. d.	
With Treasurer at Bankers ... 374 15 11	
,, Secretary 11 12 11	
	386 8 10
	2,852 9 11

Balance sheet of the Pension Augmentation Fund for the year 1884:—

Dr.	£ s. d.	£ s. d.
To Balance, 1873		13 13 2
,, Amount collected	1,762 4 3	
,, Dividends on £2,400 Victoria Bonds	94 0 0	
,, Advertisements	3 10 0	
		1,859 14 3
		£1,873 7 5

£3,900 Four per Cent. Victoria Bonds deposited at Messrs. Glyn, Mills & Co.

Cr.	£ s. d.	£ s. d.
By Purchase of £1,500 Victoria Four per Cent. Bonds		1,552 15 0
,, Printing	22 5 3	
,, Stationery, Certificates, &c. ...	7 5 10	
,, Postages, Circulars, &c.	62 4 2	
,, Honorarium to Secretary.. ...	88 2 0	
		179 17 3
		1,732 12 3
,, Balance at Bankers		140 15 2
		£1,873 7 5

On the motion of Dr. Masters, seconded by Mr. Nutting, the report and balance-sheet was adopted *nem. con.* The following gentlemen were then elected to serve on the Committee—viz., Mr. John Lee, Mr. B. S. Williams, Mr. Thomas Moore, Mr. Charles Pilcher, Mr. T. A. Dickson, and Mr. W. Richards, in the place of Mr. J. F. Meston, Mr. J. Peel, Mr. J.

Sweet, Mr. Turner, and Mr. J. Webber, who retire by rotation, and Mr. Gray, deceased. Mr. Tidswell was again elected Treasurer, and Mr. Cutler, Secretary, for the forty-fourth time. At 7 p.m. the poll for the election of pensioners was closed, and the 1,600 voting papers sent in having been tabulated and counted, it was found that the following persons had been successful:—Martha Swansborough, William Birkett, Richard Hawkins, George Urquhart, Anna Maria Allan, Elizabeth Foulis, Elizabeth Parr, and Mary Rabbitt.

At eight o'clock most of the members of the Committee and numerous friends and supporters of the Institution, sat down to supper at "Simpson's," with Nathaniel Sherwood, Esq., in the chair, and a very pleasant evening was spent.

ANSWERS TO CORRESPONDENTS.

RANUNCULUS.—*Ceres.*—The roots may be planted either this month or next if the weather is favourable, but in a general way it is best to defer planting till February. During open weather the bed should be well dug and have a good dressing of manure worked into it at a depth of about 6 ins. below the surface. When the ground is in nice working order, make the surface level, and stretching a line down the bed, draw out a drill about 2 ins. deep, put a good sprinkling of sharp sand in the bottom, and on this press the roots, claws downwards, at about 5 ins. apart. Draw the soil into the drill again, and finish off with the rake. The rows should be 6 ins. apart.

GRAPES.—*J. Jones.*—The vine at Sillwood Park, Sunninghill, is a descendant of that at Cumberland Lodge, and fills a house 129 ft. long and 12 ft. wide. Its average crop is 1,800 bunches.

BOOKS.—*G. Wilson.*—You should read Mr. George Bunyard's *Fruit Farming for Profit* (published by F. Bunyard, 29, Week Street, Maidstone), and Mr. Whitehead's book on Fruit Growing, issued under the auspices of the Fruiterers' Company.

COMMUNICATIONS RECEIVED.—T. M.—W. C. & Son.—T. S.—W. S.—S. & S.—W. K.—R. S.—W. H.—R. A. M.—W. B. Glasscock.—R. Gilbert.—W. P. R.—W. & S.—C. F. E.—J. D. D.—W. C.—Man of Kent—J. V.—T. C.—C. W. S.—X.

Trade Catalogues Received.

WILLIAM RUMSEY, Joyning's Nurseries, Waltham Cross, N.—Select Seeds for the Garden and Farm.

JAMES COCKER & SONS, Sunnypark, Aberdeen.—Hardy Herbaceous Plants, Forest, Fruit and Ornamental Trees, &c.

THOMAS M'KENZIE & SONS, 34, Dawson Street, Dublin.—Vegetable and Flower Seeds.

COLLINS BROTHERS & GABRIEL, 39, Waterloo Road, S.E.—Seeds, Bulbous Plants, &c.

FOTHERINGHAM & WALLACE, Dumfries.—Vegetable and Flower Seeds, &c.

NOTICES TO CORRESPONDENTS.

THE EDITOR begs to inform his readers that special attention will be paid in the columns of THE GARDENING WORLD, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "THE EDITOR."

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired but simply as a guarantee of the writer's bona fides. No notice what ever will be taken of anonymous letters.

LONDON SEED TRADE.

January 14th, 1885.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report an improved demand for Clover Seeds, prices for all varieties being exceptionally low; early buyers are securing their full supplies. White Clover is dearer. Alsike and Trefoil unchanged. American Red Clover, although quite neglected here, has advanced 2*s.* per cwt. Spring Tares have advanced 2*s.* per quarter. Blue Peas unchanged. Bird Seed firm. Linseed dearer.

COVENT GARDEN MARKET.

January 15th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Kent Filberts and Cobbs, per 100 lb.	60 0-
— Nova Scotian, per barrel	10 0-15 0	Pine-apples, Eng., lb.	1 0- 2 0
— Extra samples	18 0-	Pears, French, p. doz.	6 0- 9 0
Grapes, per lb.	1 6- 4 0	St. Michaels	5 0-10 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	- 1 0	Horse Radish, bundle	3 0- 5 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	1 6-
Brussels Sprouts, p. lb.	0 4-	— Cos, each	0 2-
Cabbages, per dozen	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	2 6- 3 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 9- 1 3	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	0 6- 1 0
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Narciss, Paper White	2 0- 3 0
Azalea, 12 sprays	1 0- 1 6	Pelargoniums, per 12 sprays	1 0- 2 0
Bouvardias, per bun.	1 0- 1 6	—scarlet, per 12 sprays	0 9- 1 0
Camellias, 12 blooms	3 0- 8 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 6- 3 0	Poinsettia, doz. heads	3 0- 9 0
Chrysanthemums, 12 bunches	12 0-24 0	Primula, double bun.	1 0- 1 6
— large, 12 blooms	2 0- 4 0	Primulas, Chinese, bun	4 0- 6 0
Cyclamen, doz. blooms	0 3- 0 6	Pyrethrum, 12 bun.	-
Cineraria, per bunch	1 0- 1 6	Roses, outdoor, 12 bunches	-
Epiphyllums	4 0- 6 0	Roses, indoors, p. doz.	2 0- 6 0
Eucharis, per dozen	6 0- 9 0	Roses (French), per doz.	1 6- 3 0
Gardenias, 12 blms.	18 0-30 0	Stephanotis, 12 spr.	-
Heliotropes, 12 sprays	0 6- 1 0	Tuberoses, per dozen	2 0- 4 0
Hyacinths, Roman, doz. sprays	1 0- 1 6	Tulips, per doz.	1 0- 1 6
Lapageria, white, 12 blooms	2 0- 3 0	Violets, doz. bun.	1 6- 2 0
Lapageria, red, 12 blms.	1 0- 2 0	— French, doz. bun.	2 0- 3 0
Lily of the Valley, doz. sprays	1 0- 2 0	— Parma, doz. bun.	7 0- 8 6
Marguerites, 12 bun.	4 0 -9 0	White Jasmine, bun.	0 6- 1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Genista, per dozen	15 0-24 0
Chrysanth., dozen	-	Hyacinths, doz.	8 0-10 0
Cineraria, per dozen	9 0-15 0	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargoniums, scarlet per dozen	4 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	9 0-15 0
Epiphyllums, doz.	18 0-24 0	Solanums, dozen	9 0-15 0
Evergreens, in var., per dozen	6 0-24 0		
Ferns, in var., dozen	4 0-18 0		

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VINES & VINE-CULTURE:

BEING A TREATISE ON THE CULTIVATION OF THE GRAPE-VINE,

WITH DESCRIPTIONS OF THE PRINCIPAL VARIETIES.

By ARCHIBALD F. BARRON,

Superintendent of the Royal Horticultural Society's Gardens at Chiswick and South Kensington; Secretary of the Fruit Committee; Honorary Member of the Cercle d'Arboriculture de Belgique, &c.

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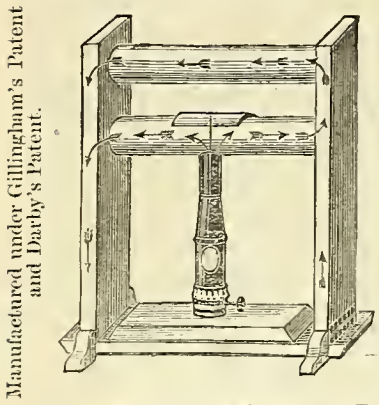

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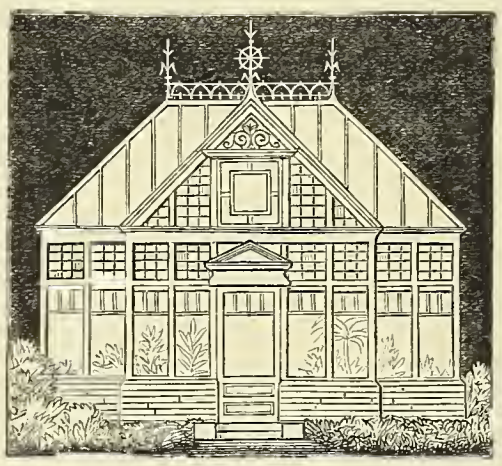

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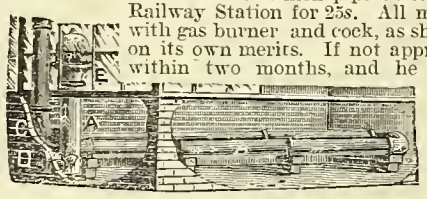

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THE GARDENING ILLUSTRATED WORLD

No. 21.—1885. SATURDAY, JANUARY 24TH. { Registered at the General Post-Office as a Newspaper. } ONE PENNY.

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ZONAL GERANIUMS for early Spring Bloom. Nothing can excel these easily grown plants for the decoration of the greenhouse or conservatory all the year round. One dozen strong plants in twelve of the choicest varieties, true to name, selected from a collection of over 100 sorts, 2*s.* 6*d.*, free per Parcels Post.—J. F. DACE, Florist, High Street, Leyton, Essex.

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6 Sweet-scented plants, Jasminum, Gardenias, 5½-in. pots 9*s.*
12 Spiræa japonica, large clumps ... ... 3*s.* 6*d.*
25 Choice Greenhouse Ferns, different sorts, 4-in. pots 10*s.* 6*d.*
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TOBACCO PAPER and CLOTH (ROLL).—Thoroughly reliable quality; low prices. Trade supplied. RICHARDSON & CO., Tobacco Works, Leith, N.B.

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GOLD MEDAL STRAIN from our Prize Plants. New crop now harvested. Sealed packets.
CHOICE MIXED, from single varieties, 1/- and 2/6 per packet; 5/- extra large packets; double varieties, 2/6 and 5/- per packet.
COLLECTIONS, 12 named varieties, separate, 7/6
,, 6 named varieties, separate, 4/-
Begonia Growers, Forest Hill, S.E.

SALES BY AUCTION.

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MESSRS. PROTHEROE & MORRIS beg to announce their SALES for next week, which will take place as follows:—

TUESDAY, January 27th.—Special Sale of Orchids in flower at Protheroe & Morris's Auction Rooms, from various collections, amongst which will be found many rare and valuable species.

CLEARANCE SALE of the whole of the Stock in Trade at The Vineries, Nightingale Road, Wood Green, N., by order of the Proprietor, who is giving up business, including 10,000 Maiden-hair Ferns, market van, pots, and other utensils.

WEDNESDAY, JANUARY 28th.—Sale at Protheroe & Morris's Auction Rooms of 10,000 Lilium auratum, including 2,000 gigantic Bulbs from Japan, 400 Standard Roses, extraordinary fine roots of English grown Lilies, 2,000 Berlin crown Lily of the Valley, consignment of Pancratiums and Amaryllis from the West Indies, &c., Tuberoses, Carnations, &c.

FRIDAY, JANUARY 30th.—Sale at Protheroe & Morris's Auction Rooms of imported Orchids from Mr. F. Sander, including the grandest importation yet received of Nanodes Medusæ and the rare and magnificent Odontoglossum polyxanthum, Odontoglossums, Cattleyas, &c.

Catalogues of the Auctioneers, at their Central Auction Rooms and Estate Offices, 67 and 68, Cheapside, E.C.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, during the coming week as follows, at half-past twelve precisely each day:—

MONDAY.—5,000 Lilium auratum, 9,000 Berlin Lily of the Valley Crowns, 1,000 first-class Lilies, 1,000 Milla biflora, 5,000 Tuberoses, and other Bulbs.

WEDNESDAY.—First-class Roses, Fruit-trees, Shrubs, and Climbers, Border Plants, Lilies, Gladioli, &c.

THURSDAY.—Valuable Imported Orchids from Mr. F. SANDER, and 5,000 Pearl Tuberoses from America.

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TO BE LET ON LEASE, or SOLD with possession, the valuable FREEHOLD ESTATE, known as Osborn's Nursery, Sunbury, Middlesex, comprising 17 acres of excellent Land, with Dwelling-house, Stabling, Sheds, and all the extensive range of modern and recently erected Greenhouses. The Estate having a frontage of 1,100 ft. to the high road, possesses a great prospective value for Building Purposes.

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At a GENERAL MEETING of the MEMBERS of this Institution held on the 14th January, 1885, for the Election of Eight Pensioners, the following was the result of the Ballot:—

CANDIDATES.

Votes.	Name.	Age.
1919	WILLIAM BIRKETT	76
1333	RICHARD HAWKINS	69
511	WILLIAM ARCHER	79
576	THOMAS BEST	69
596	ROBERT PRYOR	74
2308	MARTHA SWANSBOROUGH ...	81
1957	GEORGE URQUHART	69
412	SOPHIA WARE	68
1371	ANNA MARIA ALLAN.	76
1108	ELIZABETH FOULIS...	80
707	WILLIAM HARMAN	59
1305	ELIZABETH PARR	73
1515	MARY RABBITT	64

The Meeting declared Martha Swansborough, William Birkett, George Urquhart, Mary Rabbitt, Anna Maria Allan, Richard Hawkins, Elizabeth Parr, and Elizabeth Foulis, as having the greatest number of Votes, duly elected Pensioners from the 25th December last.

EDW. R. CUTLER, *Sec.*

14, Tavistock Row, London, W.C.—*January 20th*, 1885.

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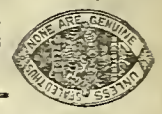

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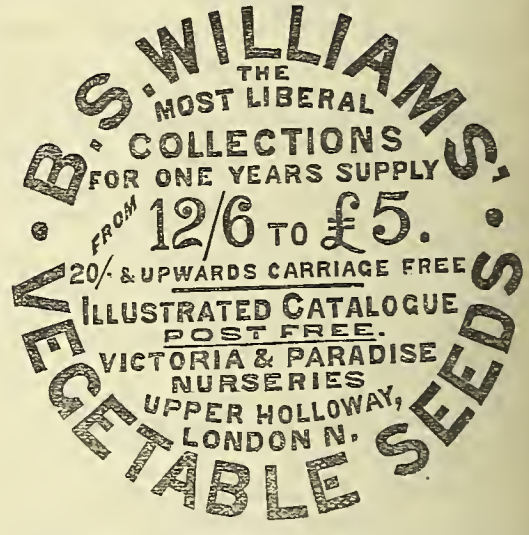

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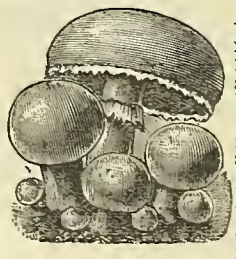

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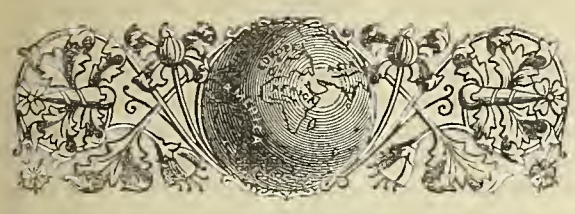


Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, JANUARY 24TH, 1885.

Teetotal Gardening.—From out of the midst of a crowd of hard-up Birmingham artisans and labourers is perhaps about the last place in which we should look for a gardening moral, although quaint experience of human life tells us that we may really, and not merely figuratively, often find sermons in stones and in other raw material where least looked for. Hundreds of men, more or less in need of work, money, and food, are gathered together, and from out of the body one or two typical men interviewed gave their experience of their lives and wants. One, a gun-finisher, had found trade bad indeed, and his wages for eighteen months had averaged 12*s.* per week. The other, a carpenter, had up to within two months earned 34*s.* per week, but in two or three weeks was dead on his back, and lamented "he hadn't the price of a pot of fourpenny." He had no garden, nor sighed for one, and, alas! was the type of the majority of those with whom he was demonstrating. The gun-finisher in his best days of work made on an average 23*s.* per week, but he had in those days invested savings in the Post Office Savings Bank. He had a garden, of which he was fond, and he had been a teetotaller for ten years.

There is, perhaps, very much more connection between prosperity and a love for gardening in the working classes and temperance than is commonly admitted; but here, at any rate, was evidence of its association under singularly unlooked for conditions, and the gun-finisher with his miserable weekly income of 12*s.*, eked out, as it now was, with drafts upon the savings bank, that caused the account there to become smaller by degrees and sadly less, yet in his poverty could proudly boast of his bit of garden, "where we grow a few things, such as Radishes, Lettuce, Mustard and Cress, and a few flowers," and here, with conscious pride, is added, "You should see it in the summer." And from out of that garden, little enough in all conscience, as the nature of the crops show, was made just a little money, though perhaps far more profitable, was found in it, even in these days of privation and trouble, much pleasure and solace.

We confess we should like to have seen that poor teetotal gun-finisher's Birmingham garden in the summer. What a tale it might unfold. Those of our professional gardeners who pride themselves so much on the wondrous and beautiful productions of their labours never can know what are the difficulties and tribulations which surround men like to our artisan hero, or realize how sweet such gardening is when thus pursued. We have seen not a few gardens very like to the gun-finisher's in and about the great metropolis. They are mere courts or yards, giving hardly area enough in them to enable the metaphorical cat to be swung, surrounded by houses, walls, out-houses, and all kinds of erections, existing in an atmosphere of smoke and reeking with soot. And yet that sort of indomitable energy and genuine love for gardening, with temperate habits, which so happily marked the Birmingham gun-finisher, have elsewhere evolved from out of these little town enclosures, by courtesy called gardens, such wondrous little floral paradises as may well make those strange to town life, to wonder and admire.

We may take it for granted that what the garden thus is so is the home, and these horticultural and domestic blessings are only found where men lead temperate lives and abhor the public-house. No doubt there is ample difference of opinion as to the merits of total abstinence, but when simple bare facts stare us in the face we should be lost to all sense of truth and justice did we not readily admit that life to the temperate man, especially to him who has real garden tastes, must be a thousand times more happy than it can be to the unfortunate wretch who prostitutes his all, whether financial or moral, in the public-house.

Hard times are bringing us face to face with many grave social questions, and we are invited to solve many difficult social problems. It is most evident that in the working out of solutions both gardening and temperance must play important parts. We want men when they earn money to be saving and thrifty. Better habits of life will help to that end greatly; gardening will help to that end also. It may be doubted whether in all the various baits held out to working-men to detach them from the public-house any one is stronger or more practical in its character than is gardening, for it is full of charm and, well conducted, it is not without its profit. In a wider sense gardening must be made to play also a stirring part in the future of the nation, for it is only through its instrumentality that we can hope to attach the labourer to the soil and to give him a permanent interest in the land, from which just now he is so ready to flee.

Gardening and Tithes.—Difficult as it must of necessity be to discuss such a question as that embodied in the above heading without making political references, yet it is evident that it must be considered thoroughly, whatever danger of such association may follow, because of its connection with the fortunes of gardening in this country. It is, therefore, when looked at from a gardener's point of view, exceedingly difficult to avoid an expression of warm sympathy with those who are so ardently labouring to relieve gardening from the burthen of tithe which proves so irksome and so detrimental. Just now, when we find such depression in all that attaches to land cultivation, and foreign competition so tremendous, we read almost with astonishment that in this country, where the production of food of every kind is of the very first importance, there should exist an impost on fruit and vegetable cultivation of so oppressive a kind as that of extraordinary tithes.

When and how such an impost was originated need hardly be discussed. What we have to consider rather is how land and its cultivation can be relieved, and in all parts of the kingdom gardening in all its phases, and specially in those phases which are connected with our food supply, should be made as free as possible. Were tithes a secular impost, we may be sure that they would be regarded with the same consideration that rates are, because all secular imposts upon land are made for purposes from which land may be expected to derive directly or indirectly some benefit. Thus we pay poor, police, sanitary, educational, and highway rates from land, because in some practical form or another not only land but all kinds of property derives some practical benefit from their expenditure. We derive through their agency good government, order, roads, and health, and these are benefits of the highest order and advantageous to everyone, rich or poor. But tithes are eminently an impost from which no practical benefit results whilst being applied for the maintenance of a certain religious institution, there is so much of injustice in the impost that all have to pay, no matter how strongly they may demur to the object to which the tithes are applied.

When therefore we find tithes at once a cause of political, religious, and social discord, and of heavy discouragement upon land cultivation, especially in its higher and more profitable element—viz., gardening, we have no course but to deplore strongly the existence of such an impost and earnestly to desire its removal. Tithes are not universal, as in some parishes church income is derived from glebe, but it does seem as if this impost pressed the most heavily in those districts specially favourable for fruit culture. Unhappily, when land is taken from farming and converted into fruit-garden, not only does the tithe impost become largely increased, but rent, rates, and taxes increase also, and of course labour and cost of cultivation is greatly added to. Thus the intending fruit-grower is, as against his eminently favoured rivals abroad, tremendously handicapped.

The National Auricula and Carnation Societies.—It would seem, from the reports of the proceedings of the Committees of these Societies published in our last, that an effort is at last to be made to render their exhibitions rather more orderly than they have been in the past. One reform not adopted, but apparently essential, is, that the twin societies should be merged into one, both in name and in constitution, for the *personel* of the managing bodies seems to be almost identical now. If one subscription would make all present members equally members of both bodies, the present duplex and complex arrangement would be simplified, and floriculture would gain by the change. Of the rules adopted for the governance of the shows, number two cannot practically be carried out at South Kensington, and the Committee must have known that there it would be, as it always has been, a dead letter. The fourth rule is an excellent one if carried out, for anything more chaotic than has been the condition of the Auricula and Carnation and Picotee Shows, when seedlings have been under consideration, could hardly be imagined, and when awards of certificates have been finally made, it has puzzled the keenest of reporters to find them. If all seedlings are henceforth compulsorily kept separate from the other classes, it will be a gain to all but a few exhibitors. Finally, of the fifth rule, it may be said that it will help to render the settlement of the vexed amateur question more difficult than ever. What is to be understood by publishing? If an amateur issues private lists of plants for sale, is that to be considered as "publishing" or "advertising" in the sense in which those words are usually understood? If so, then it is equally publishing and advertising to make a private deal with a nurseryman, when done by letter, as many amateurs are known to do, and we can scarcely think it was designed to have that effect.

Cauliflowers.—A gardener friend wrote a few days since:—"I am still cutting Veitch's Self-protecting Broccoli." What a fortunate man thus to have a stock of this valuable kind for a house supply at this midwinter season! Yet we should hardly say fortunate, because what is his fortune may well be that of plenty of others in reference to this capital winter variety. If a man has but a good breadth of Snow's Winter White Broccoli to follow suit, then he is fairly tided over till other and latter kinds come in in due season. With those excellent sorts that cover the period from the

first of March till the end of May, we thus get six months of Broccoli season, and with an ample stock. There are, in addition, white and purple sprouting kinds, and the delicious old Purple Cape for variety. But Cauliflowers proper form the theme of this short article, and though the consuming public like to class all the family as Cauliflowers, we must not make that error because it would be very unprofessional. It is a good time to make a first sowing of Snowball, early forcing, or other identical kinds. Seed sown in a frame over a very little warmth, or in a house in shallow pans, will soon germinate; then the young plants, dibbled out into a frame, will in a few weeks be strong enough to transplant with balls of earth on to a warm border, and thus ensure a good supply through the month of June. But in the month of August a sowing of the Early London, made in a frame, will give strong plants to go out under handlights in October. These would give fine heads for cutting in May. A fresh sowing of one of the early kinds made in March will give a July cutting, and a later one in April will give a good August cutting. By that time the Autumn Giant Cauliflower, from seed sown in the previous March in the open ground, are turning in, and then a right merry supply is kept up easily until the Broccolis once more follow suit. We are so well favoured with kinds, that it only needs proper foresight in sowing, and a fair season, to ensure an ample supply of this vegetable with Cauliflowers all the year round.

Exhibition Peas.—It is notorious that all lovers of Peas prefer those of medium size to large ones when cooked, and, indeed, in the public market, where shelled Peas are an important saleable commodity, Peas of good colour and rather small are much more favoured than are large ones. These are considerations, however, which are quite put out of sight, or, at least, generally so, on the show table, where awards are chiefly made on the ground of size and fulness. We should like to see prizes offered for Peas of the best flavour, and think that kind of competition preferable to one for biggest pods only. Of all the new Peas put into cultivation during the past ten or twelve years, can any one excel Ne Plus Ultra in flavour and softness? The best new ones are those which give true marrow form, but those, as a rule, are not large podded ones. We should also very much like to see a competition for the best dish of shelled Peas, 2 lbs. in weight, and still farther for the best dish of the same cooked. It would be interesting to see how the big Peas stood in such cases. Then it would be interesting to know the weight of the shells which produced the 2 lbs. of Peas forming each dish, as some useful information might result. Should vegetable shows be promoted at South Kensington again next year, we hope Mr. Barron will bear the shelled Pea suggestion in mind, and have them judged by competent connoiseurs. We often have competitions with cooked Potatos, why not also with cooked Peas?

Royal Horticultural Society.—We are informed that Lord Aberdare will retire from the office of President of the Society at the annual general meeting to be held on February 10th, and that the Council recommend the election of Sir Trevor Lawrence, Bart., M.P., in his place. The other two vacancies on the Council are caused by the retirement of Viscount Enfield and the death of Mr. J. H. Mangles. The fellows recommended to fill these vacancies are the Hon. and Rev. J. T. Boscawen, Colonel R. Trevor Clarke, and W. T. Thiselton Dyer, Esq., F.R.S.

Gardening Miscellany.

At the meeting of the Manchester Horticultural Improvement Society, to be held on Thursday evening next, Mr. E. Griffiths Hughes (the inventor of Fir-tree oil) will read a paper on "Insecticides."

We deeply regret to hear of the death on Wednesday, at Kew, of Ellen, second wife of Mr. Shirley Hibberd, Editor of *The Gardener's Magazine*. Mr. Hibberd, whose marriage took place about fifteen months ago, has the warmest sympathies of his many friends.

We also regret to announce the death on Sunday last, of Mr. Robert T. Veitch, of Exeter, aged sixty-two years. Mr. Veitch, who had long carried on an extensive nursery and landscape gardening business at Exeter, was a brother of the late Mr. James Veitch, of Chelsea, and last surviving son of Mr. James Veitch, sen., of Exeter.

Messrs. H. Cannell & Sons, Swanley, sent to the annual meeting of the National Chrysanthemum Society, held on Monday, some fine specimens of Cyclamen persicum, well grown and flowered. They were much admired.

Messrs. John Laing & Co. have another plant in bloom of the fine Odontoglossum Rossii majus, of the "rubescens" type, noticed by us at p. 284. It is quite as pretty as the first one, and came out of the same batch of imported plants.

On the occasion of the marriage of Mr. H. Nicoll with Miss Palmer, each of the bridesmaids carried a floral horse shoe, composed of the flowers of Azalea Mollis, yellow Marguerites, and Ivy leaves, suspended from the arm by a loop of cream-coloured satin. The novel idea was well carried out by Captain Raikes, of Baker Street, who also supplied the bride's lovely bouquet.

The annual dinner of the Horticultural Club will take place on February 10th, under the presidency of Mr. John Lee.

Mr. Harry J. Veitch has received a Royal Warrant appointing him (as representing the firm of James Veitch & Sons), Nurseryman and Florist to Her Majesty. Mr. Veitch will also, by Her Majesty's command, present the Bridal Bouquet to H.R.H. the Princess Beatrice, on the occasion of her marriage with Prince Henry of Battenberg.

Mr. Peter Cliffe, who was for many years gardener at Tatton Park, Cheshire, and who only retired last autumn, on being pensioned by Lord Egerton, died at Knutsford, on the 14th inst., aged sixty-seven years.

Mr. W. Cullingford, has offered the National Chrysanthemum Society the handsome sum of ten guineas, to be awarded as prizes for late flowering Chrysanthemums, to be shown about the middle of January.

Messrs. James Dickson & Sons, 32, South Hanover Street, Edinburgh, have on exhibition a Swede Turnip of the extraordinary weight of 20 lbs. 10 ozs., which was grown from seed supplied by the firm, on a farm at Ormiston.

The annual dinner of the Wimbledon and District Horticultural Society, took place on Monday evening last. The Society has been in existence twelve years, and it is gratifying to know that it is in a flourishing condition.

The Earl of Abingdon has been elected President of the Royal Oxfordshire Horticultural Society, in the room of his late father.

The Ealing, Acton, and Hanwell Horticultural Society, which this year celebrates its majority, having been established in 1864, will hold its annual exhibition in the grounds of Gunnersbury Park, Acton.

Mr. J. Downer, late Fruit Foreman at Possingworth, Sussex, has been engaged as gardener to Sir G. R. Prescott, Bart., Isenhurst, in the same county.

The annual meeting of the Leeds Professional Gardeners' Friendly Society was held on Monday, and we learn from the eighteenth annual report that the Society's income for the past year was £149 15*s.* 3½*d.*, and its expenditure £117 13*s.* 11*d.*, leaving a balance of £32 1*s.* 4½*d.*, which, added to the savings of the seventeen previous years of £675 6*s.* 5½*d*, makes the total amount placed to the Society's credit £707 7*s.* 10*d.* The Society now numbers 19 honorary and 113 ordinary members.

SNOW'S WINTER WHITE BROCCOLI.

Having grown this useful kind for many years, my experience leads me to state that I agree with your correspondent, Mr. Knight (p. 293), as regards its being "an old and well tried sort," the only difficulty experienced with it being to obtain the seed true to name. Over thirty years ago I strongly recommended Snow's Broccoli in the pages of *The Gardener's Chronicle*. At that time my seed was obtained direct from the raiser and could be relied upon, but many whom I knew purchased what they were led to believe was a true stock, but which turned out to be some other kind that had been substituted. This, of course, led to much annoyance and disappointment in not being able to supply the employer's table at a time when it would have been most acceptable, and really good Broccoli in the middle of winter was a somewhat rare vegetable at the period to which I allude.

Gardeners fifty years ago had to depend very much upon the Cape varieties, which are of a somewhat hardy constitution, but little grown now, being superseded by those of superior quality that have been subsequently introduced. I may state with reference to the hardiness of any of the Broccoli tribe that a gardener's success, in being able to supply the table at all seasons, very much depends upon circumstances. He may or may not be able to do so, as there is no Broccoli that I am acquainted with that will survive our more rigorous winters. Happily these are now exceptions, as we have not of late years experienced such hard winters as some of us well remember.

It has been the practice of many gardeners for years to take up their plants before winter sets in, and to lay them in again regularly, leaving the tops of the plants just above the surface of the ground. Many crops have been saved in this way, especially when the weather has been very severe and the plants have had some slight protection. I have known seasons when the crops have been nearly if not entirely destroyed. It was my practice to take up my plants of Snow's Winter White before frost set in and bed them in cold pits, where they could be readily protected if necessary, or be fully exposed should protection not be required. I have known many acres of the Walcheren Broccoli completely destroyed by a severe frost in the autumn. In these days of extensive cultivation protection is out of the question, and it is only on well drained dry soils that the plants have any chance of escape. I believe that for the sake of a tidy appearance much mischief is done by the injudicious removal of the leaves from the stems of the plants; those only should be removed which drop from the plant (as does a ripe Pear from the tree), it being bad practice to mutilate the plants by tearing off the leaves indiscriminately, by which wounds are often made but not so readily healed. Consequently plant life, as well as animal life, is thus placed in jeopardy.

Market gardening has made a very great advance during the last half century, as well as that of private or professional gardening. And as the products of the former are of such excellent quality, it is absolutely necessary that the latter should endeavour to keep pace with the times in which he lives, as employers have every opportunity now of comparing notes as to the relative quality of market and home-grown produce. Thus it becomes essential to make careful selections as regards the variety or sorts most worthy of cultivation. The gardener has, for the most part, to depend upon the seed-grower and the seedsman with whom he deals, and thirty years or more ago it was often found that little confidence could be placed in either; but such is not the case now. I have myself had a number of sorts from one packet of seed, owing, of course, to the attempt to save too many kinds of "Brassicas" growing in close proximity in one season. With new kinds, however, as a rule, special care is taken to keep the stock true. I know one of the oldest and largest growers for Covent Garden Market who saved a well selected stock of "Walcheren" from time to time for many years, but of late degeneration seems to have set in, for the crops have certainly not been so satisfactory as in former years. The consequence of this is that many acres of the new Italian sorts of more recent introduction have been grown with more success, and of late years the area under Broccoli cultivation has been

vastly extended, and not merely in a few market gardens in the suburbs of the metropolis, as in the days of old, when the transmission of such commodities was almost out of the question, and, I may say, commercially, was not so widely or fully recognized. The sorts enumerated by your numerous correspondents are all good, the only question being to obtain them true, and to have all conditions with reference to soil, season, &c., alike favourable.—*G. F.*

EUCHARIS AMAZONICA.

So much has been written from time to time on the cultivation of this lovely stove plant that one would think anything further on the subject would be superfluous. Yet, in spite of all that has been written, how very seldom do we find it growing and flowering in a thoroughly satisfactory manner, even in moderately large establishments, where all other things that are grown are done well. Why is this? Well, in nine cases out of ten, I believe, it is through keeping them too much pot-bound. Their appears to be a general belief among gardeners that to pot a Eucharis is next thing to killing it, or to so disable it that it will not flower for some time afterwards; but, in my opinion, a greater error cannot be made than to keep this superior plant, as some do, in the same pots year after year. I have tried them both ways, and have always obtained the best results from shaking them out and re-potting them at least every two years.

I wonder if those who advocate the pot-bound system, on the ground that the plants flower more freely, have ever made a calculation of the number of bulbs in a pot, or noted how many have flowered at one time, and how many have not. I venture to assert that not more than one quarter will produce flowers at the same time. Then, if this be so, how can keeping them pot-bound be the cause of free flowering, for the Eucharis will flower after every growth it makes, providing it is subjected for a time to a cooler and drier atmosphere to cause a thorough maturation of the bulbs? I remember that some years ago, when I obtained my first situation as a head gardener, I found on the place three pots of Eucharis, speaking from memory, about 9 ins. in diameter, which looked as though they had not been re-potted for some years. The soil was sour about them, the drainage had filled up, and they had not a healthy leaf on them. In February, the month after I took charge, I shook them out, sorted the bulbs into three sizes, and potted them in a mixture of good fibrous loam, leaf-mould, well-rotted stable manure, and a good deal of sharp silver sand, as they like an open compost. I then plunged them in a pit with a bottom heat of about 65 degs., and a top heat of about 70 degs. to 75 degs. I kept them rather closely shaded for the first few weeks, and they soon began to grow, and throw up fine healthy leaves.

After they had made a good start in the new compost I lifted the pots out of the plunging material, and stood them on the surface to complete their growth; and when they had done so, I removed them to a cooler and drier house, where they remained until they showed their flower-spikes, as they all did that were strong enough to flower in about four or five weeks. Then I placed them in a warm house to open their flowers, giving them weak doses of liquid manure twice a week. In the following February I shook them all out again, and sorted the bulbs as before, and this time I had sufficient bulbs, strong enough to flower, to fill twelve 9-in. pots. I treated them exactly as stated above, and nothing could have been more satisfactory, for every bulb threw up a fine flower-spike. It will be seen from this that I made twelve pots out of three in one year, besides the smaller ones, of which I had several potsful. I have carried out this system ever since, and by resting part and growing part alternately, we are rarely without a few in flower, and as they are so useful either for wreaths, crosses, bouquets, vases, or for the decoration of the conservatory, in which they stand very well if of an intermediate temperature, we find them invaluable.—*W. C.*

FLOWERS AT HOLLOWAY.

The noble conservatory at the foot of Highgate Hill, which forms the frontage of Mr. B. S. Williams's extensive nursery, is particularly gay just now with all the flowers in season. Amongst these, Mr. Williams's fine strains of Primula and Cyclamen figure most conspicuously, the latter especially being well done. Those who remember the generally rough and ragged character of the Persian Cyclamen as shown some twenty years ago, before Mr. Wiggins, then of Isleworth, witched the floral world with his neat, compact, and well-flowered specimens, will not need to be told what a vast stride has been made in the cultivation of this plant since then, especially among growers for market and for the nursery trade. They are familiar with the fact, and rejoice in it, for the Cyclamen now, if not the Queen of Winter flowers, is at least unsurpassed for beauty, floriferousness, and utility. By careful selection and improved methods of cultivation, which has involved the abolition of the old roasting system, the Cyclamen is now a model of all the floral excellencies, as may be seen by a reference to the accompanying illustration, for which we are indebted to Mr. Williams.

CYCLAMEN PERSICUM.

The comparatively mild weather we have experienced up to the present time has dealt kindly with the plants in the various houses, which are freshness itself as compared with their appearance after a lengthened period of hard firing; but a heavy fog has left its mark on many of the Orchid blooms. The new Calanthe Williamsii, which has not yet been exhibited in public, though familiar to readers of *The Orchid Album*, is now in bloom. It is a variety of C. vestita, and by reason of its handsome, three-lobed, bright, rosy-crimson lip, and its free-flowering character, must be welcomed as a valuable addition to these

showy winter-blooming plants. A fine healthy specimen of Cypripedium Villosum, 2 ft. 6 ins. in diameter, bears thirty beautiful blooms, in company with a choice lot of Lælia anceps; a variety of Cattleya Trianæ in the way of Dodgsoni, with fine, broad, white sepals and petals, and a rich purple lip edged with rose; large masses of Cœlogyne cristata; the ever-blooming Dendrebium superbiens, &c.

The collection of Vandas is in rare condition, and so also are the Cattleyas and Lælias. Of L. purpurata alone, over one hundred sheaths give promise of an abundant harvest of flowers in due season. In the cool-houses, the brighest bits of colour are furnished now by Sophronitis grandiflora, on one small plant of which we counted ten blooms. Among "The Crispums" we noted a fine branching spike of a prettily spotted form, also a good white variety. Odontoglossum maculatum, a seven-branched spike of O. odoratum, a good variety, and sweetly scented; O. luteolum, pale yellow ground, spotted with chestnut; and Masdevallia Massangeana, which resembles a pale form of M. ignea, are all conspicuous objects in the same range.

In the other department, things are generally quiet just now, but we note that by removing a division, Mr. Williams has now a Nepenthes-house, nearly 100 ft. long, filled with thrifty young specimens of all the best sorts in cultivation. The large Camellia-house will shortly be an exhibition in itself, so full of swelling flower-buds are the numerous fine specimen plants which it contains. To the genuine plant lover, too, a visit to the Heath-house also affords a great amount of pleasure, so robust, healthy and well furnished are the many half-specimens which it contains of the leading spring and summer flowering sorts.

MEALY-BUG IN VINERIES.

It would appear from letters which I have received that in the article on a remedy for mealy-bug on vines, which was published in The Gardening World on December 6th, 1884, I did not explain myself quite so clearly as I should have done, but with your permission, Mr. Editor, I will make another attempt to do justice to the subject. One of my correspondents, a Devonshire gardener, "G. H. M.," writes:—

"For several years past I have been troubled with the mealy-bug in my vineries, and have tried all the remedies I have seen recommended, but without success, for, by the time the Grapes were ripe, the enemy was as troublesome as ever. A few weeks since I saw in The Gardening World your letter on 'A Remedy for Mealy-Bug,' and have decided to give your plan a trial. Before commencing the work, however, I should like to know if there is a danger of injuring the buds if not careful in applying the gas-tar and clay in the proportions of two parts of the latter to one of the former."

Another correspondent, a Yorkshire gardener, "C. A. P.," writes:—

"I read an account in The Gardening World of December 6th, respecting the dressing of vines with tar and clay, as a remedy for the mealy-bug. I have only been here a few months, and have had mealy-bug to contend with before, but never in so bad a form as it is here. Our vineries are all infested to a dreadful extent, so badly indeed that I have been obliged to wash all the bunches before sending the Grapes to table. I am now pruning the vines and cleaning them, and intend adopting the tar remedy. Will you oblige me by giving further particulars as to the proportions of tar and clay to be used? Please say also if it is Stockholm tar, and if applied hot, warm, or cold. Not having tried the tar and clay, I am anxious to be on the safe side."

Ordinary gas-tar, such as is made at any factory where gas is manufactured, and which can be bought for about 8*d.* per gallon (probably enough, or nearly so, to destroy all the mealy-bug on vines in this country), is what I use. I do not know if there is any difference in the strength of the different samples of tar, though I have seen some mixtures which look very much darker than others, and which, perhaps, was owing to the different kinds of clay used. However, it would probably be best to err a little on the safe side, although I have used the mixture as described with the best results. Take powdered clay, or that which has been passed through a fine sieve, say a quarter-inch mesh, as that is the size of the one we use, and to three parts of clay add one of gas-tar. Knead them well together until the tar and clay are thoroughly incorporated, then thin to the consistency of cream with hot or warm water, with which it mixes better than with cold water. When this has been thoroughly mixed it will be ready for applying at any time, either that day or a month hence, all that is necessary being to give it a thorough stirring up before using it.

I certainly think that it would be better not to remove any of the bark, although we did so ourselves last year, but with an ordinary carriage-washer's spoke brush, or a hog's bristle scrubbing-brush, scrub the vines from beginning to end. A narrow brush is better than a broad one, as it will pass between the spurs and the rod better. This should be done with strong soapy water, afterwards syringed off. The house should also receive a thorough cleansing, and soft-soap and paraffin answers well for that purpose. The walls should also receive a dressing of hot lime toned down by other mixtures to the desired colour. The vines should then be washed over again, this time using clear water, and thoroughly wetting every part, and before the vines are dry they should be gone over with the above described mixture of tar and clay, applying the same with a soft painter's brush, thoroughly working it into all rough places in the bark, and taking care that every part is covered. Having the vines damp not only facilitates the application, but economizes the tar-dressing.

There need not be the slightest fear of this injuring the buds if put on with a soft brush, so that the buds are not bruised in its application. The floors of the house must be thoroughly cleaned also. If the border is inside, a few inches should be removed and carried right away, adding fresh material, a process which generally takes place, whether to remove insects or not. If the floor is paved this should be thoroughly washed down, and it cannot be done too soon after the vines and roof have been cleaned.—*C. Warden, Clarendon Park.*

TUBEROUS-ROOTED BEGONIAS.

If the seed of these beautiful plants is sown now and every attention is paid to their growth, they will develop into strong plants full of flower by the months of June, July, August and September. Preparatory to sowing, some well-drained pans should be filled with soil composed of equal parts of loam, leaf-mould, and sand, after it has been well mixed together and sifted through a very fine sieve. The pans should be well watered, so as to solidify the soil, the surface of which should be levelled before watering. About an hour after the pans have been prepared, the seeds can be sown very thinly on the surface of the soil. The pans should be placed in a warm house, upon a moist shelf or platform, upon which an inch layer of river sand or sifted cinder-ashes should previously have been laid. As the seeds would be much damaged by the drip of water from above, and if no better means are at hand to prevent it, it is a good plan to place three long thumb pots around each pan, two at one end and one opposite them, thus forming a triangle, upon the top of which a sheet of glass can be placed, and this will have the desired effect. The seeds should be watered when getting dry and shaded from the strong rays of the sun.

As soon as they appear in the seed-leaf, they should be pricked off into pans, prepared similarly to those for seeds, the young seedlings being placed about an inch apart. They should then be watered with a fine rose pot and placed upon a shelf or platform as near the glass as possible. Here they should be lightly sprinkled with a fine rose pot night and morning, also shading them from the stronger rays of the sun. When they have grown in the pans so much that they nearly touch each other, they should be separately pricked off into small thumb pots. After watering, replace them upon the platform, to remain there until they have well rooted through the soil, when they should be potted into small 60's, again to undergo similar treatment, with this addition, that besides being watered night and morning with a fine rose pot, air must be given them on all mild days, to make them as sturdy as possible. They will soon require to be rooted into large 60's, and when they have rooted through the soil of those pots the strongest of the plants should be potted into 32's and the remainder into large 48's.

In these pots they must still be kept to the shelf, lightly shading them in strong sunshine, never allowing them to become dry and on every mild day giving them a good supply of air. But as soon as flowers begin to appear, the plants should be moved to the greenhouse, there to be well supplied with both air and water. Thus in a few months the careful gardener can raise from seed to full-flowering plants large quantities of these beautiful subjects.

The colours of the flowers are red, white, scarlet, pink, purple and many other bright or delicate shades of colour, and among the many things for which its flowers are prized, is its excellence for decoration, especially for basket work in conservatories and for small vases on the dinner-table or other places where water cannot conveniently be placed, because they will last out of water for a whole evening without flagging. When the plants have stopped flowering, they can be placed in rows underneath the stage, with the sides of the pot on the ground. Messrs. John Laing & Co., of Forest Hill, and Messrs. Sutton, of Reading, have grand strains, each distinct from the other and consequently both are worth trying together, as the beautiful plants will give a high rate of interest for the cost of the seeds.

With regard to the old bulbs, they may be had in flower from May until September, by starting the old roots into growth at intervals of a few weeks. To start the bulbs into growth, they should be shaken out of the old compost and be potted into fresh soil composed of good turfy loam, mixed with small quantities of leaf-mould and river sand. In potting the tubers, a little sand should be placed around each one, and when potted they should be placed on a front platform in a house where there is a little heat. The bulbs must not be watered for at least a week after they have been potted, but at the end of that time they should have a good supply of air and water, besides being slightly shaded from the rays of the sun. When they have rooted through this soil, they should be potted into larger pots, or rather they should be potted into the pots it is intended the plants are to flower in, because they are gross-feeding plants and therefore like plenty of pot-room.

The following is a selection of very choice varieties from which anyone can choose for themselves, with the certainty of obtaining something good:—*Single varieties.*— Black Douglas, dark carmine-crimson; Countess of Rosslyn, bronze-orange; Dr. Masters, dark reddish-crimson; Dr. Sewell, bright crimson; Earl of Chesterfield, vivid crimson; Earl of Rosslyn, orange-scarlet; Golden Queen, golden-yellow; Lady Brooke, rose, shaded with violet-magenta; Lady Chesterfield, rose-pink; Lothair, scarlet-carmine, shaded with crimson; Madame Stella, bright rosy-pink; Marchioness of Bute, rose-pink; Marquis of Bute, carmine-crimson; Miss Warren, dark rose; Mr. A. Forbes, vivid crimson; Mrs. Anson, rose-cerise; Mrs. Morgan, pure white; Mrs. Pontifex, orange-yellow; Novelty, orange-scarlet; Orange Boven, orange-red; Princess Beatrice, orange-red; Rose Perfection, bright rose; Red Rover, red; Snowflake, pure white; Torey Laing, yellow, suffused with orange-red; and White Perfection, pure white.

Double varieties.— Alba plena, white; Apricot, bronze-yellow; Canary Bird, yellow; Dr. Duke, brilliant scarlet; General Gordon, carmine-crimson; John T. Poe, China rose; Jules Lequin, clear red, shaded with salmon; Madame Crousse, soft white, shaded rose; Mons. Duvivier, red; Prince of Wales, crimson; and Robin Adair, carmine-crimson.—*T. H.*

Luculia gratissima.—I find that, in order to have this plant in good health and always plenty of bloom, planting out is the best system. I tried it in pots every way, but never was satisfied with the results until it was planted in a small border 18 ins. wide, close to the back wall of a vinery, on which it was trained on wires. Here it has done well, and annually gives us a large amount of fine heads of bloom. It is growing in nothing but pure loam, which is very light and sandy in this district. The growths are not long and weak, as would be expected, being so far from the glass, but short and stiff, with a truss on every point. It always gets liberal waterings when the vines get them in the growing season. There is not a plant that gets less attention, and still it gives us a great amount of bloom.—*A. H. T., in The Field.*

NOTES FROM GARDENS.

Broadlands, Hants.—The seat of Lord Mount Temple is beautifully situated on the banks of the winding River Test, and is a noble structure with a lofty portico over the principal entrance. It is surrounded by a beautiful park of about 400 acres, embellished with noble specimens of Cedar of Lebanon, Elms of unusual size, and many other fine trees. It is situated on the south-east side of Romsey, but a few minutes' walk from the town, and was the birth-place and favourite residence of that great statesman Lord Palmerston.

The park and grounds surrounding this beautiful residence are frequently thrown open by permission of the noble owner for festive gatherings, such as of schools, friendly societies, and other institutes, of whatever sect or denomination, and few are the establishments that offer such ample scope for enjoyment as this. In addition to the grounds, a spacious orangery, which will hold many hundreds of people, is placed at the disposal of visitors, and in this same building many earnest discussions on questions of public interest have taken place in which the noble owner has taken part, foremost amongst them being the temperance movement, of which Lord and Lady Mount Temple, and also their worthy gardener, Mr. Thirlby, are earnest advocates and supporters.

On the north-west side of the mansion some beautiful views are obtained of the surrounding country. In front are the slopes of velvety green turf which reaches to the edge of the River Test, and beyond in the distance, partially obscured by trees, is a massive stone bridge, carrying the Salisbury and Southampton road over the river, and which viewed from this point has a very pretty appearance. On one side of the mansion there is a large flower-garden, which is planted with both spring and summer bedding plants during their respective seasons, and in the orangery before-mentioned are some enormous specimens of Zonal Pelargoniums, which stand on the terrace in the summer months where they defy any winds when properly staked, &c., and, as Mr. Thirlby says, may be seen for a great distance, and present such a sight that few plants could equal.

In the kitchen-garden one's attention is immediately drawn to the splendid Peach-trees on the walls. Mr. Thirlby will probably tell the visitor, as he told me, that he had "nothing better to show you," and I need only add nothing better could be desired, for better furnished trees could not be found out-of-doors, nor can better crops of fruit be obtained, as I can testify, from having seen them on more than one occasion. Nectarines and Apricots do equally well out-of-doors here, and I should not care to commit to print the number of dozens of fruit which have been taken from individual specimens of the latter. Plums also do excellently here, but some little difficulty is experienced in getting Pears to succeed satisfactorily.

The glass structures are numerous, there being, if my memory serves me aright, some six vineries. A whole house is devoted to Madresfield Court, and another one to Muscats, and the whole of the vines produce excellent crops which finish well. To bring about this satisfactory state of things, however, entailed a considerable amount of forethought and labour, for none of the vines nor fruit-trees in the garden could be said to be in a satisfactory state until their roots had been lifted and laid in fresh soil, and when once brought near the surface, Mr. Thirlby's great aim is to keep them there by liberal top-dressings of short manure, never allowing the surface to be broken up by spade or fork, and here, inside and out, the fruit-tree and vine borders are as hard as a road and a network of fibrous roots right up to the surface of the border, and in some places among the mulching. Under this treatment it is confidently hoped that it will not be necessary to again lift the roots for a very long time. In one of the vineries here, about three years ago, I saw a most marked instance of the good effects of lifting vine-roots out of bad soil and relaying them in good. It was a house of Hamburghs, half of which were lifted during the previous autumn, the want of material and labour preventing the other half being operated upon, and it was possible to see to a vine which had been lifted by the jet-black Grapes on them, those on the unlifted canes being red. Mr. Thirlby is not content to finish half a crop of fruit for the sake of producing sensational bunches, but aims principally to secure a good even crop. I well remember the words of a well-known cultivator and exhibitor who exclaimed on entering one of the vineries, "The gardener should be seized by the Society for the Prevention of Cruelty to Vines." But the responsible party knew well what he was about. There are three Peach-houses as well as a heated Peach-case with movable lights, and two Fig-houses from which abundant crops are obtained.

After these come the Cucumber and Melon-houses and heated pits. In the Melon-house I noted a nice batch of perpetual-flowering Carnations, and in the pits an excellent lot of Primula sinensis, single and double. In the plant-stove were some well-grown plants of Calanthe Veitchii, with very fine spikes, interspersed among ferns and palms, of which there are a goodly number, well adapted for house decoration. The remainder of the house is made up of the usual occupants, such as Alocasias, Marantas, Pandanus, Gardenias, &c. The greenhouse, a large lean-to structure, contains quantities of Richardia æthiopica Camellias, Primulas, Roman Hyacinths, and last, but not least, about a hundred well-grown and flowered plants of the Persian Cyclamen, arranged in a row along the front of the house close to the glass.

Whatever may be the extent of failure in producing Cyclamen Persicum in good condition among gardeners, it is evident that Mr. Thirlby must not be numbered amongst them. The treatment given to these is as follows: The seeds are sown in pans during August, placed in a gentle heat, and shaded from bright sunshine until the seeds germinate, and make a good-sized leaf, when they are either placed in small 60-size pots, or are pricked out in pans again, in which they stand the whole of the winter. They are placed in a heated pit on a bed of ashes, in a temperature during the winter of from 50 degs. to 55 degs.

In spring they are potted, those in pans into small pots and the others into their flowering pots, in a mixture of loam, manure, and road grit, this being preferred to ordinary sand. They are then stood well up to the glass in a pit, where they remain until they come into bloom about Christmas. The pit used being of the usual description, the bed of ashes on which the plants stand is brought up to within a little more than a foot of the glass, so that they have a cool bottom to stand on. This pit is heated with two rows of 2-in. pipes connected with the boiler, which heats the Cucumber and Melon-houses, and the heat is never turned off, so that whenever it is necessary that the Melons should have heat, the Cyclamens obtain a little. It would appear from the treatment of these plants here, that they are gross feeders, for from the time that the plants have filled their pots with roots, or probably about July, they never have clear water given them, but a weak solution of Guano-water at every watering until they come into flower. Thrips seldom give trouble when the plants are kept in health, and occasionally syringed during hot weather in summer; shade is of course necessary during the hottest part of summer for an hour or two each bright day.

Under two large lights in one part of the kitchen-garden, I saw a grand lot of Christmas Roses throwing up hundreds of flowers. They were covered with sawdust, to guard off slugs and keep them clean, and to all appearance it answered the purpose well. This plan of covering the Heleborus with glass has a considerable advantage over lifting and disturbing them. I do not pretend to have mentioned all that is interesting and worthy of notice at Broadlands, as I took no notes at the time, and merely jot down now what may be of interest to some of your readers.—*C. Warden.*

How to get Rid of Slugs.—At the approach of winter and in the early spring, after warm rains, when slugs swarm forth, I give my garden, at the former period, a good dressing of salt, and at the latter one of newly slacked lime, taking care to have all refuse, such as the stalks and leaves of Cauliflowers, Brussels Sprouts, &c., placed in small heaps everywhere. Under these the slugs collect in numbers, and by repeatedly overturning them and applying either of the above remedies, thousands are destroyed, the result being that throughout the summer I am spared the annoyance which I formerly experienced before adopting these measures.—*E. W. W., in The Field.*

SELECT VEGETABLES.

(*Continued from p. 294.*)

Capsicums or Chillis.

A considerable variety of these exist, although but few are required.

1. Cayenne or Pepper.
2. Long Red.
3. Long Yellow.
4. Bell or Bull's Nose.

No. 1 is the ordinary and most generally used sort. Nos. 2 and 3 are large and useful sorts. No. 4 is very large and sweet to the taste, and a very ornamental fruit.

Carrots.

The variety amongst Carrots is not so great as in most other vegetables. The following form a good successional selection:—

1. Very Early Paris Forcing.
2. Early Short Horn.
3. Early Scarlet Nantes.
4. Long Surrey.
5. Altrincham.

No. 1 is a very short, almost round, variety, which can be forced early. No. 2 is somewhat later and larger. No. 3 is a good sort to grow for summer use, and No. 4 for the main crop, along with No. 5 which, when growing, raises itself about one-third out of the ground. Most other names that may be noted are but selections of the above.

Celery.

In this we have one of the most important of vegetables, of which there are many both good and bad varieties, so that it is important to secure and grow only good sorts. The following may be relied upon:—

1. Incomparable Dwarf White.
2. Leicester Red or Major Clarke's.
3. Manchester Red or Williams's Matchless.

No. 1 is a well-known old sort, which cannot be surpassed. It requires little earthing up, and is almost the only good white Celery. It is procurable under many names, the oldest being Seymour's White and Céleri Turc, of the French. No. 2 is probably the best red Celery, and is fit for use early, but does not keep so well as No. 3 in very severe winters. The number of names applied to the latter, or with but little variation, is very great.

Cucumbers.

The differences of quality existing amongst the various varieties of Cucumbers is so very slight that, given a variety which grows to a fair length and crops freely no other sort is required. Cucumbers are, however, pet subjects of culture by many amateurs and gardeners, hence novelty is eagerly sought after. Amongst the best types we name the following:—

1. Rollisson's Telegraph.
2. Tender and True.
3. Cardiff Castle.

No. 3 is specially well adapted for winter use. A true stock of Telegraph is a good all-round variety.

Cress.

Of this but little variety is required.

1. Curled.
2. Erfurt Sweet Water-cress.

No. 1 is the ordinary variety. No. 2 is a fine variety of Water-cress, suitable for growing in pots or on a shady border.

Endive.

Of this there are two very distinct types, the Curled and the Batavian.

1. Moss-curled Summer.
2. Green-curled Rouen.
3. Broad-leaved Batavian.

Nos. 1 and 2 are finely curled varieties, No. 2 being somewhat the hardier of the pair. No. 3 produces a large close heart with broad leaves, and is an excellent sort for winter use. It is the "Scarole en cornet" of the French.

Leeks.

Excepting in regard to size the variety amongst Leeks is not very pronounced.

1. Musselburgh.
2. The Lyon.

May be named as good stocks. The latter a rather large-growing variety.—*B.*

The Amateurs' Garden.

THE GREENHOUSE.

Damp is the great enemy to contend against at this season, but it may be overcome by the aid of gentle fires, which should be kept going almost constantly, so as to maintain the air in slight motion, as it is only by doing this that flowers can be preserved from spotting or suffering from decay in the petals, which soon sets in when the atmosphere is heavy and surcharged with fog or moisture. To allow for the escape of these, or admit of their being driven out, it is necessary to have the ventilators a little open, but it must be only to a very slight extent, or the damp outside will rush in and defeat the aim of the cultivator, by rendering nugatory the heat given off by the pipes, which will be overcome unless there is more of it than is needed for the purpose referred to.

The most suitable temperature to keep up in a greenhouse at this season is about 45 degs. to 50 degs., which will suit all plants well if they are arranged according to their several requirements, the Heaths, if there be any, at the coolest and most airy end, where they do not feel much artificial warmth, and those benefited by a little should be placed where they will get it. The most suitable situation for Primulas and Cinerarias is on shelves, up near the glass, and even there they require careful watering, or the first named will be found, if wetted at the heart or crown, to damp or rot off at the collar. Mignonette will also turn yellow and sickly, if kept too wet at the roots.

Camellias will now take a good deal of water, and increased supplies may be given to most things that are growing, or have flowers to carry, but the great thing at this dull season is to preserve the happy medium, and only to have the balls of plants just moist, as in that state the soil remains in a nice healthy condition, and suitable for the demands of the roots, the exception being with such things as Calceolarias, Cinerarias, and Callas, which like more moisture than others, and should never have the soil dry.

In cases where these soft-wooded subjects are confined to limited sized pots, they will be much helped by weak liquid manure made from compounds, such as Clay's Fertilizer, which is good for nearly all plants, and is not offensive, as it gives off no odour, and may therefore be used in a room. Soot water, if perfectly clear, is also an excellent stimulant, and it is always advisable to have a tub of this standing, with a tap at the bottom, that it may be drawn off without any disturbance.

PITS AND FRAMES.

Simple as these structures are, there are many uses to which they may be put, and so many things that may be grown in them, besides affording the best of all shelter places for half-hardy plants, and keeping up a supply of Lettuces and other salading. Cape bulbs, Japan Lilies, Violets, Cinerarias, Calceolarias, and numerous other subjects may also be cultivated by their friendly aid, in the greatest state of perfection. The way to treat the Cape subjects, such as Ixias and Sparaxis, &c., is to pot the bulbs six or seven together, in 6-in. pots, using good fibry loam, with a little sand, and if these are in a moist state, as they generally are, no water will be needed till the plants start, and then but very little before they get into free growth, as there are no leaves or roots previous to that period, to take it up and make use of it.

Japan Lilies, like the gorgeous L. auratum, and the different varieties of L. speciosum or lancifolium as commonly so called, require similar treatment, but, being so much larger than those referred to, they must have bigger pots, even if potted singly, in which way they look well, and are very useful for decorative purposes, but they produce the best effect in threes or more together, if placed well apart in the pots. To grow these Lilies, a mixture of peat and fibry loam is the most suitable, or they will do well in either alone, but they should have a pinch of sand dropped over each bulb, and, when potted, be stood in the pit or frame and kept close till they start into growth.

FLOWER-BEDS AND BORDERS.

These, as generally seen at this season, have a drear and naked aspect, but they may be made to look, if not gay, quite cheerful by the help of a few common materials, such as Primroses, Daisies, Violas, Forget-me-Nots, Snowdrops, Aconites, Anemones, and such like, which will soon be in bloom, and if these are used in quantity and judiciously blended, a galaxy of beauty will be the result. Even red and white Daisies alone make a fine show if planted in lines without mixing the colours, and by arranging a bed with white outside, then red, and filling the centre with Wood Primroses a most pleasing effect is produced. It is only to reverse the order, as regards the Daisies, and plant Forget-me-Nots in the middle, to have an equally telling combination; and the same again by the use of Snowdrops, or Violas, as it is only to blend them in different sorts of ways to have as much variety of colour as one pleases.

What does more harm in the mixed border than anything else is the digging and delving to which they are too often subjected, as the disturbance displaces, and very frequently destroys, many bulbous and other plants that are buried beneath the surface, which get trodden on or turned over and mixed up with the soil, and to prevent this it is far better to simply top-dress by putting on a thin layer of very rotten manure and fine mould mixed up together, the goodness from which is gradually washed in, and the surfacing encourages and nurtures the roots and helps to keep the frost from them. If any pricking over or digging is done, it should only be carried out in the spring when the tops of the plants are through and can be seen, but to make all safe they ought to be marked or named, as then their positions are known.

FRUIT AND VEGETABLE GARDEN.

As the season is now advancing, every advantage should be taken of fine warm days to push on the pruning of all fruit-trees and bushes, the buds of which will soon be swelling fast, and, therefore, if the work is left, there will be a danger of knocking them out. Gooseberries and Currants, especially near towns and farms, where there are many sparrows, often get denuded of their buds, as these birds pick them out and devour them wholesale, which not only causes the loss of the crop the same season, but spoils the plants, as it makes them bare and naked below, and to prevent this it is necessary to protect in some way, the readiest and safest being to syringe the bushes with lime wash, and the most cleanly to thread them with cotton, or cover with old net.

To be early in gathering Broad Beans and Peas, seed must at once be got in, one of the most useful sorts among the former being Beck's Green Gem, which only grows a foot or so high, and is therefore good for growing on borders, and the Seville Long-pod should be had for open ground, and there planted a yard apart in the rows. Among Peas, the American Wonder and McLean's Gem are fine and dwarf, and to succeed these sow Day's Early Sunrise and Advancer, which are both marrow-fats that grow about 3 ft. high, and bear freely nearly down to the ground.

THE SEED-LIST.

Catalogues and order-sheets are now being distributed by all the principal seed merchants among their customers. This is therefore not an inopportune time to mention, for the benefit of young members of the craft, a very easy and reliable method of making out a seed order. I do not claim it as original; on the contrary, I am indebted for the hint to an aged and venerable member of the fraternity, and I can aver that since it has fallen to my lot to make the annual selection of seeds the advice has been of great assistance to me. To those who have been selecting for the same garden for several years, the task is of the simplest, as the names of the kinds that have served them well are sure to be fresh on their mind. If any one has an old catalogue with the kinds marked that have been procured the previous year, it should be produced and examined side by side with the new one, and those kinds that have proved satisfactory should be marked for the current year's use, while those which have not succeeded should be discarded. Add a few of the newer introductions for trial, according as space and means will permit. Anything good that has been seen and noted during the past season should also be added. This done, it is an easy matter to transfer the notes as to kinds and quantities required to the seed order-list. It is surprising how everything obtained during the past year, and its behaviour, comes fresh to our memory when brought under notice in this way.

To those who have to make out an order for the first time, and who have not an old list to refer to, the case is more difficult to deal with, as they have no guide to the requirements of the place more than their own judgment serves them, so that both as to quantities and varieties it will be well if they have noted what has proved satisfactory in the other establishments in which they have served, and take their cue from that.

The seed-list having been sent to the seedsman, and the catalogue retained, the latter should be produced when the seeds arrive to check them with, and all being right, the seed packets should be arranged in groups, such as the Broccoli and Borecole together; Brussels Sprouts, Cauliflower, and Lettuce, &c., and the annuals for spring sowing. Arranged somewhat in this order, they come much more readily to hand, and are far less likely to be overlooked than when all are mixed together. The new seeds should also be kept separate from the old ones, and in a thoroughly dry place. By these means much disappointment to ourselves and discredit to our seedsman will be saved.—*W. C. C. S.*

ASCOTT.

Mr. Leopold de Rothschild's model of an old English homestead is one of the most pleasant residences in the country. So used are we now to massively pretentious architectural mansions, that it is a relief and a pleasure to behold in Ascott a connecting link between the present day and the good old times gone by, when homely farmers pursued their healthy calling, and gathered to their innocent amusements on the very spot where Mr. Leopold de Rothschild's residence now stands. Great are the gatherings now at Ascott, and familiar there are the best people in the land; but as homely, and as pleasant still as of old, are the unceremonious arrangements of the place, while need it be said that in the old custom of alms-giving and kindness to the poor and needy, Ascott, like every other residence of a Rothschild, is a centre around which for a considerable distance want need never be known?

Far back as record goes, the site has been occupied by a farmhouse, a portion of which on coming into the present owner's hands dated back as far as the year 1606. Some twelve or fourteen years ago Mr. Leopold de Rothschild conceived the idea of building his present grand residence, and at the same time incorporating the old portion and taking from it the plan to be worked out on the more extensive scale. The notion was a most happy one, and so well was it carried out that it is difficult to believe that the greater part of that which is shown in our illustration, and a great deal more which cannot be got into the narrow limits of a single view, are of recent date, and that only the first portion on the right hand side of the porch dates back to 1606. Inside and out Ascott is replete with cosy corners and comfortable crannies —beautiful and homelike is it in every aspect with its porches, verandahs, balconies, and arches covered with climbing Roses, Woodbine, Passion-flowers, and other climbing plants which always play such a material part in softening the angles and breaking the straight lines which must exist in every building. Beneath these and among the rare coniferous plants and flowering shrubs the botanist and the mere lover of the beautiful may alike wander with interest, and in the grand view across the grounds, which now stretch away in garden and park to the verge of Mentmore, the artist might find good and congenial employment. The garden, pleasure-ground, and park now number between three and four hundred acres, and if the immense farm acreage be added to it,

some idea may be formed of the importance of the estate which is so well and ably managed, and which contributes so largely to the comfortable support of a great part of the inhabitants of the district in which it is situated.

Passing to the right from the porch, beside which an Apple-tree with Mistleto on it stands, and through the winding rockery the conservatory is reached. This is very cleverly managed, the whole of the marble floor with its fur rugs and comfortable seats being at the disposal of the visitor, while the structure is not allowed to lose anything of its beauty as a plant-house. All round it the Tufa rockery is planted with ferns, and up the pillars and over the roof climbers are run in the most luxuriant fashion, the freest and best of them being the green Cobæa scandens, which hangs in many places almost to the ground. But in this pretty conservatory Mr. Jennings has found a means of doing away with the too visible presence of the roof, which is the general defect in conservatories which are for the sake of the comfort of the visitors not devoted to plant-culture alone, and this is accomplished by a number of hanging baskets filled with ferns, palms, and other suitable plants, being so well arranged that they grow out of the tops, bottoms, and sides of the baskets in such a natural manner that not even the baskets themselves catch the eye, the beautiful foliage seeming to hang in mid-air. The general arrangement of the conservatory at Ascott might well be copied as a pattern of what such an outlet from the house should be to be beautiful and yet comfortable.

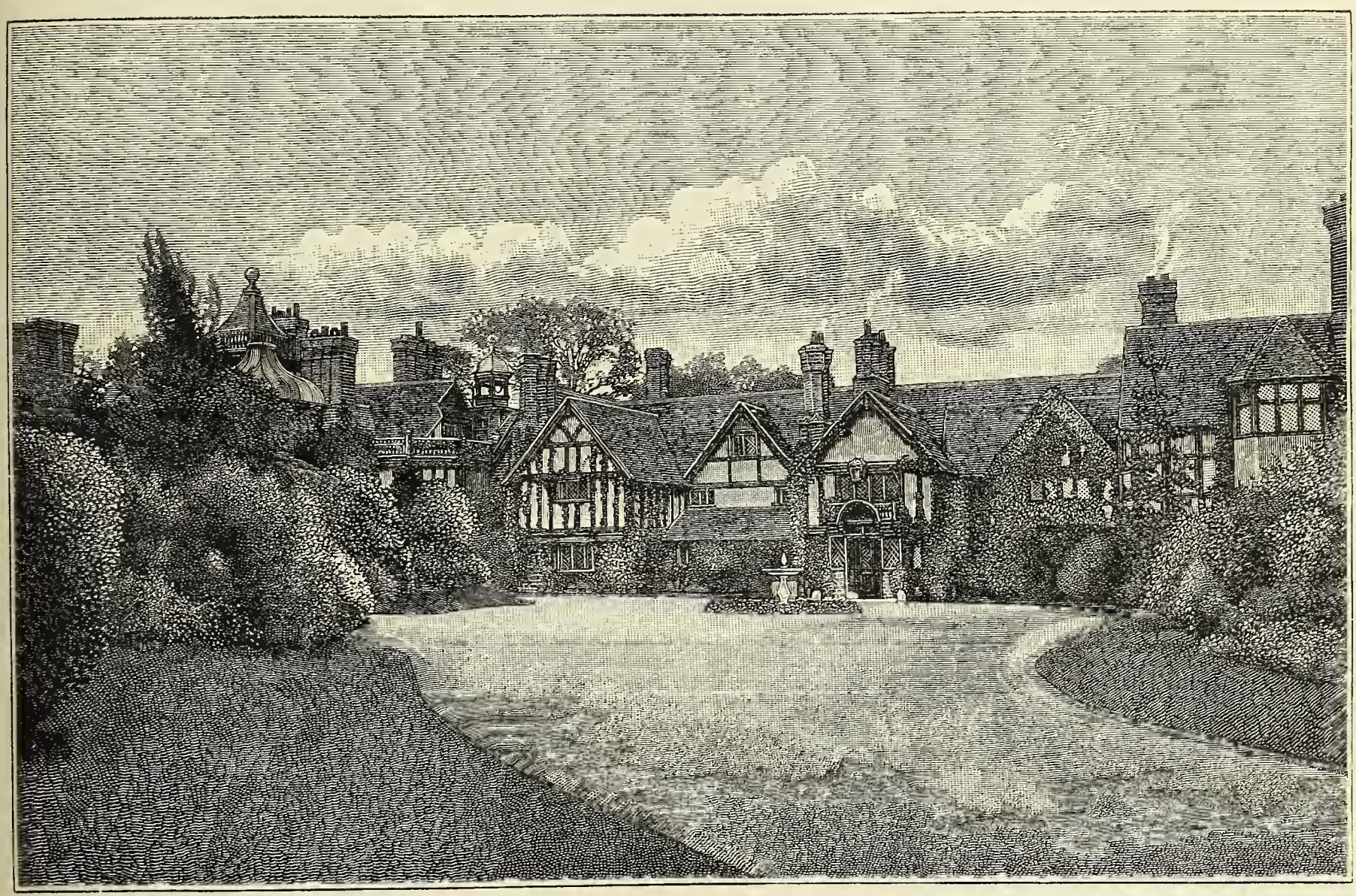
To the right of the conservatory stands the orchard, a pleasant relic of the olden times. Many of the trees are said to be over one hundred years old for certain, and goodness knows how much more, their mossy trunks seeming to say that they might even be as old as the oldest portion of the house. Last summer we had the pleasure of seeing them with their own load of lovely blossoms, aided by the avalanches of flowers from the Roses climbing up among their branches, and we are not likely to forget the unusually beautiful picture they presented. At the bottom of the old orchard is a lovely piece of natural sunk garden, terminating in a deep rocky dell, with water in the bottom, beside which Bamboos and other graceful plants are growing, while rock-work covered with pretty Alpines extend all round.

Beauty is the chief object in the garden and pleasure-ground, but away at a convenient distance is situated the kitchen-garden and plant-houses, and there usefulness and beauty is the order of the day. The walled-in kitchen-garden is a pattern of neatness and good management, and the extensive new system of fruit wall-cases cannot fail to be a great and profitable acquisition. Such things always pay for themselves when managed with that determined care and untiring perseverance which Mr. Jennings gives to everything he takes in hand, as witness his extraordinary Souvenir de la Malmaison Carnation culture mentioned in our columns at p. 201. His system of managing this plant is infallible, and this year his stock of over five hundred plants of it is worth a journey to see, and yet there is no disguising the fact that the least hitch in its management always upsets the whole batch, and so there is the greater credit to be given to him for never failing.

The Mushroom Cave, too, is another well-managed thing, and good crops are now, as usual, on the beds. Roses, Carnations, Eucharis, Stephanotis, Winter Pelargoniums, Lilies of the Valley, and everything else good for growing a quantity of handsome flowers, are well done at Ascott, and even at the present dull season every one of the well built span-roofed houses are bright with them. One house is full of Carnations, the best of which seem to be Guelder Rose, white; Thomas Wallis, scarlet flake; Irma, bright rose; Andalusia, yellow; Pride of Penshurst, a splendid bright yellow; Valentia, fringed crimsom; Miss Jolliffe, blush; Sir Evelyn Wood, bluish-purple; Laura, fringed blush; Vulcan, scarlet; and Lucifer, scarlet. Summer Carnations and pot Pinks, too, are finely grown, and in immense quantity; that lovely bright rose-coloured variety, Mary Morris, which is good for summer or winter blooming, being here, as everywhere else, the first favourite. Another house is full of lovely scarlet, carmine, and pink Pelargoniums, and double ivy-leaved kinds, chiefly of Cannell's strain. These are very useful and very effective when set up with white Roman Hyacinths as at Ascott.

Among the other good batches of plants in bloom are pretty little bushes of Lilacs, Guelder Roses, and well-flowered pots of Lily of the Valley, and other forced things; while the house of Cyclamens, which are only one-year-old plants, are in size of bulb and beauty of flower of the highest excellence. The Gardenias, too, are grand. For the rest of the indoor plants at Ascott, quantities of Maiden-hair Fern, and nicely cultivated batches of Dracænas, Crotons, Pandanus, Palms, and other plants suitable for indoor decoration appear, not even the almost incorrigible Stephanotis, Ixora, or Gardenia bearing the slightest trace of mealy-bug or other insects on their shiny, healthy leaves. In the frames Violets are extensively grown, and are in good flower; Swanley White seeming to be the best of its class.

Conveniently near to the garden and houses is situated the picturesque bothy illustrated by us at p. 233, its reed-thatched roof and quaint irregular sides of home-sawn boards rendering it a pretty object. Altogether it may be said that Ascott is a model establishment, bearing evidence in all its details of the fitness of master, man, and all concerned for the positions which they occupy.



ASCOTT, THE SEAT OF LEOPOLD DE ROTHSCHILD, ESQ.

FRUITS.

Fruit Culture under Glass.—Vines in the early house should have all the bunches but one to each shoot removed as soon as they appear; and after those left have set their fruit, the number should be reduced to seven or eight bunches on each rod, leaving more or less according to the length and strength of the individual vines. Of course the largest and best shaped bunches should be left, and these as equally distributed over the rods as possible. The shoots should be stopped a couple of joints beyond the bunches, and all sub-laterals be removed at the first joint. Those which may afterwards be produced should be pinched close back. The bunches should be thinned as soon as the berries are set, so that there may be no needless exhaustion of the vine's energies in swelling berries and bunches too, which have to be removed a few weeks later, as is the cause when the operation of thinning is deferred to a more convenient time. In thinning the bunches, the crown berries should be left, and at rather more than 1 in. apart, care being taken not to injure those left by touching them with the hand or scissors. Maintain a night temperature of from 60 degs. to 65 degs., as the weather is cold or mild; 70 degs. by day, running the temperature up to 85 degs., with sun heat and plenty of atmospheric moisture, at closing time.

Strawberries.—If the most forward plants of Vicomtesse Héricart de Thury Strawberry were treated during the interval from the 13th of December last as recommended in your columns of that date, the fruits of the earliest started batch will now be swelling fast (our own, started somewhat earlier, are now nearly ripe), and in order to secure good large fruit, the plants should have liberal supplies of tepid liquid manure at the roots until the fruit begins to colour, when its use should be discontinued. Failing liquid manure, Beeson's manure, at the rate of 3 lbs. to 10 gals. of water, should be given—poured in at the side of the pot so as not to wet the fruits or crowns of the plants, in which case they would be liable to sustain injury. As successional plants come into flower the blossoms should have a camel's-hair brush passed over them about midday when dry to assist the work of fructification, repeating the operation daily until a fair crop of fruit is set, when ten or twelve of the best (crown) berries of uniform size should be selected so that they may swell and ripen together. All flower-spikes that show between this and the ripening of the crop should be pinched out, so as to concentrate all the strength of the individual plants to the swelling and ripening of fine large fruits. —*H. W. Ward, Longford Castle Gardens.*

Hardy Fruit Cultivation.—In populous districts there is invariably a convenient market as well as a ready sale for the smaller fruits, such as Strawberries, Raspberries, Currants, and Gooseberries, and although the first outlay in the purchase of trees is necessarily greater than when the orchard is under-cropped with vegetables, and although three years must elapse before much return is made from them, still the profits which then accrue are usually such as to counterbalance the extra outlay. The treatment which they require also better accords with the health and fertility of the orchard trees than when the ground is cropped with vegetables. The plan generally practised by the best fruit growers is to plant the bushes about 6 ft. apart each way, thus about 1,000 trees would be required to plant an acre, as the spaces near the orchard trees must of necessity be left somewhat wider. The cost of the trees would be about 10*s.* or 12*s.* per 100 for the most dependable and best market varieties, so that the first cost would be about £5 or £6 per acre.

Currants.—The most valuable sorts of Red Currants are La Fertile, La Versaillaise, Raby Castle or Victoria. Of Black Currants, for which there appears to be a rapidly increasing demand, the best varieties are Black Champion, Black Naples and Common Black. As this tree is much less liable to be broken by winds and is also more fertile when the branches are allowed to grow from the stool instead of from one stem, such only should be chosen for planting. They also require comparatively little pruning, and succeed best on a strong soil in a somewhat damp position.

Gooseberries.—The varieties of Gooseberries most in demand and such as crop well and bear carriage with the least injury are Monarch, Crown Bob, Rifleman, Lancashire Lad, Whitesmith, and Warrington. The constant working of the hoe amongst these trees in order to eradicate weeds has a very beneficial effect in respect to growth and fertility, and the weight obtained in the most favourable districts in good seasons is almost incredible, over 100 bushels of Black Currants per acre have been picked from trees only three years old, realizing £60, and on older trees £100 per acre has been obtained. Gooseberries also pay well if the varieties are well chosen and the trees are skilfully pruned and cultivated, between £30 and £40 per acre being a common result, while double these sums are occasionally realized. Of course it is not to be expected that in less favoured localities, where the soil and situation is not so favourable, where markets are not so convenient and transit more difficult and expensive, that like results can be obtained, and also, as competition increases, prices will naturally decline, unless the demand (which is not improbable) increases in the same or even in a greater ratio, but there are numerous occupiers of land in the more rural districts, whose comparatively low rents and less working expenses would admit of greatly reduced prices and yet allow of very handsome returns on the capital expended.

Raspberries.—The same remarks equally apply to the cultivation of Raspberries, although this is a fruit which from its soft nature spoils quickly, and is somewhat more risky when far distant from market than those already mentioned, to judge, however, from the enormous increase of Raspberry plantations in West Kent (where the soil is composed of a mixture of clay, chalk, and sandstone shingle) within the last few years, the cultivation of this fruit must, after making due allowance for the objection mentioned, be found very profitable.

Strawberries may also be grown with advantage between the trees for several years, and where the soil is found suitable to their growth they give a good result in almost any district, and as they bear well the first year after planting, a quicker return is made than with bush fruits. They should, however, have a change of ground every third or fourth year, else they deteriorate considerably both in quantity and quality. As good croppers there are three varieties which appear to hold their own against all others for market purposes, they also possess the double advantage of bearing carriage well and being fairly good in quality. They are Sir Joseph Paxton, Sir Charles Napier, President, and Elton Pine, to these varieties may be added, where the land is of a clayey or marly nature, but not otherwise, a small proportion of British Queen, which, although not so good a cropper, is very valuable for late use, also for its superior flavour.

Nuts also pay well where the soil is suitable, that on which they succeed best being the loose disintegrated limestone or ragstone. They, however, are better grown separately and quite apart from other trees, and should be planted about 15 ft. or 16 ft. apart each way. Their yield in good seasons is very great, and it is questionable whether any other crop planted on the naturally poor land, which they succeed best in, would make anything approaching the profit they give. They do not, however, bear so soon after planting as the other bush fruits, and they also require more skilful pruning to keep them in perfect order and ensure fertility. The large Cob is the most profitable kind to grow, not only because it is large and prolific, but it has also the valuable property of bearing in a much younger state than most others.

Filberts are also in great request, on account of their flavour. I have seen trees growing on the sunny banks in the West of England, in the loose sandstone shale, where scarcely anything else appeared to thrive, bearing nearly half a hundredweight to a tree, and in West Kent £90 per acre is frequently realized from trees planted in similar soils.—*Scribo.*

Mr. James E. Bagnall, one of the vice-presidents of the Birmingham Natural History and Microscopical Society, and author of the best "Flora of Warwickshire" that has been published, was last week elected an Associate of the Linnean Society.

FLOWERS.

Seasonable Work in the Plant-houses.—Plants suitable for window-boxes, vases, &c., are required to be of rather larger size than those for ordinary bedding, and therefore require early attention. Among the most useful plants for this purpose are the Marguerites, both yellow and white varieties, which thrive so well and continue in flower for such a long period, besides having a very light and graceful appearance, that we consider them indispensable either for window-boxes or vases. Cuttings put in at once will make good plants if grown on in an intermediate temperature until they are well established. Pelargoniums, Calceolarias, Lobelias, Tropæolums, or any other plants required for the same purpose, should be potted now, as plants grown on early and well hardened off not only give a better effect when first put out, but generally succeed better throughout the season.

In the Propagating department everything should now be proceeded with as opportunity occurs. It is better to be a little in advance than behindhand, especially in any case where the stock is scarce, as the early struck cuttings will give another batch later on. In spring propagating, the chief points to be considered in order to ensure success are the following:—A good brisk bottom heat, fresh clean material for plunging in, careful attention to opening the cases every morning and closing them again before the cuttings begin to flag, and a close watch for damping, which is generally caused by a fine thread-like fungus spreading over the surface of the pots and if this is not checked on its first appearance, it will spread very rapidly and destroy everything that it comes in contact with. The best way to check this destructive enemy is to stir some hot cinder ashes into the plunging material and shake a little hot dry sand over the pots in any place where the fungus has made its appearance. Care should also be taken that the cuttings are quite free from insects, and that they are never allowed to flag after being taken off. Failure is so often caused by some trivial neglect, such as leaving the cases open too long, keeping them too much closed, allowing the pots to become too dry, or perforce using too much water; or again, by neglecting to shade at the proper time, or shading too much. It is such an easy matter to succeed if all these several points are duly considered, while if one point is once neglected, it often happens that all previous labour is thrown away.

Pentas carnea and rosea.—These are both useful subjects to grow for cut-flowers. They are indeed so floriferous in habit, that if a few plants are grown, there will be no difficulty in obtaining flowers throughout the year, as when the truss of flowers at the point of each shoot is cut, they at once produce other shoots, which quickly furnish more material for the decoration of the house, or for making bouquets, for both of which purposes the flowers are equally available and effective. They should be propagated as early in the season as circumstances will permit; and the cuttings will quickly root if a suitable place is at liberty in which to put them, failing which they will root without the aid of bottom heat, but, of course, not in so short a time; in any case there is no difficulty whatever in their propagation, or, indeed, in their after management. As soon as rooted, if in a propagating-case, the cuttings should be gradually inured to air, and when sufficiently hardened, will require to be potted off singly into small pots, using a compost of two parts of peat to one of loam, with sufficient sand to keep the whole porous. They will thrive best if grown near the light, either on a shelf in the stove, or in some other suitable structure; and the young plants will require frequent stopping to induce them to form nice dwarf bushy specimens. As soon as the pots are fairly well filled with roots, they will require to be moved into others of a larger size, but as they are not large rooters, it is better to err in growing them in small rather than in large pots. I have found them very serviceable when grown in 6-in. pots, and that size will sure to give good results; moreover, in that size the plants can be conveniently

used for either house or conservatory decorations. The older plants may be potted on into suitable sized pots, and can be grown into good-sized specimens. from which we can cut and come again.—*E. Dumper, The Gardens, Summerville, Limerick.*

Poinsettia pulcherrima plenissima.—This is a valuable variety, quite as much deserving of general cultivation as the better known pulcherrima, and yet why, may I ask, is it so rarely met with? I have, indeed, heard the question asked, "What has become of it?" My first experience of this variety dates from about the time when it was sent out by Messrs. Veitch, and the high praise then bestowed upon it was fully merited. As may be supposed, there was a great demand for it, and the plants sent out were necessarily weak, and I well remember that as soon as the gardener I then served under received the novelty he commenced to propagate it almost before it could well be called a plant, with results that, it need not be said, were not encouraging. My belief is that the health of the plant was greatly debilitated through constant propagation, and the necessary conditions under which it was placed for that purpose. Now that strong plants of this Poinsettia can be obtained for much less than smaller ones could be bought at that time, no establishment where gay and cheerful flowers are wanted through January and February, should be without it. The variety plenissima, if anything, supersedes the old variety in general appearance and effectiveness, with the valuable addition of coming into use much later, as under precisely the same conditions it does not come to perfection for nearly two months after pulcherrima, and that fact alone should commend it to all requiring a brilliant display for the longest season possible.

The treatment recommended for the old variety is equally applicable to this one. Cuttings taken off in spring with a heel, inserted in sandy soil and placed in a moist bottom heat, or short pieces of last year's growth with three or four eyes inserted in a similar manner, will generally strike root. After being established in their blooming pots, a cold pit with their heads brought near to the glass suits them admirably until the middle or end of September, when they should be placed in warmer quarters. To get them to develop their bracts perfectly they should be raised with their heads almost touching the glass, and be subjected to a fairly brisk heat. A mixture of loam and peat suits them well.

This, as well as the single or common variety, is amendable to the planting-out system of culture. Old plants cut down will produce young shoots, and when these are a few inches long, say by the beginning or middle of June, they may be planted out in a sunny aspect, sheltered from cold winds. The addition of a little prepared soil at planting time is a wonderful help to them. This may not hold good in the north of England and Scotland, but the treatment is all that could be desired here in Wilts.—*C. Warden.*

Turves and Moss v. Pots.—I thought when I wrote the short note on growing bedding plants in turves, that the system might possibly be objected to on account of the difficulty that is generally experienced in obtaining turves for the purpose. Your able correspondents, Mr. Gilbert and Mr. Warden, have quickly directed attention to this weak point, which would of course prevent many from giving the plan a trial; but where gardeners are so fortunate as to be able to get turf in abundance, I think the system will be found to possess the advantages I have urged in its favour. In a garden in the North, in which I was employed eight years ago, and where turves could be obtained in unlimited quantities, it was practised and had given great satisfaction for some years, and we always found it to be a great saving of labour during the spring months, taking all things into consideration. I believe that each of the above systems have their advantages and their disadvantages, and either of them might be adopted according to the convenience at hand, and the manner in which the preparation of bedding plants has to be carried out. I should like the opinion of anyone who has practised the turf system.—*H. Dunkin.*

VEGETABLES.

The Kitchen-Gardener's Calendar.—Pea and Bean-sticks should now, if not already done, be looked over, and the necessary quantities of both, together with those required for supporting standard Roses, young fruit-trees, and pot and border plants, be ordered forthwith of the woodman, so that they may be sharpened, sized, and tied up in bundles in readiness for future use, when time will be more precious than it is now. Bearing this fact in mind, also a good supply of labels, from 9 ins. to 12 ins. in length, should be made during inclement weather, and tied up in bundles for seed-beds, rows of Peas, Beans, Potatos, Cauliflowers, &c., later on. In short, any work that can be done as well now as three months later should be seen to at once, for gardeners, even more so than agriculturists, if they mean to succeed in their profession, must be prospective as well as economical in arranging and working to the best advantage, individually and collectively, the several parts of the labour machinery, which, with good management, though frequently inadequate to the work which it is expected to perform, can be turned to good account.—*H. W. W.*

Broccoli and Cauliflowers all the Year Round.—There is no difficulty in maintaining a continuous supply of these vegetables in seasons like this and the past, providing a sufficient number are planted of suitable kinds. As regards these I observe that some of your correspondents' selections differ entirely from mine, but as I have had no opportunity of trying any of the later introductions, I have had to rely on the following:—Early London, Walcheren, and Autumn Giant Cauliflowers; Walcheren Broccoli, Snow's Superb, Dilcock's Bride, Wilcove late White, Knight's Protecting, and Cattell's Eclipse. The latter is seldom over before there are plenty of Early London Cauliflowers. Last year we cut our first Cauliflowers on May 30th and the year before on June 2nd. The plants for our earliest crop are now in a frame, and some of the best will soon be potted and every precaution taken to prevent them from flagging. As soon as the weather is favourable they will be planted out under protectors, and covered with mats in very severe weather. Later on more will be planted out in a similar manner, except that they will not be previously potted, and the remainder will be planted in the open ground, generally on a south border, and these are succeeded by a sowing made in a frame in February. The Autumn Giant Cauliflower supplies us still with nice sized heads, and to make sure of them they have been protected by thrusting a handful or two of short dry litter in the centre of the plants. This will be succeeded by Snow's and some late sown Walcheren Broccoli.—*W. P. R., Cuerden Hall, Preston, January 19th.*

The Conqueror Tomato.—Last year I grew some ten plants of this variety in a cool, span-roofed house. They were trained to a trellis as double Cordons, and had no fire heat. They occupied only one side of a house 30 ft. long, with 180 square ft. of glass surface; the aspect is full west, and they were planted on May 17th, 3 ft. apart, in a border only 12 ins. wide and 18 ins. deep, filled with two-thirds of good loam and one-third of half rotted leaf soil and well rotted manure, with a sprinkling of ½-in. bones. As soon as the plants were well established, they were watered with weak manure water about once a week. The produce of the ten plants thus grown was 2¼ cwt. of good well ripened fruit. I obtained seeds of this variety from Mr. H. Deverill, seedsman, Banbury, and consider it one of the best that can be grown for a general crop of fruit.—*W. Baskett, Wykham Park, Banbury.*

Early Peas.—In the selection of Peas for the first crop our whole attention is given to the variety that will give us Peas fit to gather at the earliest possible date, rather than to the weight of the produce and the time the plants continue in bearing. We usually select three varieties—viz., Veitch's Selected Extra Early, Day's Early Sunrise, and William the First, which come into bearing in the order in which their names are printed. The former is well ahead of the other varieties, often giving two or three dishes before the others come in. It grows about 3 ft. in height and is an abundant bearer. All who have not yet tried it should give this variety a trial. The method we have found to answer best in the cultivation of the earliest varieties is to sow them on pieces of turves about 1 ft. long, 4 ins. wide, and 3 ins. deep, with a groove cut along the under side longitudinally about 1 in. in depth in which the seeds are sown, and covered with some fine soil from the potting bench. We have also succeeded very well with them sown in small pots, but when both methods have been tried together here the former had the advantage. This sowing usually takes place from the middle to the end of January, after which the turves or pots are placed in a cold frame and kept close till started, when the lights are drawn quite off to keep them from becoming drawn. If the weather permits they are planted out on a south border or in some other sheltered and sunny position about the latter part of February or beginning of March. If they are drawn at all, a little soil is drawn up to them and some Laurel or Spruce branches are got in readiness to be placed along the windward side of the rows to shelter them from the searching easterly winds. They are staked as soon as fit and the protecting branches again placed by their side.

We can do no good at all with autumn-sown Peas, as the sparrows trouble us so much, picking off the green leaves until the plants are exhausted. The sparrows are also very partial to the planted-out Peas, and for that reason it is well to plant them in some frequented spot where these depredators may be often disturbed, some white cotton placed over the rows will keep them off while dwarf, but it is not so easy when they get taller and are staked. Soot sprinkled over them while damp will preserve them until the next rain, when it will be necessary to repeat the operation. Here all wild birds are rigorously preserved, even the common house sparrow, so that we have to do the best we can under the circumstances.—*C. Warden, Clarendon Park, Salisbury.*

Forcing Vegetables.—For forcing Seakale, Rhubarb, Asparagus and Potatos, there is no heat so genial as that from dung and leaves, which, turned over and well mixed together, keeps regularly fermenting for a long time, and if beds are made up of it, so as to give warmth below, all the above-named vegetables may be had in the greatest state of perfection. The easiest way to get fine Seakale and Rhubarb is to dig up the roots and then lay them in soil on a hotbed, or place them under arches or stages in any house where the temperature ranges between 60 degs. and 70 degs., and if there kept watered, with tepid water, when necessary, the crowns will soon start, and the Kale and Rhubarb quickly be ready to cut or pull. The most suitable position for Asparagus and Potatos is a pit having sufficient depth for dung and leaves and a hot-water pipe round or along the front for affording top heat, which at this early season is requisite for Asparagus, but Potatos must have very little or they become drawn in the haulm. In lifting Asparagus, the plants should be taken up with as much root as possible, and then laid in thickly in light rich soil, of sufficient depth to just cover the crowns, as then the heads come without being blanched, in which state they are far better, both in appearance and flavour. As Potatos are some time coming through, the frame they are in may be made good use of to get a crop of Radishes, or several sowings of Mustard and Cress may be made between the rows, or Lettuce dibbled in, where, by having a little warmth below, they will grow and soon be ready to cut.—*Alpha.*

THE FOX GRAPE.—A foxy Grape in the old world, is one which has a brown instead of a black colour, as it should have—in short, a black Grape hardly coloured. It is more than probable that the term "fox Grape" was given to the American Grape of that name from its "foxy" colour. Now we speak of the "foxy odour" of a fox Grape, as if the fox had anything of a smell like that. The fox has no such smell. And then we have a "foxy taste." It is interesting to note how words are led to have meanings quite different from original intent.—*Gardeners' Monthly.*

THE

Orchid Growers' Calendar.

Vandas in Winter.—Whether it arose from the notion that Vandas, Aerides, Saccolabiums, Angræcums, and all other plants of similar habit and having distichous leaves required the same treatment, or what other line of reasoning induced it I know not, but always in years gone by and too frequently now do we see these plants, which in many cases have no other affinity than their similarity in habit of growth, all placed together in the East Indian-house. The mere fact of their having distichous leaves and profuse air-roots seems to have acquired for them one and all a character as heat-loving subjects. This method of growing all Aerides, Vandas, &c., together, although it prevents perfection being attained, does not cause lamentable failures when the East Indian-house is kept down in temperature to the reasonably low limit prescribed for it in the present day, but, unfortunately, as many of the occupants will stand and seem to thrive well in a very high temperature, the heat in that house is generally far too great for many of the plants usually kept in it, and particularly for the Vandas, except, perhaps, V. Lowii, V. Hookerii, and V. teres.

Dr. Patterson, of Bridge of Allau, the Messrs. Thomson, of Cloverfords, and many others have grown them and still grow them in the most vigorous manner as little better than cold greenhouse plants; but as exceptionally cold-grown plants require exceptional treatment, it is best to adopt the plan settled down to by Mr. Lee with his grand collection, Mr. B. S. Williams, and other large Vanda growers, and keep the plants in a Cattleya-house temperature all the year round, the temperature at the present time being maintained at 60 degs. to 65 degs. Fahr. by day and 55 degs. at night, with plenty of air in fine weather. In this they make stiff, hard, sharp-edged foliage, very different from the thin leaves lopping forward at the top, such as are made in a hot close house, and the flowers of the cool grown plants are incomparably better.

Vanda tricolor and V. suavis.

These, which differ only in the former having a yellow ground to the flowers and the latter a white one, have proved so prolific in fine varieties that since the year 1846-7, when Mr. Thos. Lobb first sent them to Messrs. Jas. Veitch & Sons, of Chelsea, a long list of very distinct named varieties have been culled from the different importations. Those who had the privilege of seeing Mr. Lee's grand collection in flower in his famed Downside Cattleya-house last year, were able to compare and make a good estimate of the value and distinctness of the different forms. As there seen the original V. suavis Veitchii, which often has a dozen and a half flowers on a spike, is still one of the best of the white ground varieties, the more delicately marked V. suavis Wingatei and V. suavis suaveolens being also very distinct in the same section. Of the "tricolors" with yellow ground, V. tricolor Patersoni, V. tricolor Leopoldii (with very round shiny flowers), V. tricolor Warneri, V. tricolor Russelliana, and V. tricolor Dodgsoni, a grand form with violet lip and purple margin to the petals, were the best.

Vanda insignis and V. cœrulea.

The true V. insignis was in bloom in many fine examples, being grown cool in precisely the same manner as the V. tricolors, as it should be. V. cœrulea, that loveliest of blue Orchids, has been more sinned against with heat, perhaps, than any, and hence the mortality among the plants. Nothing can save it in any higher temperature than that given above, unless it be grown in a basket and placed near the glass, and in that case the probability is that it will have the low temperature indicated, although the thermometer in the house registers much more. Sir Wm. Marriott, who always grew and flowered it so well, treated it as a moist intermediate-house plant, and to that may in a great measure be ascribed the lovely hue of its flowers with him, for with this, as with many other Orchids, there is as much in culture as in variety, and a good variety may become a bad one in bad hands.

Griffith found it in the Khasia Hill in 1846, growing on Oak and Pine trees, at an elevation of 3,000 ft. to 4,000 ft., and so it may well be supposed that it does not want much stewing, but even the Oak trees on which they are found growing would soon depart this life if they were placed in the houses which the V. cœruleas, gathered off their branches, are often imported to. V. cœrulea is one of the most beautiful and easily managed Orchids we have when grown moderately cool, it is even greatly strengthened by being placed in a still, moist, shady, unheated house during the hottest portion of the summer. V. Denisoniana is a pretty pure white companion to V. cœrulea.

Vanda Sanderiana.

This king of Vandas, with its gigantic flat Odontoglossum vexillarium-like flowers, is, I am sure, grown much too hot, and I am convinced it only wants the intermediate-house temperature. I am in a position to speak on this point, for I have made experiment with it. Early last summer I obtained a plant of it with three leads, and placed it in an unheated house, in which ferns were grown. It had not a single degree of artificial heat until the cold weather set in; during the whole time it rooted vigorously, and last autumn two of the three leads flowered. Nothing could be more satisfactory than this, and yet I am sure that many sounder pieces of the same importation were killed off quickly in great heat—indeed I know they were. At the same time, I should advise the plant to be kept not too cold in winter, that is to say, not less than the prescribed Vanda temperature.

Vanda limbata and V. Cathcarti.

Vanda limbata, hitherto so rare, is now obtainable, and it forms a very distinct and pretty plant among a collection, and so also does the generally despised V. Roxburghii, a good variety of which I consider a very desirable plant. Vanda Cathcarti, with its large wax-like yellow and brown-barred flowers, which Mr. Sydney Courtauld, of Bocking Place, Braintree, grows and flowers so freely, is unlike many other Orchids, and V. lamellata, V. cœrulescens, and all the others, are handsome and distinct in their different classes, and if grown as recommended, they will prepare for the hearty reception of those new or described, but not imported, species which we know are yet to come.

The Vandas, when grown cool, require careful watering, as they keep healthy and plump in the cool in winter with a very moderate supply of water. In summer all the Vandas should be carefully shaded against direct sunlight, except in the early morning or late evening, as it is most destructive to them.—*James O'Brien.*

ORCHID NOTES.

Odontoglossum Rossii majus.—Reference was made in a recent number of The Gardening World to the manner in which this Odontoglot is grown by Messrs. John Laing & Co., and the object of this note is to corroborate the statement of the writer that it does grow successfully in the cool-house, under precisely the same treatment as is given to O. Alexandræ. It is more generally grown in a warmer temperature, but I am convinced that if anyone who so grows it will give it an impartial trial in the house recommended, it will soon prove that it is quite at home. By cool treatment, the plants of it here have in two years quite doubled the size of their pseudo-bulbs, and look remarkably strong and vigorous. I put them in the Mexican-house to open their flowers, which I fancy causes the latter to come larger, but if it does not do that, it causes them to come on quicker at a time when flowers of high quality are in great demand. I have often thought that no plant produces larger flowers in proportion to its small size, than this Orchid.—*E. Dumper, The Gardens, Summerville, Limerick.*

Scuticaria Steeli.—This is a peculiar and at the same time very handsome Orchid. Its peculiarity consists in its habit and odd-looking leaves. To realize its appearance without seeing it one must imagine a bunch of stout, dark-green whip-thongs, about 2 ft. long, suspended from a block by their heels. These are the leaves. From the base of the leaves the short peduncles appear, each bearing a solitary flower of 3 ins. in diameter. The ground-colour of the flower is white, the sepals and petals being elegantly blotched with pale liver-coloured blotches, and the lip having radiating lines of the same tint and an orange-coloured cushion near the base. It is flowering at the present time in the Orchid-house at Kew.

FLORICULTURE.

The National Chrysanthemum Society.—"Nothing succeeds like success," it is said, and this trite saying appears to be profoundly true in relation to this new departure. It is a bold effort to assume the title and functions of a National Society. It was all the more startling when a local society launched out into a bolder effort and became national. The past year's experience has conclusively justified the act, as was shown at the annual meeting of the Society at the Four Swans, Bishopsgate Street, E.C., on Monday evening, the 19th inst. One unmistakable evidence of success was the presence of a large number of members, and when the President, Mr. E. Sanderson, took the chair, making something like a quarter of a century of attendances in that capacity, he was greeted with a hearty round of applause.

The report read by the energetic Secretary, Mr. W. Holmes, was most satisfactory; it bore testimony to the fact that in the year just past the society achieved a distinct and satisfactory success; that the exhibition held at the Royal Aquarium in November last was the best yet recorded; that the enormous number of over 3,000 blooms were staged in competition; that the number of members had grown from 140 in 1883 to 260 in 1884; and that accessions of subscribers were constantly being received. It also set forth that the establishment of a Floral Committee had answered well, and justified all the good anticipations indulged in concerning it; that a liberal scheme for the affiliation of Chrysanthemum Societies and Exhibitions had been promulgated; and that the donations towards special prizes already received were liberal indeed. The balance sheet showed an income of £308 9*s.* 3*d.*, and an expenditure so near to that sum, that a balance of £1 6*s.* 6*d.* only remained over; and that a sum exceeding £200 had been paid in prizes.

Then came the election of officers, commencing with the re-election of Mr. Holmes as Secretary amid boisterous acclamation; the worthy President was similarly honoured, an extra cheer being given in honour of his being one of the venerable fathers of the Chrysanthemum Societies; the Vice-Chairman, Mr. R. Ballantine; the Treasurer, Mr. J. Starling; and the Auditors, Messrs. J. Drain, jun., and Crane, were also re-elected; and in addition a General Committee of thirty-six persons. By an unanimous vote there was referred to this body the important functions of appointing the judges for the next show in November, and of nominating the Floral and Exhibition Committees.

Then came the important matter of revising the schedule. A sub-committee had wisely taken this matter in hand, and brought up a report embodying suggestions of a valuable character. One of these was largely welcomed: that of so modifying the terms of the class for the best Group of Plants of Chrysanthemums arranged in a space covering 100 square ft., as that two classes should be made, one for a Group of Incurved Chrysanthemums, and another for Japanese varieties, each to cover a space of 60 square ft. Last year the judges experienced some difficulty in deciding upon the relative merits of Japanese as opposed to large-flowered Chrysanthemums, and a little strong feeling, happily of short duration, was aroused thereby. In the leading classes for plants the prizes were augmented, a step in the right direction.

The leading class for Forty-eight cut Blooms, twenty-four to be incurved and twenty-four Japanese, was in like manner split up into two classes, effecting a severance between the Japanese and incurved varieties. They will now form two distinct classes of Twenty-four Blooms each, the prizes will be £10, £6, and £4, thus getting rid of the discrepancy in the

amount of the first and second prizes that has previously prevailed. The Cut Flower Classes are also extended in a few important particulars. Among them there is a class for Anemone-flowered Japanese Chrysanthemums, at present a limited class, but likely to grow in importance. Special prizes are offered for single Chrysanthemums and for English raised varieties, sports excluded, sent out in 1884-85. Several suggestions were made with a view of adding other features, and several of these were referred to the General Committee, so much depending upon the Special Prize Fund, to which subscriptions are invited.

A very important offer was made by Mr. Cullingford, namely, that of ten guineas, to be expended in providing prizes for late-flowering Chrysanthemums, to be shown, say, about the middle of January. This will, of course, require a special exhibition, but it was announced that this could be arranged at the Royal Aquarium with but very little difficulty. Mr. W. Holmes stated that he was so alive to the importance of the work being done by the Floral Committee of the Society that he hoped to arrange for their meetings at the Royal Aquarium as a much more convenient centre, and for the meetings to take place in the afternoon, instead of the evening, as heretofore.

HORTICULTURAL SOCIETIES.

Manchester Horticultural Improvement.—At a well-attended meeting of this Society, held at the Old Town Hall, King Street, Manchester, on the evening of the 15th inst., Mr. Bruce Findlay, President, in the chair, a paper was read by Mr. Plant, gardener, Woodheys Hall, Ashton-on-Mersey, on

Indoor Mushroom Culture.

Mr. Plant said he should endeavour to treat the subject from a practical standpoint, believing that to them as a society of gardeners, an interchange of opinions accompanied by the results of practical experience would best effect the object for which the Society was formed. Up to within a few years ago, when that powerful rival, the Tomato, found so much favour, the Mushroom stood unchallenged as a choice nutritious vegetable, and it might still be justly termed the beefsteak of the vegetarian. At the same time he did not think there was any other crop which a gardener grows that was more fickle, and gave him more uneasiness and annoyance in the absence of proper material and convenience. Where, however, proper conditions exist there need be no fear about getting good crops of Mushrooms. What, they might ask, are those conditions? The first thing necessary is a proper place in which to make up the beds. This is essential, although he knew that writers on the subject have treated the situation of the beds in a light manner. Mr. W. Robinson, for instance, in his otherwise very admirable book on Mushroom culture, says:—"Any species of outhouse will do for autumn and early winter crops," but experience had taught him (Mr. Plant) the contrary, and, with all respect to Mr. Robinson, he wished to say that Mushrooms will not grow in any outhouse in which gardeners may choose to make up a bed, unless they so alter its conditions as to make it into a Mushroom-house proper. They might get a chance crop sometimes from a bed made up in a slipshod manner, but if they wanted a proper and constant supply they must have a system, as chance crops are so very misleading. He would now describe what he considered

The Best Sort of House

in which to grow Mushrooms. This does not need to be an elaborate or costly building, with extensive fittings, such as they sometimes saw. Say, for instance, they had a range of lean-to glass-houses facing south; the opposite or north side of the wall is just the place for a Mushroom-house. The walls can be built of either bricks or turf sods, the latter being preferable for all purposes except durability. It should be about 8 ft. wide inside; this will allow space along the back wall of the shelves or benches on which the beds are to be made. He said shelves advisedly, because he believed there are frequent failures from making beds on the ground floor, as the ground tends to cool the bed too soon, and in damp places, such as Mushrooms delight to grow in, the material of which the bed is made sucks up the moisture and becomes cold, wet, and sodden. The lowest or ground bed should on this account have slates or boards forming the bench, resting on bricks running across, which will leave a cavity of 4½ ins. under the bed, and thus allow the temperature of the house to circulate under as well as over the bed. This arrangement he had found to be a great deal better than making the beds on the ground floor. The other benches can be placed one over the other according to the height of the house. The width of the beds in a house 8 ft. wide should be about 4 ft. 6 ins., which will leave 3 ft. 6 ins. for a path. A flow and return pipe should run between the path and the outside wall, and be fitted with a valve so as to enable them to turn on or shut off the heat as required. There should be a ceiling of boards underneath the spars which carry the roof; this will form a cavity the thickness of the spars, and this cavity can be filled with dried moss or any non-conducting material which will prevent those sudden changes of temperature arising from climatic influences.

Materials for the Bed.

Turning now from the house to the material required for the making of Mushroom beds, he said the first and foremost is manure from hard-worked and hard-fed horses, for when a horse is hard worked he does not need so much physic. Soft mashes and other condiments spoil manure for the purpose of Mushroom growing, and it is useless to try to grow good Mushrooms when horses are eating green food, or when they are supplied with a liberal quantity of Carrots, Mangold Wurzel, or other succulent roots. He had from time to time made trial beds in order to satisfy himself on this point. About twelve months ago, not being satisfied with the manure he had at his command, he got the permission of his employer to send for a load from the Hulme Barracks. This was treated exactly as the other, made up in the same house, and occupied a part of the same bench, yet the result was six to one in favour of the manure from the barracks. He was convinced that there were more failures through using unsuitable manure than from all other causes put together. He would next describe his own way of making up Mushroom beds. The manure is wheeled from the stable, the straw and droppings all together being left undisturbed until there is enough for a bed. The droppings and short litter are then taken out and placed in a heap on the floor of a shed. If it appears at all dry give it a sprinkle of water, turn it over and leave it until it has become heated. If on the other hand, it is very wet, some dry loam or leaves can be mixed with it to absorb the extra moisture. As regards the time of turning, some judgment is required. For instance, if the manure is from a number of horses and is produced in one or two days, it will require turning for a longer period than if produced by only one or two horses. The object of turning is to prevent the material becoming too hot, which destroys the ammonia and thus deprives the bed of the very element of which Mushrooms are chiefly composed. His own plan is to turn it over every morning until the heat is on the wane.

Spawning, and After Treatment.

In making up, the manure should be spread in layers all over the space intended for the bed, and in no case be allowed to remain in heaps just as it is tipped out of the basket or barrow, as in that case the heat will not be steady all over the bed, but will come up in what are called pipes, and probably destroy the spawn. Neither will it retain its heat near so long as when shaken out in layers and beaten moderately down until the bed is about 15 ins. thick. After being made up, it must be left for a few days, and if the heat rises to above 80 degs., which it probably will do, no attempt should be made to spawn until it has fallen to 75 degs. or 80 degs. In spawning break an ordinary brick of spawn into eight pieces and insert them into the bed with the hand, just under the surface, about 10 ins. or 1 ft. apart, care being taken to press the manure firmly round each lump of spawn. The whole is then covered with a layer of good rich loam, about an inch thick and beaten moderately firm. Considerable differences of opinion exist as to whether Mushrooms derive any benefit from rich soil, but he had no hesitation in saying that they do derive considerable benefit from it. Road sweepings are often recommended for covering and mixing with Mushroom beds, but he objected to them on account of the quantity of other obnoxious fungi which is thereby bred to the detriment of the true Agaricus. After spawning and soiling, a steady temperature of 50 degs. to 55 degs. should be kept up, with as little fluctuation as possible, and in no case should it be allowed to rise above 60 degs., otherwise the spawn will not penetrate through but only on the surface of the bed, and the result will be light, dry, and "flappy" Mushrooms. Great discretion is required in watering, for although they should never be allowed to become dry, neither should much water be given directly to the bed, but rather a humid atmosphere be kept up by syringing the walls and ceiling and throwing water on the floor of the house.

Gathering the Mushrooms.

Gathering Mushrooms also requires a certain amount of care, so as to do the least harm to the bed for future produce. Cutting them and leaving the stools in, does very grave injury to the bed for a considerable space round, literally poisoning it, therefore they should always be pulled, not cut in any way until just before they are to be cooked. He would not advise anybody to make their own spawn, unless they require it in very large quantities, as any respectable seedsman will supply it quite as reasonable in price as it can be made in small quantities. Finally, he would advise those who have not a Mushroom-house proper, or a shed which can be converted into one, to go in boldly for outdoor culture, as practised so successfully for the London markets by Mr. Barter, a system set forth so clearly by Mr. J. Wright, in his *Mushrooms for the Million*, which book he would advise all to read who attempt to grow Mushrooms.

Discussion.

The Chairman said that just before coming to the meeting he was looking over an old volume of *The Cottage Gardener*, in which he found the following paragraph relating to this subject:—"It is not improbable that if in April or May you were to insert fragments of spawn in the soil beneath the turf, that during the summer the spawn would spread and increase the crop in the autumn." As some of those present might have tried that experiment, he mentioned it with the object of eliciting information as to the result.

Mr. Upjohn, gardener to the Earl of Ellesmere, said that no doubt the method of Mushroom culture, described by Mr. Plant, was as good a one as could be advocated, and he agreed with almost every statement made by the reader of the paper. He differed with him in this, that he did not think it necessary to turn the manure over so often. He always tried to secure as good a turfy soil as possible for the topping of the bed. He did not approve of growing Mushrooms in dark places, for he believed that they naturally require light, and that if they could have it, the Mushrooms so grown would be better in every respect.

Mr. Williamson, gardener to G. B. Blair, Esq., Whalley Range, said that he differed from Mr. Plant in many respects on this question, and yet he had produced as good Mushrooms as most people. He had also grown them equally well in dark places as in light ones.

Mr. William Swan (Secretary) said he considered the specimens exhibited by Mr. Williamson were as good as need be grown anywhere, although his practice of culture seemed to differ from that usually recommended. His system appeared to consist in keeping down the temperature to a certain point, and he did this by spreading the manure over a large surface.

Mr. Plant said he objected to be judged by the samples he had brought with him, as those were only shown as specimens of what could be produced by good soil in contrast with the product of poor soil.

Mr. Williamson said he never allowed the heat of his manure to rise as high as 75 degs.

Mr. Robert Tait said there was no doubt that some of the failures in Mushroom culture were due to the manure having been deteriorated by the horses from which it was produced having taken medicine.

Letters to the Editor.

"THE GRAND OLD DAHLIA."

That fine old variety, Picta Formosissima, reintroduced by Messrs. Cannell, of Swanley, last year after a lapse of nearly half a century, has, I presume, been extensively grown during the past season; but as circumstances precluded the possibility of my taking an active part in plant-culture during last summer, I should like to know from some of your readers who grew it how it succeeded with them, and especially if it maintained the good character it enjoyed nearly fifty years ago.

I was much interested in the extract given at p. 294 from Miss Mitford's account of "The Lost Dahlia" Phœbus. At the time this very interesting story was written, 1837, many of the Dahlia-growers had a variety in their price lists named "Phœbe," a crimson flower tipped with white; from the description given of the former, I presume this cannot be identified with Miss Mitford's favourite. When we consider how many thousands of varieties have been introduced and lost during the last fifty years, although costing in most cases 10*s.* 6*d.* each when first sent out, it appears almost a miracle that "Picta Formosissima" should have been preserved for such a time. I should like to grow it again if only for auld lang syne.—*Man of Kent.*

POTATOS FOR AN AMATEUR.

I beg to thank your correspondents who have so readily and so courteously responded to my query respecting Potatos. That there should be found in the three selections given last week so much diversity of opinion is, doubtless, natural, because of the number of sorts of Potatos in cultivation, and if I am somewhat troubled as to which kinds to select, I am but in the position of Captain Macheath, who, troubled with the attention of two sweethearts, would have been ever so happy with one were 'tother dear charmer away. In saying this it must not be thought that I am ungracious. I am only perplexed. After all, we see correspondents giving their selections from diverse parts of the kingdom with the utmost good faith, and also according to their knowledge of various kinds. Probably there is no man in the kingdom who could give me a fair and full selection from all the kinds of Potatos in commerce, especially as it is a fact that some twenty or more kinds have, I learn, been put into commerce for the first time this winter, and the respective merits of those can yet be known only to a limited circle of persons. I confess I am so fond of Potatos I should never tire of growing yearly a hundred kinds, and include always all the newest sorts, for there is a great deal that is interesting, and very much that is both useful and profitable in Potato culture. I shall make my selection now according to the best of my judgment, and shall hope to find I have found some first-class varieties.—*A Sussex Amateur.*

MARKET GARDENING.

Your able leader in last week's paper on this subject touches on an important matter. You refer to the many drawbacks and difficulties by which the home grower is handicapped, and, no doubt wisely, you allude to foreign competition as one of the chief of these. As you state, we market growers keep pegging away, and when we find ourselves overcrowded or out-classed in any one branch through foreign competition, we carve out a fresh line for ourselves. We certainly do feel disposed to grumble occasionally, for we cannot forget that, after having created a demand in the markets and done most of the pioneer work, the Channel Island and Continental growers, with their better climate, low rent, and lower rates and taxes, step in and cut us out.

Truly, it is satisfactory to know that the great population is plentifully and cheaply supplied, and but for the remembrance of the fact that the profits derived from the increased demand go to enrich foreign countries, there would be nothing to grumble at; and there is also the satisfaction of knowing that many foreign producers do have to pay a heavy duty for the privilege of selling their produce in the English markets. I believe I am correct in statin8 that fruits, such as Currants, Raisins, and Prunes, pay a duty of 7*s.* per hundredweight, and that must bring in a large addition to the revenue, but we must not forget that the duty would fall off considerably if home growers could take up the cultivation of Currants, Raisins, and Prunes.

We do produce Strawberries, Cherries, and many other kinds of fruit in great abundance, as well as large quantities of vegetables, though certainly not sufficient to meet the ever-increasing demands of the population, and the said population might now be benefited to a greater extent than they are were it possible for us to come to their doors and supply them direct from our grounds and gardens.

Unfortunately, there is the salesman, who demands his bond from home grower and foreign producer alike, and I wish the British public and the home producers would combine to dispense with this go-between. Traders generally run down the Stores system, but in that we have, at all events, the salesman and retail dealer combined, and so ought to gain something. I think that with a little encouragement and with better means of intercourse between consumer and grower, the market gardening industry would become wide enough to supply the entire community. The encouragement might be given by imposing a small import duty on green and dried fruits alike and on all vegetables, and ways and means could, I think, be suggested for bringing about a better acquaintance between buyer and seller.

I will conclude by instancing a few crops that farmers might take up without much previous knowledge, that are always in great demand, and that pay growers fairly well. Leaving flowers out of the question, I would recommend, of vegetables: Cabbages, Green Peas, Beans (especially the runner and dwarf sorts), Cauliflowers, earliest Kidney Potatos, Vegetable Marrows, Rhubarb, and Celery. Of fruits: Strawberries, for fresh fruit and jam; small bush fruits, particularly Gooseberries; also Damsons.—*Authentes.*

MANURES FOR PLANTS.

In answer to "Plantman's" inquiry in your issue of January 10th, as to the cheapest and best Manures for pot plants, I may say that I have tried various Manures from time to time both for plants and fruit trees, and find that the cheapest is not always the best, but what I have proved for the last two years to be the best Manure for producing fruit and flowers, is the Blood and Bone Manure, sold by Mr. H. G. Smyth, 21, Goldsmiths' Street, Drury Lane. It may either be used by sprinkling a little twice a week on the surface of the soil and watered in, or be dissolved in water and used as a liquid, and both for soft and hard wooded plants it is quite safe. I may add, that I like it very much for sowing on vine borders during the time the Grapes are swelling and watering it in, it is most beneficial to them. I also used it last year to sixty fruit-trees in 9-in. pots, composed of Peaches, Nectarines, Plums, and Figs, and from some of the varieties of Peaches I picked fruits weighing from 8 ozs. to 10 ozs. each.—*James Vert, Audley End Gardens, Saffron Walden.*

PROTECTION OF PLANTS.

The readers of The Gardening World need not be told that the inside of a greenhouse is warmer than the outside, but they may not know how great a protection even a badly constructed, unheated house is to flowering plants. I found in my garden when I came here a structure, which, from courtesy, is called a greenhouse, with side walls of wet boards and roof of old-fashioned lights nailed roughly together. Yet in this house, into which during the late severe weather the wind, the rain, and the snow made their way freely through holes in the boards and broken panes in the roof, the lowest point which the mercury touched was 30 degs., while outside, against a south wall, it fell to 10 degs. Seventeen different kinds of plants were in the house, Chrysanthemums, Pelargoniums, Abutilons, Echeverias, Auriculas, Epacris, Fuchias, Gazanias, Hydrangeas, Christmas Roses, Campanulas, Calceolarias, Nicotiana affinis, Œnotheras, Paris Marguerites, Penstemons, and Pansies, yet none appear to have suffered, and during the last few days one or two have even thrown out some buds.

Glass, of course, is a great protector to plants, but I believe that the well-being of those in question is not entirely due to the glass, but is partly owing to the good treatment they received during the previous portion of the year when their wants were carefully attended to. The moral from this is twofold: First, that those who wish to preserve their plants in winter should strengthen their constitutions by careful attention to their needs during the previous summer and autumn; second, that they should put them in a greenhouse; and a greenhouse, in these days of cheap glass, can be put up by a handy amateur at a moderate cost.—*A. S. B.*

TOMATOS IN WINTER.

Replying to "Inquirer" on the flavour and quality of Tomatos, I think—and I have grown most of the leading varieties, Criterion, Excelsior, Trophy, Conqueror, Dwarf Red, Dedham Favourite, and others—that there can be no question about the superior flavour and quality of the Green Gage variety. Last summer I put this question to the test on every opportunity, and invariably with the same result. As I had over a thousand plants under glass and in the open-air, and was amongst them daily the whole season, I should not like to say how many fruit I ate during that time, but I certainly disposed of a dozen of Green Gage to one of any other variety. A medical gentleman, who was a frequent visitor, declared that the fruit of the Green Gage was more like a sweetmeat than a fruit.

This variety is also free-bearing and early, and will crop from June till October. I have not tried it in winter, though I should be strongly disposed to do so if the market demands were encouraging. As I cannot give "Inquirer" practical illustrations, I will say nothing about the other part of his question. —*Authentes.*

In reply to "Inquirer" at p. 317, allow me to state that I saw at Cuerden Hall, Preston, several plants a fortnight before Christmas, bearing from eighteen to twenty-four fruits ripe or ripening on each. The sorts were Vick's Criterion and the common red. I understood, one or two large sorts had been tried for winter work, but have proved worthless. I have had no experience in the winter culture of Tomatos, so must be silent upon that point.—*James Smith, The Gardens, Ormerod House, Burnley, Lancashire.*

TOMATOS UNDER GLASS.

Whilst very much interested in learning the reply to the query put by "Inquirer" at p. 317, with respect to the flavour of various kinds of Tomatos, I shall feel more so if any one of your practical readers will give some useful information as to the best method of dealing with Tomato plants in pots in a cool house in the summer. What size pot is best for single plants to be grown to stakes? How much should growth be stopped? Should bunches of young fruit be thinned? Is a single stake better than two or three or otherwise, and are stakes better for training than a trellis? What should be about the quantity of fruit a single pot plant may carry? Also is the giving of liquid manure desirable?—*J. E. S.*

MEALY-BUG.

Having had a considerable amount of experience with mealy-bug, and used a variety of insecticides, good, bad and indifferent, for its eradication, permit me to give in a few words a sovereign remedy, in fact, the only one worth the paper it can be printed on, viz., catch them and kill them, and I will back it against anything else for cheapness and thoroughness. I found, when I came here, a miscellaneous collection of stove plants, with a Stephanotis trained under the glass roof, some Gardenias and other equally troublesome subjects infested with this pest. Much time had to be spent in cleaning them, oftentimes when it could ill be spared, and I made up my mind to rid the place of the plague at whatever cost of time, knowing full well that if successful I should be amply repaid for my labour. Early in the winter we set to work and had a thorough cleaning all round of plants and paint,

and gave the bug no rest at all, for some time. Within three months from the commencement of operations not a bug could be found, and they have only been seen since when imported into the place. The utmost watchfulness should be observed in connection with all fresh plants and cuttings, for two or three weeks after their receipt, and they should also be kept clear away from the general stock. This done, no one need fear any trouble from mealy-bug. It is only through carelessness or negligence that it gets beyond control. I may say that the only materials we used were a sponge, some soft-soap, and water, and nothing else is required.—*W. B. Glasscock, The Gardens, Shirley House, Croydon.*

ANSWERS TO CORRESPONDENTS.

GRAPES.—*Archibald McKie.*—Rats often give trouble in vineries, by the depredations they commit among the Grapes hanging on the vines; but you can easily circumvent them by tying a bunch of Gorse on the rod, which they cannot pass.

TAR AND MEALY-BUG.—*W. Owen.*—See p. 326. Mr. Lyon, at Sundridge Park, mixes with one gallon of water a sufficient amount of clay to make the whole of the consistency of paint. This is then made hot, and half-a-pint of gas-tar is added, and thoroughly mixed up with it before being allowed to cool. The vine rods in his case are painted while warm, but not the young wood.

COVENT GARDEN TERMS.—*Ignorance, Rothesay.*—A bunch of Carrots varies in number, but as a general rule the Long Red Surrey Carrots are tied up in bunches of one dozen. The number of Turnips in a bunch depends on the size of the bulbs. If a fine sample, the number will be about nine; if smaller, from nine to a dozen. The finest samples of Celery are sent up in flat bundles of eight sticks, or two fours, as the market phrase goes, but bundles of small heads may number twelve or eighteen. Spinach is not now sold in Covent Garden by strike measure, but by bushels or half-bushels, sieves or half-sieves. A bushel basket when heaped should contain an imperial bushel; and a sieve seven imperial gallons.

SEEDS.—*Young Gardener.*—The standard fixed by the Royal Agricultural Society (and we know of no other) is—that each sample shall contain not more than 5 per cent. of seeds other than the species ordered, and that the germinating power shall be, for Clovers and Timothy Grass, not less than 90 per cent.; for other grasses, except Foxtail, not less than 70 per cent.

COMMUNICATIONS RECEIVED.—R. McL.—J. L. (many thanks).—G. F.—H. D.—A. R.—H. W.—C. W. W.—J. S.—O. P. R.—T. S.—L. L.—H. L.—H. C.—E. J.

Trade Catalogues Received.

THOMAS S. WARE, Hale Farm Nurseries, Tottenham, London.—New, Rare, and Choice Flower Seeds, Hardy and Half-hardy Annuals, Hardy Florists' Flowers, &c.

GEORGE COOLING & SON, Broad Street, Bath.—Vegetable and Flower Seeds, Garden Implements, &c.

JOHN GREEN, Floral Nurseries, Thorpe, Norwich.—Plants for the Garden, Conservatory, and Window Decoration.

THOMAS SIBBALD, Market Place, Bishop Auckland.—Kitchen Garden and Flower Seeds.

WILLIAM BULL, 536, King's Road, Chelsea, S.W.—Select Flower and Vegetable Seeds, &c.

L. PIERCY, 89, West Road, Forest Hill, S.E.—Summer and October Flowering Chrysanthemums.

NOTICES TO CORRESPONDENTS.

THE EDITOR *begs to inform his readers that special attention will be paid in the columns of* THE GARDENING WORLD, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "THE EDITOR."

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired but simply as a guarantee of the writer's bona fides. No notice what ever will be taken of anonymous letters.

LONDON SEED TRADE.

January 21st, 1885.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a good trade in all varieties of Clovers, and an advance in value of Medium English Reds. No change in White or Alsike, but Trefoil is dearer. American Red firm, and Spring Tares are firmly held. Linseed dearer. Bird Seeds and Blue Peas unchanged.

COVENT GARDEN MARKET.

January 22nd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 4 0	Kent Filberts and Cobbs, per 100 lb.	60 0-
— Nova Scotian, per barrel	10 0-15 0	Pine-apples, Eng., lb.	1 0- 2 0
— Extra samples	18 0-	Pears, French, p. doz.	6 0- 9 0
Grapes, per lb.	2 0- 5 0	St. Michaels	5 0-10 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	- 1 0	Horse Radish, bundle	3 0- 5 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	2 0-
Brussels Sprouts, p. lb.	0 4-	— Cos, each	0 2-
Cabbages, per dozen	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	2 6- 3 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 9- 1 3	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	0 9- 1 6
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Narciss, Paper White	2 0- 3 0
Azalea, 12 sprays	1 0- 1 6	Pelargoniums, per 12 sprays	1 0- 2 0
Bourvardias, per bun.	1 0- 1 6	—scarlet, per 12 sprays	0 9- 1 0
Camellias, 12 blooms	3 0- 8 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 6- 3 0	Poinsettia, doz. heads	3 0- 9 0
Chrysanthemums, 12 bunches	12 0-24 0	Primula, double bun.	1 0- 1 6
— large, 12 blooms	2 0- 4 0	Primulas, Chinese, bun	6 0- 8 0
Cyclamen, doz. blooms	0 3- 0 9	Pyrethrum, 12 bun.	-
Cineraria, per bunch	1 0- 1 6	Roses, outdoor, 12 bunches	-
Epiphyllums	4 0- 6 0	Roses, indoors, p. doz.	2 0- 6 0
Eucharis, per dozen	6 0-12 0	Roses (French), per doz.	1 6- 3 0
Gardenias, 12 blms.	18 0-30 0	Stephanotis, 12 spr.	-
Heliotropes, 12 sprays	0 6- 1 0	Tuberoses, per dozen	2 0- 4 0
Hyacinths, Roman, doz. sprays	1 0- 1 6	Tulips, per doz.	1 0- 1 6
Lapageria, white, 12 blooms	2 0- 3 0	Violets, doz. bun.	1 6- 2 0
Lapageria, red, 12 blms.	1 0- 2 0	— French, doz. bun.	2 0- 3 0
Lily of the Valley, doz. sprays	1 0- 2 0	— Parma, doz. bun.	7 0- 8 6
Marguerites, 12 bun.	4 0 -9 0	White Jasmine, bun.	0 6- 1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Genista, per dozen	15 0-24 0
Chrysanth., dozen	-	Hyacinths, doz.	8 0-10 0
Cineraria, per dozen	9 0-15 0	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargoniums, scarlet per dozen	4 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	9 0-15 0
Epiphyllums, doz.	18 0-24 0	Solanums, dozen	9 0-15 0
Evergreens, in var., per dozen	6 0-24 0		
Ferns, in var., dozen	4 0-18 0		

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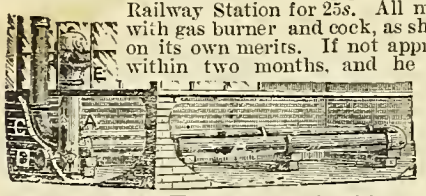

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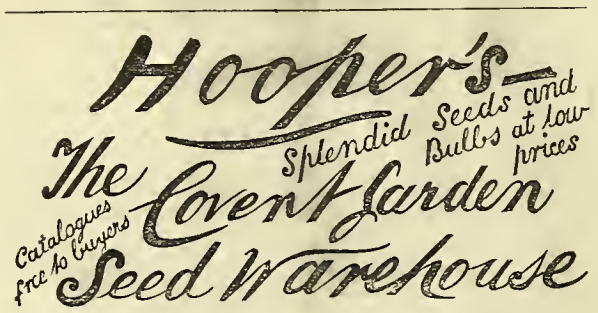

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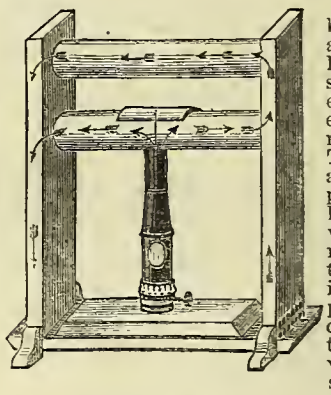

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CATTLEYA TRIANIÆ, from a new district, LÆLIA AUTUMNALIS (received as atrorubens), LÆLIA ACUMINATA and ONCIDIUM KRAMERIANUM.

On view morning of Sale, and Catalogues had.

THURSDAY NEXT, SALE No. 6837.

Lælia Anceps, new white type.

MR. J. C. STEVENS will SELL by AUCTION at his Great Rooms, 38, King Street, Covent Garden, by order of Mr. F. SANDER, on THURSDAY next, February 5th, at half-past twelve precisely, a truly grand importation of a magnificent LÆLIA ANCEPS, white type. The flowers are very large and fine, petals very broad and pure white, and the flowers are nearly 5 ins. across, lip pure white, the throat dark crimson, veined and blotched, the colouring being most vivid. A large quantity of dried flowers on view will convey an adequate idea of the great beauty and value of this species. The plants were collected by Mr. Arnold and are in grand order, great masses being among them.

At the same time will be sold a fine light-coloured form of LÆLIA ANCEPS, Mr. Bartholomaeus, who collected this lot in a new locality, writes that the flowers are large, sepals and petals rose, lip very light coloured, in some varieties almost white, throat crimson veined.

On view morning of Sale, and Catalogues had.

TUESDAY NEXT.

Odontoglossum Alexandræ.

MESSRS. PROTHEROE & MORRIS will include in their SALE at the Central Auction Rooms, 67 and 68, Cheapside, E.C., on TUESDAY next, February 3rd, by order of Mr. F. SANDER, a grand lot of Odontoglossum Alexandræ. The collector writes, "These are the finest varieties ever sent home. They are from a new locality, flowers very large and round. Many deedly blotched and spotted forms will be among them."

On view morning of Sale and Catalogues had.

TUESDAY NEXT.

New white type of Lælia anceps.—Lælia anceps Sanderiana.

Most beautiful novelty discovered and sent home by Mr. Arnold, who came across a batch in full bloom, and every plant found is offered. This magnificent Lælia has the lip similar to Dawsoni, it being pure white with two crimson-purple blotches divided by a white line. The petals are very broad and pure white, and the flower altogether of large size, as many as six were seen on spikes. The importation is in grand order, enormous masses among them, some with upwards of 300 bulbs and 10 ft. and more in circumference. The dried flowers will convey an idea of the beauty of the species.

MESSRS. PROTHEROE & MORRIS have received instructions from Mr. F. SANDER to SELL the above splendid Novelty at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY Next, February 3rd.

On view morning of Sale, and catalogues.

TUESDAY NEXT.

The Fallowfield Collection of Orchids.

MESSRS. PROTHEROE & MORRIS are favoured with instructions to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY next, February 3rd, at half-past twelve o'clock precisely, the Final Portion of this important Collection of Established Orchids, including amongst other fine species—

Masdevallia ignea Massangeana	Aerides odoratum nobilis
,, Macrura	,, ,, purpurescens
,, Winniana	,, maculosum, true and rare
,, Roezli	Odontoglossum Alexandræ, superb variety in flower
and many others	,, mulus
Cypripedium meirax, fine hybrid	,, aspersum
,, euryandum, splendid plant	,, citrosmum roseum
,, Crossianum	Cattleya Sanderianum
,, Ashburtianum	,, calumata, fine hybrid

On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

Lilium auratum, Roses, and Bulbs.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Auction Rooms, 67 and 68, Cheapside, E.C., on WEDNESDAY next, February 4th, at half-past twelve o'clock precisely, 10,000 unusually fine bulbs of Lilium auratum (including 1,000 gigantic roots), just received from Japan in splendid condition; 2,000 double African Tuberoses, 2,000 Berlin Crowns Lily of the Valley, an assortment of hardy English-grown Lilies (including extraordinary bulbs of L. giganteum, L. superbum, L. Humboldti), 400 Standard Roses of the best named sorts from an English Nursery, Carnations, Christmas Roses, a variety of Bulbs for the Garden and Greenhouse, and a consignment of Conifer Seeds from California.

On view morning of Sale, and Catalogues had.

FRIDAY NEXT.

Very Valuable Importations.

MESSRS. PROTHEROE & MORRIS are instructed by Mr. F. SANDER to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY next, February 6th, at half-past twelve o'clock precisely, a very grand importation of the beautiful golden-yellow flowered Anguloa Clowesi, and a large importation of Odontoglossum pescatorei, Odontoglossum hastilabium, Ada aurantiaca, Stanhopea eburnea, and the magnificent Maxillaria Sanderiana, also many Cattleyas and Odontoglossums.

On view morning of Sale, and Catalogues had.

Important to Florists, Nurserymen, Market Growers, and Others.

TO BE LET ON LEASE, or SOLD with possession, the valuable FREEHOLD ESTATE, known as Osborn's Nursery, Sunbury, Middlesex, comprising 17 acres of excellent Land, with Dwelling-house, Stabling, Sheds, and all the extensive range of modern and recently erected Greenhouses. The Estate having a frontage of 1,100 ft. to the high road, possesses a great prospective value for Building Purposes.

Full particulars may be obtained of Messrs. PROTHEROE & MORRIS, Auctioneers, 67 and 68, Cheapside, E.C.

LOVELY LILIES AND IRIS.

WM. GORDON has still the finest Collection of these. Buy of the Importer. The three lovely Lilies, Lilium album Krætzeri, Lilium Melpomene, Lilium Brownii, for 5*s.* 6*d.*, six for 9*s.*, post free. Over thirty varieties of Japanese Iris, all Hybrids, in all hues and beautifully marked, perfectly hardy, the admiration last season of all who saw them. Six varieties for 9*s.*; twelve for 15*s.*; the thirty varieties for 30*s.* Lilium Humboltii, each 1*s.*, 1*s.* 6*d.*, 2*s.* 6*d.* Lilium auratum, these surprise all my customers, specially imported Bulbs, 6*d.*, 9*d.*, 1*s.*, and 1*s.* 6*d.* each. Special terms to the trade.—WM. GORDON, Nurseries, Twickenham, Middlesex. See previous Advertisements.

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"CHRYSANTHEMUMS AND THEIR CULTURE," by J. BRADNER, of Arley Hill Nursery, Bristol. Price 1*s.* Post-free, 1*s.* 1*d.*

Full particulars of treatment, from the time of taking cuttings to staging plants and blooms for show.—Orders can now be booked by CLINKER & TITE, Yeovil.

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READY in a few weeks, MANY THOUSANDS of ROOTED CUTTINGS, from a choice collection of all the best varieties, ready for potting and growing on for Exhibition or decorative purposes, for which orders are now being booked. Satisfaction guaranteed, and none better can be had. My selection 2*s.* per doz. For purchaser's selection see Catalogue, post free, four stamps.

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All growers of plants for decorative purposes should possess a few of these useful varieties. They are very free bloomers and can be had in bloom as late as January. Rooted cuttings ready in a few weeks. For further particulars see Catalogue, which gives full directions as to cultivation of the above, and will be found the best guide for amateurs—post free, four stamps, from

W. E. BOYCE, F.R.H.S., Yerbury Road, Holloway, London.

CHRYSANTHEMUMS.—JOHN FAIREY (Secretary of North Kent Chrysanthemum Association) offers strong, hardy cuttings, choicest varieties, Japanese, Incurved, Reflexed, Anemone, and Pompone, true to name. 25, twelve varieties, 2*s.* 6*d.*; 50, twenty-five varieties, 4*s.*; 100, fifty varieties, 7*s.* 6*d.* free.—J. FAIREY, Florist, Old Dover Road, Gravesend.

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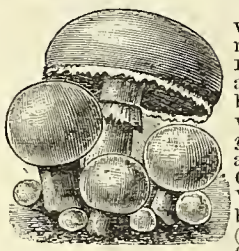

IF ONCE USED no other will be willingly taken. Testimonials of high merit received every day.—"THE GARDENS, SANDRINGHAM.—I have tried all other Mushroom Spawn advertised, but none to be compared with yours, which I have used for the last *twenty years* without once failing a quick and good crop.—CHAS. PENNY, Gardener to H.R.H. The Prince of Wales."—Price Six Shillings per bushel, One Shilling extra per bushel (for packing), One Shilling per Cake free by Parcels Post.

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OVERVEEN, near HAARLEM, HOLLAND.

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ALL NEW AND GENUINE.

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SINGLE DAHLIA.

Per packet, 1*s.*

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THIS most useful and interesting Catalogue, which everyone with a Garden or Greenhouse should possess, is **Now Ready**, and may be had Gratis upon application. It includes perhaps the finest list of **Sterling Novelties** ever brought together. A Grand Collection of **Hardy Florist Flowers**, a specially fine selection of **Hardy Perennials**, and such as are easily and quickly grown. **Green-house Seeds**, all the most popular. **Hardy Ornamental Grasses, Showy Single-Flowered Annuals** and **Perennials.** The Catalogue is beautifully illustrated, and everything very fully described.

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KERR'S CHOICE SEED POTATOS.

W. KERR

Is now sending out his CHOICE STOCKS of POTATOS, and those desiring a change of Seed should send for Descriptive Priced List, which contains all the best for

FIELD, GARDEN & EXHIBITION.

No finer Collection of Potatos in the Kingdom.

ROYAL SCOTCH POTATO ESTABLISHMENT, DARGAVEL, DUMFRIES.

Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JANUARY 31ST, 1885.

PRIZES AND AWARDS.—It is well worthy the consideration of those who have the management of floral and similar exhibitions whether some very drastic reform is not desirable in the present method of awarding prizes. Of course, the distinction of first, second, and third or more must be either adhered to or be the basis of any classification of awards; but the present defect is found in the publication of certain prizes in the various respective classes without reference to the nature of the exhibits and the varying degrees of merit found in them. How often, for instance, do we see prizes, the first of which is just double in value that of the second, and three times as valuable as that of the third? Those who prefer the old rut, or cannot see outside of it, doubtless think that the system is absolutely perfect and admits of no improvement.

Let us, for instance, take a class for six dishes of fruit or for twelve kinds of vegetables; very common ones indeed, and found in the schedules of all the leading Societies. The prizes are perchance three in number, and in value, say, £3, £2, and £1. This is the common arrangement, and few question it. Yet we see the prizes are of such diverse value as that the first is one-third more than the second, and two-thirds more than the third; or, in other words, the second and third prizes represent a fall of 33⅓ per cent. below those above them. But how stands it with the exhibits? Judges nowadays, if men of any capacity and experience, do not judge haphazard. They go through the collections before them with exceeding care, taking each dish separately, awarding points to each according to quality, and finally adding them up, give the first prize to that collection which shows the largest number. But in any ordinary competition, and especially at any good Show, it is always found that the difference in quality between the leading collections is exceedingly infinitesimal, and in no way comparable to the wide divergences found in the value of the prizes.

How common is it the case that judges find first and second collections to be so remarkably close, that it is only after an additional scrutiny has taken place the award can be made. Really the first prize collection gets the maximum number of marks, and the second prize one or two below only. That is to say, that if the first prize collection represent one hundred, the second prize represents ninety-five, and perhaps the third one ninety, so near are they. Indeed, it is a toss up whether did another set of judges make the award the prizes might not be differently distributed. But the prizes are of an arbitrary nature, and being fixed, the judges cannot distribute them consonant with the merits of the collections before them, and thus whilst relatively the first prize collection gets the Plum, the rest get little better than the stone.

Now, were it so arranged that, instead of fixing the prizes arbitrarily, the schedule simply stated "three prizes given," and a specified sum, as in the case we are considering, of £6 offered to be divided at the discretion of the judges, we should see the awards so far apportioned to the merits of the exhibits that the first collection would have 45*s*., the second 40*s*., and the third 35*s*., the respective merits of each being fittingly rewarded. No doubt the suggestion thus made will startle many of our readers who are so accustomed to the ordinary prize-giving routine as to believe that the present plan is a perfect one. Really, no plan can be more imperfect, as we have shown, and it is certain that were competitors at large canvassed they would say that the apportionment of prizes in accord with the merits of the exhibits would be the most fair and satisfactory. There have been cases in which the second prize in a class has been not more than half the value of that of the first, and yet the collection placed second has been so close to the first in merit as to have needed the utmost effort on the part of the judges to give a final decision. Surely in such case, and it is typical of myriads of others, the giving of prizes so vastly disproportioned is a monstrous injustice.

In the report of that now very important body, the National Chrysanthemum Society, given in these columns last week, it was stated that the former champion class of forty-eight cut blooms, one-half of which were Japanese, and was always an unsatisfactory one, would in future be divided into two classes, each of twenty-four cut blooms, one to be of Japanese and one of incurved flowers. This arrangement is so far objectionable that it makes the class no longer a champion one and creates no more interest than does the ordinary twenty-fours. Had the plan we have suggested been in operation we should not have heard any complaint as to the nature of the class, for it really was the champion class of the Show, had the large amount offered in prizes been apportioned more relatively to the merits of the best collections. Last year the first and second were within a few points of each other, and the second winner suffered greatly in pocket in consequence. But as the severance is now effected, and it is of no use crying over spilt milk, we would suggest, to insure that the class shall still be a champion one, that all competitors be compelled to show in both, that the classes be judged solely on the merits of the respective collection, by distinct sets of judges; that each set shall accurately calculate the number of points awarded to each collection, and then, in comparing each award, add the points gained by an exhibitor in one class to the number obtained in the other, and award the prizes to those having the highest numbers in combination. Thus the combined classes would still remain the champion class of the Show.

As announced, the prizes in each class are to be £10, £6, and £4, a total of £20, or £40 in the two. But suppose it be announced, instead of arbitrarily fixed prizes, that £40 be set apart for six prizes in this combined champion class, the judges may, in comparing their points, so distribute that amount that the competitors get rewarded absolutely in proportion to the merits of their collections. Thus the distribution of the £40 in the form of six prizes of the value of £10, £8, £7, £6, £5, and £4, would be a much more equitable arrangement, and offer far more encouragement to competitors than is now found. We should like to hear the opinions of our exhibitor readers on the proposal thus submitted.

WANTED, A SITUATION.—We very heartily sympathize with all that large body of gardeners, young and old, as well as with all those associated with other departments of horticulture, who from week to week seek through advertisements those situations they so much need, and which seem so difficult to obtain. We are not prepared to affirm that, in common with other trades and vocations, gardening is not suffering from the condition of chronic dulness which seems to beset everything at present. That may be a matter of opinion, but it does seem as if there were either growing up more gardeners than there are places for them, or else places are declining in number. It would, of course, be very difficult to prove the latter hypothesis, and it would not be pleasant to know it as a fact. Naturally, our hopes as those of all associated with gardening, are that gardening is a rapidly growing and expanding vocation, and that its requirements in the future cannot well be estimated. But if gardening is receiving a temporary check, it is hoped that it may be but temporary, and that those large numbers of excellent gardeners of varied experience, who from day to day or week to week seek for places, may soon find them.

Specially are our sympathies with that section of applicants for situations who may be classed as, if not old, at least staid gardeners. It is one of the peculiarities of the profession, one more evident in gardening, perhaps, than in any other vocation, that when a good man obtains a good place he is apt to regard himself as a sort of fixture, almost provided for, for life. It is pleasant to think of the hundreds of men in the profession who seem to be literally garden fixtures, and whose positions, so long as they are honest and faithful servants, seem unassailable. It is to such positions, such prizes of the profession, that other men may well aspire, though of necessity all cannot obtain. When, as sometimes happens, however, through death or some family mischance or other misfortune, gardeners who have grown or are growing grey in their employer's service, suddenly find themselves thrown upon the world, then their position is indeed one to invite sympathy; for their chances of getting any similar post are sadly handicapped by age, whilst scores of first-class younger men are in the field as anxious competitors.

It is true that at this season of the year the rush for change seems to be chronic, but none will assume that the large number of present applicants for situations are the victims of a love of change, indeed anyone having a fair position has ample reason to pause ere he seeks for a change, when he scans the lists of applications for situations constantly being made. It may be that, perhaps, the concentration of such a large number of applications into the columns of one particular paper seems undue to accentuate the present state of the gardening labour market, and that the apparent needs of so many would be less evident if the applications were distributed over more of the gardening newspapers. Certainly, it should be more beneficial for advertisers to do so, because their applications would come to the notice of a vastly larger body of readers. When we observe really good men, who have been cast out of a place through no fault of their own, advertising week after week without effect, it is easy to realize how bitter becomes that hope deferred which makes the heart sick. Let us hope that for all those who need berths so badly there is a good time near at hand.

EARTH MOISTURE.—A whilom correspondent writes:—"I grubbed up some useless Apple-trees the other day, and was surprised to find how wonderfully dry the soil was beneath." We fear our good friend's experience is that of thousands who find just now the subsoil remarkably dry for the season of the year. Those who think a little, and are endowed with a sense of forecasting, are looking forward to the coming summer with feelings of deep anxiety. Just now everything is *couleur de rose*. No winter

season could be more delightful. We have a dry, cool time, which so far has not been materially affected, and the soil works wonderfully well, in fact for the time of the year it never worked better. Under the circumstances it seems perhaps as if we were endowed with a pessimist vision, that we should thus seek to cast any shadow over the present fair prospect. If the winter continues as it has begun, and the spring is open and dry also, we shall have the finest seeding and cropping time imaginable, and what more can we need? Well, it unhappily happens that we may sow and plant, but all will be in vain unless the rain of the heavens fertilize. Unless we should have the misfortune to be afflicted with a real wet summer, we can hardly look for such a season as shall by means of summer rains equalize the deficiencies of the past year, and so far of the present winter, and though the surface crops may not materially suffer, the trees and bushes must inevitably do so, and that largely. We look with some confidence to a grand fruit season, and we may have all the foundation of such laid in the spring, but to be destroyed by the earth drought of the summer. If we were to get a thorough soaking during the coming month the discomfort would be far outweighed by the resulting good.

Ants and Tropical Vegetation.—Amongst the most remarkable phenomena of the Tropics may be classed the curious swellings of stem, branch, or petiole, in which a colony of Ants is located. The recently issued number of *Malaisia*, a work devoted to the Botany of New Guinea and the Indian Archipelago (which has now commenced a second volume), contains a long account of these peculiar productions, from the aforenamed regions, and of the plants on which they occur. The work—which is from the pen of Signor O. Beccari—is illustrated by a number of beautiful plates. These Ants take possession of a plant, and very soon a swelling may be observed, in which a colony of these industrious insects have taken up their abode. They are by no means limited to one or two classes of plants, for we find the Nutmeg family, the Euphorbiaceæ, Verbenaceæ, Leguminosæ, Araliaceæ, the Palm family, and the Rubiaceæ, all have their tenants. In the majority of cases the illustrations show a cavity in the branches to be the chosen site, but one or two instances, in the Rubiaceæ it is a swelling of the stem at the ground level, the swollen mass being covered with spines, which, doubtless, serve some protective purpose. Some of our readers will no doubt remember the interesting account given in Belt's *Naturalist in Nicaragua*, of the species of Ant which tenants the spines of certain Acacias. These thorns are hollow, and situated in pairs on the branches. The Ants make an entrance near one end of one of the thorns, and bite through the partition which separates the two thorns from each other. Here they rear their young, and in the wet season every thorn is tenanted. On the mid-rib at the base of each pair of leaflets is a crater-formed gland, which, when young, secretes a honey-like liquid, on which the Ants feed. These Ants form a standing army—for they sting severely—and protect the leaves from leaf-cutting Ants, and also deters the mammalia from brousing on the leaves.

International Potato Exhibition. — The trial culture of new seedling varieties entered for the International Certificates will be carried out, as in former years, at Chiswick, by the generous permission of the Royal Horticultural Society. Persons intending to enter seedlings for trial are requested to send not less than six tubers of each sort, with names and pedigrees, to the care of Mr. A. F. Barron, Royal Horticultural Society's Gardens, Chiswick, before the 31st of March.

Gardening Miscellany.

The splendid baronial estate of Fyvie, Aberdeenshire, is announced for sale by auction in June next. Fyvie Castle is an edifice of great historical interest, and the estate comprises some 10,700 acres.

It has been decided to hold another Apple and Pear Exhibition in Exeter, on October 22nd and 23rd next. Mr. Pengelly, the Hon. Secretary, to whose exertions the success of last year's Show was largely due, was recently presented by the Committee with a handsome timepiece, as a mark of their appreciation of his services.

Lovers of the Daffodil may be interested to know that "Ye Narcissus or Daffodyl," by Mr. F. W. Burbidge and Mr. Peter Barr, is now being published.

The *Gardeners' Year Book and Almanane for 1885*, has come to hand rather late, but better late than never, as besides the usual information expected in such an annual, it contains in a useful form a valuable record of the new Plants, Fruits and Vegetables introduced or certificated last year.

The Treasurer of the Gardeners' Royal Benevolent Institution has received the £500, less legacy duty, left to the Institution by the late Mrs. Dodgson, Beardwood, Blackburn.

Messrs. Barr & Son announce that their Daffodil grounds at Lower Tooting will be thrown open to visitors every Wednesday, Thursday, and Saturday, during February, March, April and May.

The Compagnie Continentale d'Horticulture of Ghent propose to publish in March next, the first part of a new publication to be called "Lindenia," and which is to be devoted exclusively to the illustration of Orchids discovered or introduced by M. Linden.

"Evolution and its bearing on Christianity" is the title of a paper read recently by Mr. William Thomson, Tweed Vineyard, Galashiels, before the Caddonfoot Young Men's Guild, and published in *The Border Advertiser*, of January 21st.

Mr. Robert Wilson, lately gardener to the Earl of Desart, Desart House, Kilkenny, has been engaged as gardener to the Countess of Kingston, Mitchelstown Castle, in succession to Mr. Whibberley, who has succeeded Mr. Ward as gardener at Oulton Park, Tarporley, Cheshire.

A farmer at Northop recently lost four valuable milch cows from eating the poisonous roots of the Hemlock. Lord Donnington has also lately lost six valuable beasts from eating Yew.

At the annual general meeting of the Essex Field Club, to be held this (Saturday) evening, the President will read a paper on "The Life and Work of John Ray, and their Relation to the Progress of Science."

New French Asparagus arrived in quantity in Covent Garden during the past week.

Mr. F. Day, for the last five years fruit foreman at Lockinge, has been promoted to the position of gardener at Colonel Sir R. Lloyd-Lindsay's other seat, Overstone Park, Northampton, in succession to Mr. Thomas.

Mr. E. F. im Thurn, the well-known explorer of British Guiana, has made another expedition to the interior of that colony, with a view to ascend the Roraima Mountain. In a communication to a friend in Georgetown, written in the early part of December, he states that he had ascended the slope of the mountain to a height of 5,600 ft., and describes it as a lovely spot, "a very garden of Orchids, and of most beautiful and strange plants." New plant importers should make a note of this.

Mr. John Bradner, of Arley Hill Nursery, Bristol, gave an admirable lecture in the Institution Hall, Yeovil, on Friday evening, January 23rd, on "Chrysanthemums and their culture." Local gardeners attended in good numbers, the lecturer's success as a prize winner having made his name famous amongst growers of the queen of autumn flowers. The lecture, which was full of valuable information from beginning to end, was ably delivered and heartily applauded. As Mr. Bradner has given up exhibiting, he freely gave the results of his long and varied experience, and answered a host of questions after the lecture. At the unanimous request of those present, he consented to publish the lecture in pamphlet form, and has already arranged to do so, as will be seen by an announcement in our advertising columns.

ALOCASIA SANDERIANA.

Under this name Mr. William Bull last year put in commerce a very handsome new Aroid, which is destined to take a leading place among the numerous noble leaved plants which have been introduced into our stoves during the last few years. The name has been questioned by one authority who states that the plant is not an Alocasia, but belongs to the genus Schizocasia. Be that as it may, the plant, as will be seen by the annexed illustration, has a handsome and striking appearance to recommend it. Adopting Mr. Bull's description, we may say that "It has erect petioles, which are brownish-green, and striately mottled; on the young leaves, the colour is bright glossy green, and on the older leaves the surface has a metallic blue reflection. The leaf blade is arrow-shaped, the front portion with three triangular lobes on each side, the basal portion with one or two smaller lobes, the thick costa and stout cross veins are white, conspicuously bordered with ivory-white, the margins also being white."

The plant was introduced from one of the Islands in the Eastern Archipelago, and under cultivation is found to succeed admirably in a good moist stove temperature, and, like the Alocasias generally, it does well in a compost of rough peat, charcoal and sphagnum moss, the major portion of course being peat.

FLORAL DECORATING.

To a gardener of refined taste who is strongly attached to his calling, there is probably no branch of his profession which brings such a large amount of real and infinite pleasure, or affords him such scope and so wide a field wherein to display his talents as does the art of floral decorating. With equal truth it may also be said to be work to which no race of people or any section of society can lay any special claim to as being peculiarly their own, seeing that it has been practised from the earliest times by all classes, and is easily within reach of the rich and the poor, but that England is the pioneer, so to speak, at the present time, and that of late years very great and almost unprecedented progress has been made, few people who are fully acquainted with the subject will, I think, attempt to deny.

Of the intense love of flowers amongst the inhabitants of the United Kingdom, alien persons could be furnished with positive and overwhelming proof were they to visit the cottage homes of our rural population, or the dwellings of the artisans in our large centres of industry, hospitals, and other public institutions, but to meet with it in its most technical and elevating character, we must go to the banqueting halls of London, to the dining-rooms of our nobility and gentry in their town residences and at their country seats, where we find floral decorating assuming such forms as give it some claim to take rank as a high art. Notwithstanding the fact that at the present say it has attained a very high standard of excellency and is far in advance of much which was regarded as being very good years ago, it must not for a moment be supposed that such a state of perfection has been arrived at as will admit of no further improvement. He would be a bold man indeed who would venture to day that it is now at the zenith of its power; for any one to argue thus would merely be to fall into a very grave error and to betray a want of practical acquaintance with the subject he was talking about.

Who would have thought until quite recently that to enhance the effect and beauty of a bouquet an electric lamp would have become a necessary adjunct? Again, it may be asked, who would have thought thirty years ago that the time would come when in many of the leading private establishments specialists would be employed for this kind of work as is now the case? and where to decorate a dinner-table for a single night only, the said person with two or three subordinates is employed four or five hours doing the work, passing through his hands floral treasures amounting to an aggregate value of from £100 to £200 in some cases. When we come to look at all this, and consider that it is matter of absolute fact, and that floral decorating is—what shall we say—well, a luxury which has progressed in proportion to the wealth of the people of our country, we should

lose ourselves in imagination were we to attempt to picture to ourselves what the height of floral art would be like in twenty years hence.

A man need not be very old to remember the time when a dinner-table of even goodly dimensions was considered to be amply decorated if it had half-a-dozen or a dozen plants in ice-coolers dotted about here and there, the orthodox fashion being one in the centre, four at the corners, and one or two down the sides. There are still a few old country establishments even now where this system is carried out, but if the facts were known it would doubtless be found to be due more to force of circumstances than to choice. The more general rule is to see very elaborate decorations wherein there is some predominant feature for the time being, for instance, one night, it may be that a design of geometrical pattern in cut flowers and leaves is carried out, and in which one or two special colours play a leading part; a second night it may be groups of choice plants, consisting of Orchids, Palms, Ferns, or other foliaged plants, arranged and put up in a pyramidal form; a third night it may be we should have cut flowers, leaves, and grasses tastefully arranged in epergnes and other glass or china ornaments; whilst yet in another case it may, by way of variation, be thought advisable to have a mixed affair, or, in other words, a piece of decorating in which nothing special shall take a leading part, but in which fruit, in addition to plants and flowers, would be employed, the first-named being used in company with fern fronds and flowers to embellish the base of epergnes and also amongst plants arranged in groups. I am not aware, however, that this mixed system finds much favour, and although as a subordinate acting under orders, the writer in days gone by has occasionally been obliged to adopt the plan merely to gratify a crotchet of the powers that be, he would not commend the practice to others, unless under very exceptional circumstances.

ALOCASIA SANDERIANA.

It is not my intention to enter here into lengthy details concerning table decorating, or to state in what way a table might be embellished, for the simple reason that there are no two places exactly alike; and such being the case, it follows that that which one may have seen carried out in one instance would almost of necessity be debarred from having its exact counterpart reproduced in another. It may at all events be said that there are two or three fundamental rules connected with this portion of our subject, and which, if the best results are desired, should never be lost sight of. These we will briefly notice, as follows:—Avoid overcrowding and everything pertaining to stiffness and severe formality. Unpractised hands frequently commit this mistake, the natural accompaniment being an unnecessary waste of material and loss of time and labour. It is also important to guard against the other extreme; it is equally censurable, as nothing looks much worse than to see work which has a mean and niggerdly appearance. From the foregoing it is obvious that very great care and sound judgment are required, necessitating, as it were, a rigid adherence to the "happy medium" principle. Every piece of table decorating, if it is to be on anything like an elaborate scale, should be well studied and thought out beforehand, so that the operator may be enabled to arrive at fixed and definite conclusions regarding that which he contemplates doing, and be able to see in his mind's-eye the full effects and completion of his work before it has been begun. This last point is a highly important one, and, speaking from past experience, I can unhesitatingly say that those who may chose to adopt some such rule in their practice will find it very advantageous in the way of avoiding much pulling to pieces and putting together again, which results in such extravagance and waste of material—a circumstance by no means rare with work done in a haphazard or chance fashion.

Passing now to the decorating of rooms, front halls, and staircases, the most important point here, next to having a command of the wherewithal to do the work, is the necessity of frequent change, for the double purpose of keeping plants in good health and the avoidance of a monotonus appearance. It seems hardly necessary to say that all plants of a choice and tender nature should be placed in heated rooms only, and should be changed at least once a week, reserving those of a more hardy character for front halls and other such places, where, owing to the opening of outer doors and windows, cold currents of air are frequently and unavoidably admitted. Many of the choicer kinds of conifers and evergreen shrubs are eminently fitted for this kind of work, and it seems somewhat strange that they have not hitherto met with a more extended use. They can afford to wait perhaps, but they have undoubtedly a future before them for indoor decorating during the winter months. Wherever they are employed it should be rather judiciously at first, always giving a preference to those possessing graceful habit of growth and variegated or coloured foliage.

All groups of plants arranged for effect should as far as possible have their pots hidden from view, and this is easily done when they occupy corner positions by mossing over the front row and a little "filling in" between; with larger ones, occupying central or open spaces, the case is somewhat different, particularly if there are many tall plants from 6 ft. to 8 ft. high, and in large pots, the latter preclude the possibility of being hidden from view with moss, but in such cases the work must be done in a great measure by tieing down here and there a leaf or two into different positions, using no more stakes than are really necessary. With regard to cut flowers, leaves, and other material put up in glass or china ornaments for the decorating of libraries, drawing-rooms, &c., no rules of a specific character can be laid down, except the one, that a complete change of water and of flowers should be made at least once a week, and a little renovating be done once or twice between.—*Ex-Decorator.*

THE FIRST FUCHSIA.

The admirable portrait and biographical notice of Mr. John Lee, which appeared in your issue for January 17th, has recalled to my mind an account of the introduction of the first Fuchsia, F. coccinea, written some forty years ago by Mr. Sheppard, of Dublin, and which I have copied and send herewith, in the hope that it may interest those of your readers who have not read the statement before:—

"Some sixty years ago, the late Mr. Lee, of Hammersmith, was showing some of his fine plants to a gentleman, when the latter remarked, 'Well, Mr. Lee, you have not a prettier flower in all your collection than one that I saw in a window in the east end of London a few days ago.' Mr. Lee inquired, 'Pray, what is it like?' The gentleman said the plant was

most elegant, the flowers hanging in tassels from the pendant branches, colour of the richest crimson, and in the centre a fold of deep purple, and so forth. Mr. Lee having learnt where the plant was to be found, posted off directly, and on his arrival perceived at once that the plant was new in this part of the world. The plant belonged to a sailor's wife, and she had it in a pot in the window. He stood and admired it, then entering the house, he said, 'My good woman, this is a nice plant, I should like to buy it.' 'I could not sell it for money; it was brought to me from the West Indies by my husband, who has left again, and I must keep it for his sake.' 'But I must have it,' said Mr. Lee. 'But you shall not,' said the sailor's wife.' Here Mr. Lee emptied his pocket of gold, silver, and copper, the stock amounting to something more than eight guineas. 'Well-a-day,' said the woman, 'but that is a power of money; sure the plant is yours.' Having got the plant safely deposited in his nursery, Mr. Lee's first work was to pull off every vestige of flower. Every effort was now made to multiply the plant, and by the next season Mr. Lee was the delighted possessor of 300 plants. The two which opened first were removed to the show-house. A lady came. 'Why, Mr. Lee, where did you get this charming plant?' 'H'm, this is a new thing, my lady; pretty, is it not?' 'Its price?' 'One guinea. Thank your ladyship,' said Mr. Lee. Another and another went, until at the end of the first season Mr. Lee had 300 golden guineas in his purse, the produce of the single plant. Mr. Lee did not forget to gladden the sailor's wife by presenting her with a plant of his favourite flower. This is the way in which the first Fuschia came into England."

SOWING CHOICE SEEDS.

The season has now arrived for sowing seeds of Begonia, Gloxinia, Primula, and the like, and as a great many failures occur every year either through a want of knowledge on the subject, or through inattention to the little matters of detail which it is absolutely necessary should be attended to in order to ensure satisfactory results, perhaps a few words of advice on the subject through the columns of The Gardening World may not be out of place. The present is the best time to sow such seeds as Begonias and Gloxinias, as by sowing early plenty of time is allowed for the plants to grow to a good size, for whatever purpose they may be wanted; but unless Primulas are wanted early, there is ample time between now and March for sowing the seeds of this plant. All, however, require precisely the same treatment until the plants are up. There are now such splendid strains of the two former that I like to get a packet of seeds every year, as there is always something good and superior among them, which enables us to throw away inferior ones, and replace them with the better seedlings. In the case of Gloxinias, too, I find that seedlings grow and flower more freely than old plants, besides they have the additional advantage over old roots that they can be grown in much smaller pots; and where, as in our case, the plants are wanted for small vases for room decoration, in which they stand very well, this is a matter of some consideration.

The seeds may be sown in 6-in. pots or small pans, but I prefer the former. Three parts fill them with pot sherds, then, if procurable, cover them with a layer of moss—a capital thing to prevent the soil from working down among the drainage;—but where this cannot be had, leaves or pieces of turfy loam will do. Then fill up the pots to within half-an-inch of the rim with the following compost:—Two parts of leaf-mould to one part of loam passed through a fine sieve, and one part of fine silver sand. Make the surface smooth, and water through a fine rose water-pot; let the pots stand for about half-an-hour to drain before sowing the seed; then shake the seeds out of the paper evenly over the surface of the soil, covering with a very light sprinkling of fine dry silver sand. Plunge the pots, if possible, in a gentle bottom heat, and cover with a piece of glass, or better still, a piece of flag or slate, as the seed germinates better in the dark. When the seedlings appear gradually inure them to the light, keep the pots close to the glass afterwards, to prevent the seedlings from getting drawn, and then prick out into pans or pots when large enough to handle. Afterwards pot them into 3-in. pots as they advance in growth, and grow on in the usual way.—*W. C.*

BASKET PLANTS.

Of late years there have been great improvements in the style of baskets; I wish I could say the same of the plants grown in them. This, which ought to be the main object, is apparently lost sight of, the baskets being everything, and the plants nothing. There is nothing better to grow any plant in than an ordinary earthenware pot. This suspended with wire from the roof near the window, ought to grow a plant fit to hide any unsightliness in the pot. However, neat wire baskets of various patterns may be used with the pots plunged into them. Amongst the oldest and best plants for baskets is Lysimachia Nummularia, a British plant, the Creeping Jenny or Money-wort. Why it has been called "Creeping Jenny," any more than "Creeping Johnny," is a mystery; but the more appropriate name of Money-wort has arisen, no doubt, from the shape of the leaves being like pieces of money. The termination wort, with which so many English names of plants end, being the old Saxon name for plant; therefore we have Moon-wort or Moon-plant, Milk-wort, and many others. The Latin specific name also means the same, Nummularia being derived from Nummulus, a little coin. Another good old basket plant is Saxifraga sarmentosa, and although a native of China, rejoices in a number of English names. It is called Aaron's beard, the Sailor plant, and the Wandering Jew. One of the most interesting basket plants I know is one whose only fault is in having a name which requires some practice in getting your tongue round it—viz., Chlorophyton Sternbergianum, or Goethe's plant; so called from Goethe, the great German poet and philosopher, having first brought it into notice. It belongs to the Lily family, and has long trailing flower stems, with small white flowers, which also produce quite a colony of little plants from the stems. It has long, bright-green leaves, and is so easily grown that the late Miss Frances Hope, of Wardie, a lady who was an ardent and most enthusiastic cultivator of plants, used to declare that this was a plant which would not be killed; and she reared large quantities of it for the purpose of giving to her friends, who lived in the town, to grow in their rooms. Fragaria indica, an elegant trailing Strawberry, with greenish white flowers, succeeded by scarlet or crimson fruit, also does well. Other elegant and highly suitable plants for basket culture are the ivy-leaved Pelargonium, the Cornish Money-wort, another British plant, and Campanula Barellieri.—*R. Lindsay, Edinburgh, in Forestry.*

DOUBLE PRIMROSES.

I think that if any lover of flowers was fortunate enough to possess a garden that, in respect of soil, situation and climate, would grow these beautiful Primroses to perfection, and in every respect successfully, he should be one of the happiest of florists. There are doubtless some such gardens, and some such successful florists about, though we may not hear much of their doings.

Who can give reliable information as to the origin of these double Primroses? I have referred to Philip Miller's Dictionary, published in 1731, and I find he mentions two double forms only—viz., the double-yellow and a double pale red, and he states they were accidentally produced from seeds. Now we possess more than a dozen varieties, two if not three forms of the yellow; the white, black, lilac, rose; two or three different shades of red, including the purple; the beautiful rich double crimson, the gem of the whole batch; Platypetala plena and Croussii. How did these originate? and with whom? Were they seedlings or sprouts? and where were they first distributed? It may be that very little that is satisfactory in the way of answers will be given to these queries.

The Florists' Magazine for March, 1836, gives coloured illustrations of the double white and double crimson Primroses; as good representations as one would well desire to see, but no information is given as to their origin, or when the brilliant crimson was introduced. Primroses have been objects of culture at least since the year 1640; and, indeed, they must have attracted attention long before this. Gerarde and Parkinson notice, among other varieties, a double green, as existing in their time. The double lilac, which is, perhaps, the commonest of the double varieties, it is supposed, was bred from the purple-flowering variety found in many parts of Scotland; and it is perhaps the hardiest of the whole group.

Alas for the beautiful crimson variety of Madame de Pompadour, as it is called in Ireland or elsewhere—it is so difficult to rear in the south! In the moister parts of Ireland and Scotland it can be grown; and two years ago, Mr. Brockbank exhibited at the Auricula Show at South Kensington, one of the best plants I ever saw; but if a good plant comes southwards in autumn, it will last through the winter and flower in spring; and then with hot drying weather, it appears to dwindle away to nothing. During the last summer it suffered severely in the north of Scotland, it became infested with red spider owing to the drought; and it is difficult to get anything like a plant. And as the stock of it is circumscribed, it is no doubt severely propagated, and this has a weakening effect, and makes it the more difficult to rear the divided parts, which are only slightly rooted.

The rose is a charming variety, a strong grower, but not at all free in flowering; the flowers are very large and full, and of a lively salmon colour. It is one of the best growers for pot culture that I am acquainted with. The blush is charmingly chaste, and is probably a sport from the white, when true, it is of a lovely flesh colour. It also is scarce, and, being severely propagated, is also delicate and difficult to rear. But anyone growing it may have to experience the annoyance of seeing it revert to the common double white type. The purple is a fine variety also, with large deep red flowers, flushed with purple; it is very free, and a good subject for pot culture. The crimson-purple and the Scotch red are distinct; the former throws up a Polyanthus stem, from the top of which issues a large cluster of flowers on long stems. It is very free of bloom. Platypetala plena is very free, but the colour of the flowers soon fade, and they have a somewhat ragged appearance. It should be grown strongly, and then the flowers are larger, fuller, and of a better colour. Croussii flore-plena, is one of the latest introductions; a fairly good grower, free, distinct in colour, and quite pleasing. I need scarcely state what some of your readers have found out for themselves, that the late Giant Yellow and Cloth of Gold are one and the same. I have just obtained from Scotland an early yellow-flowering variety, which is said to be distinct from the Early Sulphur, which is our earliest variety in the south; and I shall wait with expectancy the time when it will flower.

I am informed by old growers of double Primroses, that when grown in pots, the soil should be pressed firmly about the roots; that they should be potted hard. They should be potted deeply also, so as to encourage root growth from near the basal leaves. A compost made up of a good yellow loam, some leaf-mould and sand, with well-decomposed manure that can be rubbed into a powder, added, will suit double Primroses well. If they succeed, the grower will be amply repaid for his attention if good heads of bloom follow; if they fail, then he must brace up his energies for another attempt, and endeavour to translate failure into success.—*R. D.*

ZINC POTS FOR PLANTS.

I have no desire to advocate the adoption of these in preference to the ordinary ones, but as it appears that some plants do not object to grow in them, the facts I am about to relate may be suggestive and not uninteresting to others. At Worden Hall, near Preston, there is an aquarium, and in the centre of the tank a column to support the roof. Several attempts have been made to cover this column, which is 15 ft. high, with a creeper, and there are plenty of plants that will extend twice or three times that length, as was afterwards proved, but there was a decided objection to more than half of

any pot being seen above the level of the water, unless well hid by its own foliage. Climbing plants do not as a rule show any desire to hide their pots, but quickly scramble out of the way, and so leave the pots exposed to view. Well, a 12-in. or 15-in. pot perched on another inverted, with apparently nothing to be seen in it but soil, it must be admitted is not a very attractive object standing exposed in the centre of the house, and this was the objection that had to be overcome here. It was accomplished by means of a water-tight zinc pot, in which the pot containing the climber was placed, and the whole immersed to nearly the level of the water.

As the plant must have water, means had to be provided for getting the drainage water out, and an earthenware drain pipe was inserted with the bottom end resting on the crocks. The pipe was of sufficient diameter to admit of a small syringe being used to draw the surplus water out each time after the plant had been watered. For some time the manner in which the plant grew under these conditions gave indications that the arrangement proved so far satisfactory. The plant, however, a Cissus discolor, came to a standstill long before performing the duty expected of it—that of covering the column. Last year Mr. Frisby, the gardener, discovered on turning the plant out that the roots had not penetrated downwards very little more than half way into the soil, and many appeared dead. The portion of soil destitute of roots was discoloured, and had apparently been subject to different influence from the other portion. It then occurred to Mr. Frisby that the syringe had only drawn up the water when standing a certain distance up the pipe. Had the soil been wet at the time the plant was re-potted, there would have been an offensive smell, which would at once have indicated the cause of the mischief. Mr. Frisby, however, resolved to place the end of the pipe on the bottom of the pot, and the result of that slight alteration has been most remarkable. The drainage was also increased so as to prevent the water, should there be any left, touching the soil, and consequently be conducted upwards, as had been the case previously. The plant last season reached the top of the column, as well as extending 15 ft. on both sides, with several shoots from 2 ft to 4 ft. long hanging gracefully downwards, a natural arrangement which shows the plant off to the best advantage.—*W. P. R., Preston.*

THE ORCHID NURSERY, ST. ALBANS.

The new Orchid establishment belonging to Messrs. F. Sander & Co. is certainly one of the greatest undertakings of the present day. Great favourites as Orchids have always been, the growers of them of twenty years ago would have laughed at the idea of such a gigantic, well-built, and expensively arranged establishment devoted entirely to the culture of Orchids; indeed, it is more than probable that if it had been told Mr. Sander himself when he first started the compact home Orchid nursery in the town that one day such a great addition to his dependencies would be made, he would have flatly denied the possibility of such a thing. But those who take up Orchids either in commerce or for pleasure cannot say where they will stop, as the love for the pursuit leads them on gradually and pleasantly. Such has been the case with Mr. Sander, whose enthusiasm, where Orchids are concerned, is as great as that of the most confirmed botanist and plant hunter.

This love for the plants themselves, which prompts repeated and heavy outlays in getting over such risky subjects as the wonderful Vanda Sanderiana and such like, are often unprofitable, and when the ventures are made it is pretty well known that they will be so; but the indomitable spirit of enterprise and research for which this firm is noted has often caused them to drop on unexpected novelties while searching for other things; and hence the great number of new introductions, for which both science and floriculture owes them a debt which, if not paid in any other way, will be recorded in botanical literature for all time; for in addition to the reintroduction in quantity of so many fine old things and the flowering of so many new hybrid Orchids, the recently introduced Aerides Lawrenciæ, A. Sanderiana, A. Rohaneana, and other Aerides, Vanda Sanderiana, Cattleya Gaskelliana, C. Percivaliana, C. Sanderiana, Phajus tuberculosus, P. Humboldtii, P. Hrubyanus, Maxillaria Sanderiana, Oncidium Loxense, O. cucullatum giganteum, Masdevallia Schlimii, M. racemosa Crossii, M. rosea, and a long list of other new Masdevallias and other Orchids, have done much for the pleasure, knowledge, and popularity of Orchid culture.

Situate on high ground close to the Midland Railway Station, the vast area of glass-houses present such an imposing appearance that travellers must often speculate on the nature of the contents of such well-built structures, and admire the plan and arrangement of the whole. For the contents, words cannot convey anything like an adequate idea of their beauty and variety. Nothing short of a visit could do so.

The whole establishment being built according to a prearranged plan, does not labour under the difficulties which those which are made at different periods do, all the houses arranging well together and being easy of access, while the broad spaces outside between each house admits of the necessary bottom ventilation and free passage of air, which is of great consequence in Orchid culture. The houses are built of Pitch Pine, and ranged with open spaces between each, the whole of the ends on the entrance side being connected by a lofty and spacious corridor, which is just being arranged for the reception of Mexican Orchids. In like manner the extreme ends of the houses are fitted with offices, packing-sheds, and here sunk so well out of the way that their presence cannot be known to the visitor, are the boilers and other things connected with the heating; indeed, so well and conveniently are all things connected with the work of the establishment arranged, that but little of it is to be seen unless a visit is paid to the quarter in which it is conducted, and the houses bear the same neat and orderly appearance as they do in a first-rate private place.

The Phalænopsis-house, 130 ft. long, pending the arrival of large consignments of P. Sanderiana and other new and fine Phalænopsids from the collectors now at work on them, is at present only partially filled with these plants, but the representations of the genus present are in remarkably fine order, and many of them laden with blooms and buds. P. Stuartiana punctatissima, P. Reichenbachiana, P. violacea, P. Schroederiana, and many fine P. Schilleriana and P. amabilis in flower being particularly good. The rest of the house is occupied by thousands of Cypripedium Lawrenceanum, C. Roebeleni, Aerides Rohaneanum, which is a great beauty when a fine variety is obtained and always delightfully fragrant; A. Lawrenciæ, the Queen of Aerides; A. Sanderianum (like an A. Lawrenciæ, with orange lip); A. cylindricum, Saccolabium illustre, and several other new Saccolabiums and Aerides, prominent among the last-named being in flower a very pretty clear orange yellow variety, which ought to prove a good thing. Many sound specimens too of the grand Vanda Sanderiana are here.

Odontoglossum crispum (Alexandræ) by thousands in matchless vigour, and grand varieties occupy the next house, which is 183 ft. long, 31 ft. wide, and fitted with a step stage, in the centre along the top of which runs a walk, over which it is a treat to go and view the fat red bulbs and thick hard leaves of the plants all around. One never sees even an indifferent variety among all these, and the excellence of their hybrid produce is noted. Why is this? The answer is readily to be given. The whole of them have been imported from that fine but not easily reached district from which Chesterton originally obtained that grand lot which have been so much talked about. Some of them fell into Mr. Stevens's hands at Trentham, and we all know that twenty, thirty or forty guineas have been common prices for them. It appears by this, that the plants have only to be got from the right quarter to ensure their being good, and it is a pity that the more easily obtained bad varieties should occupy in many gardens so large a space which might better be devoted to such grand, large-flowered forms as those of which the great St. Albans collection is made up. Many thousands of strong flower-spikes are appearing in all the Odontoglossum crispum-houses, and consequently the present is the best time to make a selection.

The third house is cleared ready for filling with the new spring arrivals, and the fourth is the wonderful Cattleya-house, 230 ft. long and 30 ft. wide. In front of the door a good space is left clear for visitors, and seats are placed there, which are very comfortable to occupy while discussing the merits of the various fine objects in view, not the least noticeable of them being the large Vandas with eight or ten leads each which were obtained at the sale of the Dunlop Collection, and which now form such striking objects above the water tank in the St. Albans Cattleya-house. The whole of this house is occupied by stout, established masses of Cattleya, Percivaliana, D. amethystoglossa, C. Gaskelliana, C. labiata, C. Trianiæ, and all the other leading kinds, the plants being one and all very stout, clean, and healthy, and furnished well with sheaths. The Cattleya Mendelii, which occupy the entire length of the top stage on either hand, are in wonderful condition, and the C. Trianiæ, which are just beginning to open, are reckoned to have over 3,000 fully-expanded blooms in about three weeks' time. The strain of this plant at St. Albans is well known, the last year having produced the grand 250-guinea C. T. Leeana and many others which fetch very high prices. The giant C. Skinneri, and the fine lot of Lælia elegans Turneri, and L. e. prasiata varieties in bloom, and the chaste white Cattleyas Wagneriana, Arnoldiana, and Reineckiana are superb. A giant specimen of a grand variety of Cymbidium Lowiana, nearly 6 ft. across, has seven very stout flower-spikes coming on.

The fifth is also a Cattleya-house, filled with C. Dowiana, C. aurea, C. Eldorado and its white variety, C. Wallisii, C. labiata, C. labiata Ernstii, and other new Cattleyas and Lælias, among them being a fine batch of C. Mossiæ Chirguense and a giant upright-growing new form of C. Mossiæ. At the end of this house are a large lot of specimen Odontoglossum citrosmum and a bank of Cœlogyne cristata, Lemoniana and Chatsworth varieties, and also a new form with large, wax-like, snow-white flowers, even better than the Chatsworth variety.

The sixth house, 260 ft. long and 24 ft. wide, is filled with Odontoglossum crispum of the same stamp and strain as the lot previously mentioned. The seventh house, which is 260 ft. long and 24 ft. wide, is devoted mainly to Dendrobes. D. Dearei, D. cruentum, D. Wardianum, D. thyrsiflorum, and all the other good and new Dendrobes of the season being in fine order, and like all the other plants in this establishment without insects, being grown clean, which is, where practicable, much better than being kept clean.

The eighth, ninth, tenth, eleventh and twelfth houses, each between 260 ft. and 300 ft. in length, are filled with Odontoglossums, of O. crispum alone over 120,000 being in stock, and all of the same famous strain. One long house is filled with O. Pescatorei, which are also noted for their good quality. O. P. Schroederiana and others, which ran pretty closely on O. P. Veitchiana, and some yellow Pescatoreas, one of them, O. stellimicans, being of great beauty and value.

For the benefit of those who want semi-established plants, one of the long houses is filled with planted out Odontoglossums, which are good and portable for long distances. Among other fine batches are quantities of the violet Odontoglossum Edwardi, some of the spikes of which measure a half-inch in diameter, Oncidium macranthum, O. Loxense, O. Phalænopsis, Odontoglossum Rossii majus, O. maxillare, and countless odd lots of presumably new plants. Those who have seen the St. Albans Orchid Nursery will readily agree with us that it is altogether an extraordinary establishment, and those who have not will endorse our statement unhesitatingly after they have been there.

The old establishment in the town is now devoted to the vast and increasing general collection, to a grand collection of Masdevallias, Cypripediums, and to numerous special batches of new things certified by the collectors, but which it is thought better to prove. Among these are importations of the true Odontoglossum nævium, O. Dormanianum, Lælia anceps Dawsoni, and other quite new things. Fine houses of Lycaste Skinneri, Odontoglossum vexillarium, and of white and noted forms of Lælia anceps are also here in the best possible condition. So long as they are kept up to their present standard by pursuing the reasonably cool treatment which he gives to all plants, Mr. Sander may well be proud of them.

The Amateurs' Garden.

THE GREENHOUSE.

This is about the worst time of year for greenhouses, as now that Chrysanthemums and winter-flowering Salvias are over, there is not much to make them gay, but, fortunately, Camellias, Primulas, and Cinerarias will soon be in, and, by a little management, Deutzias, early Rhododendrons, and hardy Azaleas, may be made to follow, as they require but little heat to forward them, and the Azaleas and Deutzias, being deciduous, may be brought on by placing them under the stage, or anywhere in the dark, till the buds break, and the same with many herbaceous subjects, such as Lily of the Valley, Solomon's Seal, Spiræa japonica, Dielytra spectabilis, and a host of things of that class, which really force best in the absence of light, and it is a good plan to cover the crowns with a few inches of cocoa-nut fibre, as that keeps them in a uniform condition as regards heat and moisture.

Pelargoniums, of the show and fancy class, should have their shoots stopped by just nipping out the points, which will cause them to break back and become furnished below. If it is desired to extend the size of the plants, all that is necessary is to pull down and tie out the branches, as when they start again they will fill up and furnish. To keep them dwarf and stocky, they must have full light, a shelf up near the glass being the best place, as there they are sure to grow short-jointed and strong. The zonal section, which includes most of the double and single kinds, are best kept quite dry and at rest for a time longer, but a few old Fuchsias should be started, and any young ones kept gently growing on, by giving them water when they need it, as they last much longer in bloom during the early part of the season, than they do when the weather becomes dry and hot.

Although it is not desirable to have many climbers in a greenhouse, one or two take off the plainness and furnish the roof, for which purpose there is nothing more useful than Maréchal Niel or Gloire de Dijon Roses, and under the treatment they get there they are always at home, and afford an immense number of blossoms. To start with them, it is best to get good strong plants in pots, and to prepare a border for planting them in by putting a barrow-load or so of fresh loam, in which they should be turned out with balls entire, as then there is no check, and they start away vigorously and make some fine shoots. These afford the flowers, and ought to be encouraged by keeping green-fly off them, which may be done by fumigating, and now and then giving a heavy syringing to wash stragglers off.

PITS AND FRAMES.

Many have to make shift with these to winter bedding stuff in, but, unless there is a hot-water pipe in the pit, they are the worst places possible, as damp is almost as fatal as frost, and in close foggy weather it kills many plants, for without some means of expelling it they cannot be dried and the leaves decay in a wholesale way and carry rot to the stems. To mitigate the evil the only thing is to pick them over frequently and give air on all favourable occasions when there is any drying influence abroad, but, if it can be done, half succulent things, like Pelargoniums, should be got into a house.

For propagating Chrysanthemums a cold frame is just the place, and cuttings should be put in at once and kept quite close till they strike. The shoots to be chosen are those that are dwarf and strong, and by a little care these may often be taken off with roots, when, if potted singly and grown on with plenty of air, they make the best plants. If cuttings are taken they should be about 3 ins. long and cut close to a joint, and, after the lower leaf is taken away, inserted in sandy soil, either singly or three or four in a small pot, after which all that is necessary is to give them a little water, and, as above mentioned, keep them close till they root, but on no account give any heat, as that spoils them by making them weak and long in the stems.

As it will be time now to be raising seeds and propagating other plants that require warmth, a hot-bed should at once be made up, tan being a good material for the purpose, as it keeps in regular fermentation and makes a genial atmosphere that suits all things. Dung and leaves are the next best, but these need preparing by being laid up in a heap together and turned over to let out the rank steam, and after the bed is made up it is a good plan to have a thin layer of cocoa-nut fibre or sawdust to plunge the pots in.

FLOWER BEDS AND BORDERS.

Now that we have had a taste of sharp frost, and it may be expected to visit us again, plants of doubtful hardiness ought to be looked to and protected, as, owing to the exceptionally mild weather, they grew very late and are ill prepared to endure much cold. This being so, some dry straw, hay, or leaves should be put round Pampass Grass and Tritomas, and to keep either of these materials in their place, as well as to hide them, it is a good plan to stick a few evergreen branches around. Roses may be made quite safe by mulching with a good dressing of half-rotten stable manure placed loosely among them or round their collars, which is the vital or important part, for if they escape there they will break again, even though the tops get killed, as there are always dormant buds at the base.

FRUIT AND VEGETABLE GARDENS.

As all amateurs, who have a glass-house, essay to grow Grapes, it may be of use to many to say a few words on vine borders, especially as the present is a good time to make them. The difficulty with most is soil, but though it is desirable to start the vines in fresh stuff, it is not necessary in all cases to put much, as the natural land in some districts suits the plants well, for, unlike other fruit-trees, they are not over particular, but flourish in anything ranging from clay down to sand. What they dislike most is wet, and therefore the ground in front of the vinery should have a deep drain cut to carry off the water, that is, if it happens to be low and flat, but if otherwise, the natural fall will be sufficient to do all that is wanted.

For planting the vines in, there is nothing equal to fresh turfy loam, such as is to be got from waste places by the roadside or any old pasture, and this should be chopped up rough and used pure and simple, as admixtures often do more harm than good. The soil beyond, however, ought to be trenched deep and have a dressing of thoroughly rotten manure worked in, as then the vine roots will be able to extend freely and find the food and moisture they want. Although they may be planted now, it is quite as well to wait till the middle of March, but at whatever time, the thing is to shake the plants out, and disentangle their roots, and then lay them in regularly straight out in the border, covering them up while doing so with the new soil, and finishing off with the surface level and smooth.

Those who have established vines, and wish for early Grapes, may begin to force by keeping the house closed and a little fire going, so as to raise the temperature to 55 degs. or so by night and 60 degs. by day, which degree of heat, with moisture from syringing the rods and damping the floors, will soon start the buds.

In the outdoor fruit department it is time for all planting to be brought to a close, as trees put in late stand but a poor chance of becoming established. As soon as they are in, see that they are secured from wind-waving by having stakes, or proper supports, and ties to keep them steady, and that the ground immediately over the roots is mulched with a layer of half-rotten manure, which is a great help to all fresh moved things, as it prevents frost entering, and maintains the soil about the plants in a regular condition as regards warmth and moisture.

In the vegetable garden there is little now pending, except the necessary manuring and digging of the land so as to be prepared for cropping, the time for which will soon be here, and if the ground is thrown up rough, the action of frost will have a good effect in disintegrating and making it friable, and in proper condition for sowing the seed.

TORENIA CONCOLOR.

The Torenias are deservedly popular garden plants, from their elegant and floriferous habit, and the beautiful colours of their flowers. T. concolor was introduced from China by Fortune to the Horticultural Society's Gardens in 1844. It was found growing in marshy ground, at an elevation of 2,000 ft., in Hong Kong. The colour of the corolla is a beautiful violet; and except in this respect it is very similar to T. asiatica and T. hirsuta. The former of these has a corolla of a purple-blue tinge, with a very dark purple blotch at the tip of each of the three lower corolla-lobes. The latter has a reddish rather than a bluish tinge, the upper lobe is reddish-purple, the side lobes are very dark purple, and the lower one white with a purple margin. It is figured in the January number of *The Botanical Magazine*, from plants which flowered at Kew last August; seeds having been sent by Mr. Ford, of Hong-Kong.

Torenia Fordii.—This second species is also figured in the above-named work—a species new to science. It flowered at Kew last June, from seeds sent in 1883 by Mr. Ford, superintendent of the Hong-Kong Botanic Garden (after whom the species is named). These were obtained in an expedition to the Lo-fau-Shan mountains, on the coast of China, opposite to Hong-Kong. Its nearest ally is T. cordifolia, which has a pale blue corolla, while T. Fordii has a pale straw-coloured corolla, the two side lobes having a violet blotch at the tip. It is less showy than some of the other species, but is still a neat and pretty little plant.

TRICOLOR AND ZONAL PELARGONIUMS.

Tricolor Pelargoniums are often found deficient in numbers for the requirements at bedding time, with the result that the beds are thinly planted, and on that account are ineffective. I have known this to go on in the same establishment for years in succession, yet when properly treated they are among the most easy plants to multiply. Where any difficulty is experienced is generally where the system of taking late autumn cuttings is followed. The plan I have followed for several years and with the best results is to let the plants take their course through the summer, never removing any cuttings except it be to bring the plants into better and more regular form. These plants are lifted in the autumn before they get bitten by frost, potted into suitable sized pots, and placed in a warm pit, such an one as the summer Melons were grown in, and when they have taken to their pots they are removed to a cool vinery for the winter.

About the middle of January these plants are removed to a vinery that is started about that time, and where they will receive a little warmth for a week or so prior to the cuttings being taken off. This is done some time during February, but if a good brisk heat is not at command, it would be better left to the beginning of March. A position near the glass at the warm end of a stove suits them well, but we have followed another plan for several years, which is to put the cuttings into 60-size pots in a mixture of loam, leaf-soil, and sand in equal parts, the pots being well drained. These are then plunged into 48-size pots, packing some moss round the sides and at the bottom, when they are stood on the warm pipes in a pit or house, where they can be exposed to sun and light. It is surprising what an amount of heat these cuttings will bear. Under this treatment I have known hundreds of cuttings to root in a very short time without losing a single one. When treated in this way, however, care must be taken that the pots of cuttings do not suffer for want of water, and they should be removed to cooler quarters as soon as they have taken root.

The present is also a favourable time to look over the Zonal section of Pelargoniums, both single and double, and take off cuttings, according to the requirements, to grow for flowering next autumn and winter. We usually look out a plant or two of each variety, and cut them down, after which the plants may be put into a little more heat to break. These cuttings, if treated in the same way as the tricolors, soon root, when they may be potted on with the ordinary bedding plants, and when they have been put into suitable sized pots, that is, large enough for the purpose for

which they are grown, they may be stood on a bed of asbes in the open-air, and be exposed to all the sun possible. The flowers must all be removed as they appear, and some of the kinds will require pinching at the points occasionally. These should be housed before frost affects them in autumn and allowed to come into flower in a house where a little warmth is afforded. Treated in this way, they afford a wealth of bloom, especially up to Christmas, after which the double varieties afford the most flowers, but will require a moderately brisk heat to keep them flowering.

Nothing that I know of afford a greater profusion of bloom from September to January for the little trouble bestowed upon them, than do Zonal Pelargoniums. The following are a few of the varieties which we grow largely for that purpose:—Vesta and Wonderful, also Mr. Marriot, shades of red, are indispensable varieties; Deputy Veroy, La Grandeur, and Asa Gray, shades of pink; these are all double varieties. Fire King and Vesuvius we grow among the single scarlets, Lady Emily, pink, and White Vesuvius and Niphetos as white varieties, all of which answer the purpose well, but most of the other varieties will do the same if treated likewise.—*C. Warden.*

THE LIME.

The Lime is especially desirable in the making of avenues and pill boxes. I suppose there is no tree which interlaces better at the top and forms the high and pointed Gothic arch, the long drawn aisle of a noble avenue, better than the Lime, and only the white wood of the Willow can compete with it in the manufacture of those inevitable little boxes, such as puff boxes and the others which have just been mentioned. Useful as the Lime is, however, and indispensable in producing certain very legitimate effects in landscape gardening, it must be regarded so far as its individual merit is concerned, as an object more remarkable for singularity of appearance than for beauty. It came into fashion, in short, with that Dutch style of gardening which has now very justly fallen into disrepute as a general system, though it may be very well adapted to particular sites. In the stiff and formal age of Louis the Fourteenth, avenues were undoubtedly encouraged far beyond their merits. Consisting as they do of straight lines and forming high walls of foliage running sometimes across the park, before the windows or up to the front door, they could hardly be arranged so as to avoid the exclusion of certain parts of the landscape which ought not to have been shut out.

But however undesirable and even ugly a wall may be when it obtrudes itself, an avenue of Limes is frequently a noble and interesting spectacle in itself, and in some situations, especially when its length is not considerable, it can be admired for its beauty without regret for the landscape it excludes, as in the case of the avenue depicted in the accompanying illustration, which leads up to one of the entrance lodges to Lord Braybrooke's Park at Audley End. One of the most remarkable short avenues of Limes that I remember to have seen is in the Duke of Argyle's park, reaching to his front door, at Inverary. The extent of grass around the Castle is limited by the comparatively narrow width of the glen, but the timber in this part of the park—for there is plenty of park elsewhere—is most ornamental. All the trees have been protected against the cropping of sheep and cattle, so that they feather to the bottom and their branches sweep the ground. The Limes, in their growth, have taken the least common and by far the most beautiful form, the columnar instead of the pyramidal. Another interesting short Lime avenue, lofty and architectural in its appearance, is at Shere in Surrey, running parallel with the stream near the rectory.

In the same district, in Betchwork Park, which was first enclosed by Sir Thomas Browne, in the middle of the fifteenth century, and which was added to Deepdene by the late Mr. Henry Hope, there is the grandest Lime avenue I have seen for its great length and breadth and the large size of the trees, which have met and formed an arch at top. The two rows of Limes, which appear from the railway and elsewhere like one great wall of towering and massive vegetation, formerly approached to the door of the now dismantled house. At the present time it may be said to begin nowhere and end nowhere, and it obstructs no view, occupying rather low ground in a retired situation on the banks of the Mole, between Dorking and Brockham.

Some of the biggest specimens of Limes with thick bushy branches growing close to the trunks are at Lavington, in the park of the late Bishop Wilberforce. They are pyramidal in habit, and nearly all the trees have produced a thick growth of twigs around the trunks, unseen till you pass beneath the spreading limbs and look upward. This peculiarity of some Lime trees may be due to their luxuriant growth on strong land. There is a fine spreading Lime, of Banyan-like growth, at Knole, and the noble avenue in The Quarry, at Shrewsbury, with many others might be mentioned. Let us give the Lime due honour for its rapid and lofty growth, and the honied store of food it provides for those four winged races which in early summer buzz and hum among its branches, for its classic antiquity and its European fame. And let it not be held responsible for the sin of Dutch gardening, the offence of the vegetable colonnade and the error of the formal avenue, since it is in several respects a tree unmatched and unrivalled in its merits.

AN AVENUE OF LIMES AT AUDLEY END.

Limes are represented in England by a native species which ripens its seed here and has smaller leaves than any of the Continental varieties. The Limes of Europe extend from Greece and Spain to Sweden, and as far north as Siberia, the northern species being Tilia Europæ, the same as our own; the southern, T. grandifolia (Smith), and that of Germany and mid-Europe, T. E. microphylla, the intermediate species. The American Lime, T. Americana, is comparatively insignificant, reaching a height of only 30 ft. or 40 ft.

The best soil for this tree should be neither too moist nor too dry, too heavy nor too light. A good loam or a moist but well-drained river-side site suits it best. It assumes its leafy garniture rather late in spring, and loses it early in the autumn, especially when growing in unkind soil, and for that reason should never be used for street planting.—*H. E.*

FRUITS.

Fruit Culture under Glass.—Pines, which were subjected to a low temperature and somewhat dry atmosphere during the last fourteen weeks of the old year, preparatory to being "started" in the beginning of January, with a view to their yielding ripe fruit during the months of June, July and August, should have a night temperature of 65 degs. to 70 degs., according as the weather is cold or mild, and 5 degs. higher by day, with fire-heat, running it up 10 degs. higher with sun-heat, and a bottom heat of from 80 degs. to 90 degs. should be aimed at. This can be done, if the pits are of the old-fashioned pigeon-hole type, by making up the linings at short intervals with fermenting material, or turning on the hot water in the bottom-heat pipes. The soil in which the plants are growing must be kept on the dry side, as well as the atmosphere of the house or pit, in order to prevent the plants from making growth instead of starting into fruit as desired. But as soon as the young fruit can be discerned emerging from the centre of the plants, sufficient tepid weak liquid manure must be given to thoroughly moisten the soil.

Atmospheric moisture must be applied sparingly while the fruit is in flower, and air admitted more freely during that interesting stage of the plants' growth, so that every pip of the fruit may be properly developed, after which a liberal supply of atmospheric moisture should be distributed over the plunging material and the paths, about the collars of the plants, and slightly overhead, the latter at closing time on bright afternoons. In doing so, avoid as much as possible letting water from the syringe or otherwise get into the "crowns," as that would cause them to become too large, and thereby detract rom the size and appearance of the fruit. Successional plants need not have a higher temperature than 60 degs. to 65 degs. at night, with 5 degs. more by day and fire-heat, and 10 degs. higher with sun-heat. Five degrees less of heat will be congenial to the requirements of young plants and suckers. Give air at 80 degs., and take it off early in the afternoon before the temperature has fallen below this point, damping the plunging material and paths at the same time. Air may be admitted to successional plants in their different stages of growth at from 70 degs. to 75 degs.

Peaches and Nectarines in flower should be subjected to a rather dry and airy atmosphere and the blossoms have a camel's-hair brush passed over them about mid-day, when the pollen is dry, with a view to securing a good set of fruit. A night temperature of from 45 degs. to 50 degs. should be maintained, according as the weather is cold or mild, 55 degs. by day with fire-heat and 10 degs. higher by sun-heat.—*H. W. W.*

History of the Pine Apple.—For this, the material is not abundant, or, I should rather say, good material. For the most voluminous writers upon this subject have evidently regarded their imagination as a fountain of facts. There are, however, a few well authenticated facts in regard to its history:—First, Columbus found it growing wild on the Island of Guadaloupe in 1493. Second, Baron Von Humboldt found it in the valley of the Orinocco, and elsewhere, in the uninhabited wilds of South America. Third, At an early period it was found naturalized in Africa, Asia, and the East Indies. This has led some to question its American origin. But the first fact named settles that beyond dispute, for whatever may be said of the passage of the ancestors of our aboriginal tribes across Behring Straits, or the Icelandic discoveries upon north-eastern borders, it is very certain that no voyager from any country where the Pine Apple could be grown, ever set foot upon the shores of either the American Continent or islands previous to the days of Columbus. It is equally certain that it has been widely distributed by the hand of man, and that, too, at an early period. It is said to have been found naturalized in Java as early as 1599.

It was carried to Europe soon after its discovery in America by Columbus, and thence to regions beyond. But it is probable that it was carried to China from Peru by way of the Pacific, and thence distributed to surrounding regions. It is also probable that India derived its first supply from the European stock through Portuguese soon after its introduction into Europe, and thence extended to adjacent countries. Wherever introduced, it at once was conceded a high rank among the fruits of earth, because of its large size, its delightful aroma, and the abundance of its juice of a most exquisite flavour.—*Rev. Jas. H. White, in Florida Dispatch.*

Dressing Fruit-trees.—In dressing fruit-trees for the destruction of moss and lichens, as well as for the preservation of the buds from the attacks of birds, the most economical and effective method is by the application of fresh slacked lime with which is mixed a dash of soot and fresh cow-dung, for the purpose of darkening its colour and making it adhere to the branches. This mixture should be sufficiently diluted with water to allow of it being syringed on the trees. The syringe should be what is known as a one-nozzle syringe, without any small holes, otherwise the liquid will not pass freely through it. The sucker should also be composed of a brass ring, well packed with tow and tallow, instead of being a leather one, which quickly becomes dried up and spoiled by the hot lime water. The mixture can be made in a large tub, from which it can be conveyed in buckets where required. By this method a lad can thoroughly wash twelve fair-sized trees in a day, which with a painter's brush would take him nearly a week to accomplish. Fresh slacked dry lime is sometimes used for this purpose, by dusting it over the trees in damp or foggy weather; but by this means it is difficult to get the lime to adhere regularly to the branches, and many of them are missed altogether. Since I have practised this plan I have found no difficulty in quickly washing every tree in the garden as soon as they are pruned, thereby keeping the bark thoroughly clean and healthy. After this operation, the surface soil is raked off and burnt, and a surface-dressing of burnt earth mixed with a small quantity of shoddy is given, this is lightly pricked over with a steel fork just to loosen the soil and the winter dressing is completed.—*Scribo.*

Are Sunny Seasons Best for Colouring Fruit?—According to my observation, they are not. Probably no one will remember a brighter or sunnier year than 1884; but I am sure many will recollect seasons in which Grapes, Peaches, Apples, &c., were much higher in colour than last year. There are few better places in which to form a correct opinion on this point than at Shows where the best fruits from many parts are exhibited; but throughout all last year I did not, so far as I had an opportunity, see anything of extraordinary good colour. Indeed, if we look over the reports of Shows, we shall find in the majority of instances that the Grapes, especially Black Hamburghs and Muscats, were deficient in colour. In the orchard here, King of the Pippins Apple always does well. During the very bright weather in July and August we were looking forward to its being higher than usual in colour; but when we came to gather it in October we were surprised to find it much less red and bright than we have had it in what might be termed dull seasons, and this applied to many other varieties, and indeed to Apples in general in South Wales.—*J. M., in The Field.*

Gros Colmar Grape.—Much has been written concerning the flavour of this Grape, and not always in its favour. A great many people contend that it is very coarse and tough, and that may be so where the Grape is not well ripened, but if started in good time in the year, say about March 1st, and kept steadily growing with the aid of fire heat until June, if the weather at that time is sufficiently hot to dispense with fire heat, the Grapes grown under such conditions will be found to be of much better flavour than some imagine. It is particularly adapted for invalids, better so than any other Grape I know. During, say, October, November, and December the skin is thin, it possesses a large amount of flesh, and is not so sweet as many other kinds, on which account it is very refreshing, much more so than a sweeter kind, which does not allay the thirst so well as one of brisker flavour.—*E. Molyneux.*

FLOWERS.

Seasonable Work in the Plant-houses.—February brings much work that cannot well be delayed, and of all work perhaps the most essential is that the propagating pits should be kept well filled. Of Bouvardias, Tree Carnations and Fuchsias, good cuttings put in now should make nice plants for flowering the same season. Where Solanum capsicastrum is usually grown from cuttings (and, by the way, this is the best method to secure compact well-berried plants) they should now be put in as soon as possible; it is also a good time to propagate Abutilons, either the variegated varieties for bedding, or some of the best flowering varieties, which are very useful for the conservatory. A few seeds should be sown as early as convenience will allow, among which Gloxinia, Begonia (Tuberous) must not be omitted, but in any case where a good temperature cannot be regularly maintained, it will be better to sow a little later on.

Flowering plants for forcing.—In introducing such plants as Deutzias, Lilacs, hardy Azaleas, &c., into heat, it is a great mistake to put them in a shady position or under other plants. It is best to place them where they get as much light and sun as possible, but the atmosphere should be kept moist, and the plants must on no account be allowed to become too dry in the pots. Dielytra spectabilis, like the Spiræas, when forced, will start much better if the crowns are covered with about 3 ins. of cocoa-nut refuse, covered in this way, the plants may be placed under the stage or any other convenient place, until they are well started, when they must be placed in a light airy position. A high temperature means spoiling one of the most beautiful plants that flower in spring.

Late Chrysanthemums.—At Basing Park, near Alton, Hants, I saw the other day (January 21st) some good useful blooms of Chrysanthemums, varieties which I had never seen, at least under the names given me by Mr. Smythe, the gardener. One was called Duchess, a white anemone-flowered variety, quite like Miss Margaret in shape and colour. Another one, also of the anemone type, bore the name of Mulberry, and is of the style and colour of Bijou. However, be they rightly or wrongly named, they are both useful kinds for late blooming, and I should be glad to know if any of your readers are acquainted with the varieties as named.—*E. Molyneux.*

Lilium auratum.—Most people are fond of this grand Lily, and it is a consolation to know that the supplies of the same are daily increasing, and the prices getting within the reach of almost all. The large importations announced weekly, and the moderate cost of small quantities as offered by our nurserymen and seedsmen, should place this Lily even in the hands of the cottager. Independent of the first cost, unlike many other imported bulbs, they yield much better returns under very ordinary circumstances. Those who have but one glass-house and a pit or two may grow this plant to the greatest perfection, by potting up as soon as possible some strong bulbs, and for good sized single bulbs 7-in. or 8-in. pots would be large enough. These should have a good number of crocks placed in the bottom for the first potting, after which the pots should be filled and pressed firm to within 3 ins. of the top, with a compost consisting of turfy peat and loam in equal parts, a small portion of well rotted manure and sufficient sand to keep the whole open. On this place the bulbs and sprinkle a little sand over them to keep them sound, then fill up with the compost above recommended. Bulbs placed four or five in a pot also make a grand show, and of necessity should be four or five times as large as those recommended for single bulbs. After the process of potting, they should receive a good watering through a rose, after which they may be plunged under a bed of ashes either in the open-air or under glass or shutters to ward off the rain. When they commence to grow in spring, they may either occupy a sheltered position in the open-air or

be placed in a light position under glass in a cool structure; the latter is preferable. Those who have a garden but no glass should plant them out. Dig out a good sized hole in a sunny aspect, and as much sheltered as possible from high winds. If not well drained, provision should be made by placing a few inches of crocks or rubble of some kind at the bottom, on which place a similar compost to that recommended for potting purposes to within 3 ins. or 4 ins. of the surface, on which place the bulbs and give them a slight covering of sand before covering them finally with the same kind of compost. A slight coat of ashes will protect them from frost, after which a stout peg should be placed in the centre of the clump to mark its whereabouts. When the bulbs begin to grow they should have a strong stake placed to them, to which the stems should be securely fastened at intervals as they grow, and if the autumn should be at all favourable, the operator will be rewarded with a rich display of gorgeous flowers.—*W. C. C.*

Soft-wooded Bedding Plants.—The time has arrived when we must look over our stock of soft-wooded bedding subjects and forward the work of propagating. To those who have a fixed frame over the pipes or other warming apparatus, provided it is suitably placed, the work of raising a quantity of young plants from cuttings is reduced to a minimum. Unfortunately, a good propagating frame is more the exception than the rule in gardens, and so many, like myself, have to do the best we can under the circumstances. Happily there is one other good contrivance for the purpose which is within the reach of both amateur and professional gardeners, and that is the hot-bed made up of stable litter and tree-leaves, properly prepared by being several times turned over. The only objection to such a bed is the labour entailed in preparing the same and the short time at which it keeps of an uniform temperature. Such a bed answers for a great variety of subjects, such as Ageratums, Heliotropes, Irisines, Coleus, especially those intended for summer bedding, single and double Petunias, Chrysanthemum frutescens in variety, and Lobelias of the speciosa section. The whole of the above do well in such a position, and when rooted more air may be admitted and the young plants removed to other quarters. Great care should be taken that the Coleus and Irisine do not get a chill. They should be removed to the stove or a Cucumber or Melon-pit. —*W. C. P.*

Double-flowered Bouvardias.—America would seem to have a monopoly as regards the production of double-flowered Bouvardias. The first of this class, the white Alfred Neuner, originated there; then, after a time, it was succeeded by another, President Garfield, a counterpart, except in colour, of the first-named, the blossoms of the newcomer being of a delicate shade of pink. Now a third kind, Thomas Mcehan, has made its appearance from the same source, with flowers of a bright vermilion-red colour, thus forming a series of three distinct double-flowered Bouvardias. This newcomer, as far as it has yet been observed, seems to be of good free habit of growth, and as prolific in the production of flowers as the others. Its blooms do not appear to be quite so double in character as those of the other two, but perhaps this may be the result of rapid propagation, thereby weakening the constitution of the plant. If this surmise is correct, when it has become better established the flowers will show their true character and, in all probability, will be as double as those of its predecessors. These double Bouvardias are very valuable for cutting, as their blossoms last much longer in that state than those of the single varieties, and in the smaller arrangements, such as button-hole bouquets, wreaths, sprays, &c., they are now extensively employed.—*H. P., in The Field.*

A New Variety of Mignonette.—Mr. William Thompson, of Ipswich, states that Reseda odorata, var. Machet, appears to have a decided advantage over other varieties, owing to its dwarf vigorous growth, which renders it well adapted to pot culture. It is of compact pyramidal habit, furnished with thick dark green foliage, and throws up numerous stout flower stalks, terminated by massive spikes of highly fragrant red flowers.

VEGETABLES.

The Kitchen-Gardener's Calendar.—The work of seed-sowing and planting in the kitchen-garden may now be said to have commenced, and each week the freshly-stirred soil, with labels bearing the names of the crops and date of sowing and planting attached, will serve to show that activity increases in this as in all other departments of the garden. Make a planting of Lettuces on a south border in rows 1 ft. apart, and the plants the same distance asunder in the rows. Scratch a surface dressing of fresh soot into the ground with a rake before putting out the plants, which will render the soil distasteful to grubs as well as fertilize it. The plants should be taken up and planted carefully with a trowel, and the soil be pressed firmly about the roots; after which the ravages of slugs must be guarded against by making a trail of a mixture of fresh soot and lime between the plants and the box edging, or in whatever direction the depredators are expected to approach from.

Make a small planting of Cauliflowers in drills 3 ins. deep and 2 ft. apart, between the rows of Peas sown as advised at p. 315. Plants of Dean's Snowball and Early London, which have been wintered in 3-in. pots, as recommended in your number for September 6th last, should be used for this planting, turning them out of the pots and planting them carefully without disturbing the roots any more than is necessary, so as to reduce the chances of their experiencing a check. The plants should be let well down to the lower leaves, the soil be made firm about them, and be afterwards protected from frosts and cutting winds by Spruce boughs being stuck firmly in the ground on either side the plants. Sow some Nantes Horn Carrot seed adjoining the previous sowing.

Forcing Department.—Make a sowing of Hathaway's Excelsior or Stamfordian Tomato, and shift plants raised from seed sown in October, as they require more room at the roots. Secure the stems to sticks, pinch out all lateral growths at one joint, and give them a night temperature of 55 degs. to 60 degs. and 65 degs. to 70 degs. by day, running up the temperature to 80 degs. with sun-heat and a genial atmospheric moisture at closing time. Sow a pinch of Turner's Incomparable or Sandringham White Celery in a pan, cover the seed lightly, and place in a hot-bed. See that Potatos, Radishes, Carrots, Asparagus, seedling plants of Cabbage, Cauliflower, Brussels Sprouts, and Lettuce growing in pits and hot-beds have sufficient air admitted to prevent them from becoming drawn.—*H. W. Ward, Longford Castle.*

Tomatos under Glass.—At p. 334, "J. E. S." asks several questions respecting the indoor culture of Tomatos, to which I will briefly reply. 1. He may use any size pot from 8-in. upwards, and all other things being equal, the amount of the produce will in a measure correspond with the amount of soil the plants have to grow in. As a rule, however, the 12-in. pot is the most convenient size, and two or three plants may be put in one of those dimensions. 2. Stop them when they reach the desired height, and remove all the laterals as they appear. Under this arrangement, the crop is confined to the fruits produced on the main stem. It is true he may allow some of the strongest of the laterals to fruit, but in that case he must thrust his stakes into the pot obliquely, so as to allow more space in the centre; but I am not sure if an extra plant or two would not give far more satisfactory results, as much finer fruit will be produced by that method and the plants do not remain about so long as when laterals are allowed to fruit. 3. Bunches of young fruit need not be thinned unless the fruit is required for exhibition purposes. 4. One stake is sufficient for each plant, and a trellis is decidedly the best, or if "J. E. S." does not wish to shade the whole of his house, he may train them up wires after the manner of vines. If he adopts this method, one plant will be sufficient in a pot, as he can retain all the shoots which show fruit, and remove all the barren ones. We have selected this plan because it interferes so little with our other cultural arrangements, though by the time the plants are ready to be cleared out, they have extended about 15 ft. 5. As to the quantity of fruit a single plant in a pot may carry, I have no exact idea, but I do know that the plant is very obliging, and I never recollect an instance in which it refused to carry any load I could saddle upon it. The fruits when once set, neither drop off nor shrivel, but struggle on till they have reached maturity (providing conditions are favourable), but of various sizes of course, yet without distinction of flavour, qualities that cannot be credited to but few other fruit-bearing plants. If it is a question of profit that has prompted your correspondent to put this query, I think the Tomato will yield him as good a return for his labour as any plant he can grow. 6. Liquid manure is most desirable, but should not be applied till the plants show the need of it. This will be when its energies are taxed by the swelling of a number of fruits. It is possible even to give them too much clear water before they begin to bear fruit, as it disposes them to grow unduly and make long joints, as well as delaying their fruiting. I have observed on several occasions surplus plants in small pots that have been standing about, little cared for and half perished for want of water, show fruit long before others of the same age, in large pots, that were constantly watered and otherwise attended to. We therefore grow them "hard" in their early stage, and confine them to 8-in. pots till there are fruit set.—*W. P. R.*

Rhubarb Forcing.—To have a good supply of early forced Rhubarb it is of primary importance to have a good stock of well-grown roots, such as can be forced with a minimum of trouble and which can be depended upon as certain to give a liberal supply in a very short time. One reads in advertisements of kinds which are of superior merit, and which are also said to be new. We have tried a number of them, and find in some cases that they are old friends under new names. But the kind which I have the highest opinion of for early work is Prince Albert. It seems to ripen its roots early, and can be forced into use almost as soon as the Rhubarb in the open ground loses its leaves. Whether covered with warm material and pots in the open, placed in a Mushroom-house, under the stages of hot-houses, or forced in any other makeshift contrivance, it is always certain to produce an abundance of fine-flavoured and high-coloured stalks. It is often supposed that forcing the roots one year after another leads to failure. My experience is that when the roots are forced in this way, well cared for when removed from their forcing quarters, planted, protected, and tended with care, they are well prepared for the following season's work. It is the neglect that the roots are often subjected to when forcing is over which is the cause of their being weakened and to necessitate a second year's growth before they can be forced again. The old Victoria we use as a second early, and by these two kinds a good supply is kept up from November till there is plenty in the open ground. Rhubarb grown in heat, with plenty of light and air, is very superior to that which is forced in close, dark positions.—*M. T.*

Hackwood Park Prolific Tomato.—This is one of the best Tomatos with which I am acquainted. It is a very free bearer, sets well, is of good size and shape, and a vigorous grower; in fact, it has all the properties which a good Tomato ought to possess.—*E. Molyneux, The Gardens, Swanmore Park, Bishops Waltham.*

Crocus vitellinus.—It is somewhat difficult to say whether this is a spring or autumnal flowering species, as solitary blooms begin to appear at the end of November, and others keep appearing until February. The other day we saw a clump with a number of its pretty orange-coloured flowers in perfection, and though the line drawn between autumnal and spring-flowering species is a purely arbitrary one—often emphasized in this country by several weeks of frost and snow—still we do not hesitate to place it as the earliest of the spring-flowering section. It is a native of Syria and Northern Palestine. Like some other orange-coloured species, it varies from self-coloured to orange, with bronze-coloured featherings. The anthers are yellow, and the finely divided stigmata scarlet.—*X.*

THE

Orchid Growers' Calendar.

Calanthes in Winter. — The Preptanthe or pseudo-bulbous section of Calanthe has always supplied most beautiful and acceptable plants, which are all the more useful, in that they naturally come into flower in winter. Every season commencing in November, and beginning with the old red and yellow-eyed varieties of C. vestita, and the favourite C. Veitchii, followed on by the rest of the hybrid varieties, C. nivalis and C. Turnerii, and finishing up with the many varieties of C. Regnieri, which keeps up the display until March comes in, they give us such a cheerful display and at such a dull season that we hardly know what we should do without them. This year they seem to be especially fine in most collections, and particularly with Sir Trevor Lawrence, at Burford Lodge, where, in addition to the known varieties, a nice batch of distinct seedlings, raised at Burford, has been in bloom, and Mr. H. M. Pollitt, of Fernside, Bickley, who, as well as growing and flowering these plants well, has a happy knack of keeping them in flower all together for a very long time. Notwithstanding that his plants began to flower in November, they are now as gay as ever, the tall spikes of C. Veitchii mingling well with the snow-white C. nivalis, C. Turnerii, and the different forms of C. Regnieri and C. vestita.

Most good growers attain great perfection with Calanthes, and that too with so little trouble that they cannot understand how it is some fail with them. Nevertheless, some experience difficulty in growing them, and try all they know, they cannot even reach mediocrity, and as I believe that the winter treatment is often the cause of failure, I am constrained to make my Calanthe note at this season.

The Deciduous Calanthes.

Calanthes of this section being deciduous, it is well-known that they require a resting season after flowering, and hence they are frequently, like too many other resting plants, put aside where they are neglected and sometimes where they are in too low a temperature and subject to get injured by drip. Careless treatment in some of these respects I have frequently found to have been given in cases where the Calanthes were in an unsatisfactory condition, while, when they are grown to perfection, I always find that the plants although not watered, are as carefully looked after in winter as in summer. If the plants are allowed to get wet or too cold in the resting season, small bulbs and blackened leaves are the result.

Winter treatment.—From the time the flowers begin to open, a lessened supply of water should be given, as there is nothing to be kept up except the flowers, the bulbs being finished and hardening for the resting season.

A shelf or convenient place near to the glass in a house in which the temperature does not go below 58 degs., nor much over 68 degs. Fahrenheit being selected, the plants as they go out of bloom should be placed on it and kept in their pots quite dry. Here, being occasionally looked over to see that they are alright, they will remain quite dry until the first week in March (a little sooner in some cases and a little later in others), when they will be growing or about to grow, and consequently ready for potting. It is as well to let the young growths push out strongly before giving them their new pots, as the roots will then soon be ready to take advantage of the new compost.

Potting and After Management.

In potting, the strong bulbs are generally put singly into 8-in. pots, and where the bulbs are weaker two or three of them are put together. The best material is good fibry yellow loam, to which a little sphagnum and broken charcoal has been added, or a mixture of half fibry loam, a quarter peat, and a quarter sphagnum, indeed those who grow the Calanthes well can grow them in almost anything, many finding good fibry loam alone to suit them best. After potting and until the growths are well advanced and the roots appearing, but a moderate supply of water should be given, but afterwards when growing and rooting strongly too much cannot well be given, and at this stage a little weak liquid manure is of great assistance.

During the growing time a good place near the glass in the warmest and most humid house should be given, and here they should be kept until the growths are finished and the flower-spikes appear.

Many who have been unsuccessful with Calanthes when growing them in pots, have succeeded marvellously well when they have grown them in those shallow half-pots or pans used for Orchids, and kept them suspended near to the glass in a hot-house, and this plan I confidently recommend to all who are not satisfied with the results of their own method of culture.

The Winter-flowering Calanthes.

These are already a goodly array and the seedling batches known to exist in several places promise to add to it considerably. There is no fear of getting too many, however, so long as they are distinct.

C. vestita rubro-oculata.—This is the fine old crimson-eyed variety which we have frequently seen with over thirty spikes to a potful.

C. vestita rubro-oculata gigantea.—A grand form of the preceding, for which Sir Trevor Lawrence received a First-Class Certificate at the Royal Horticultural Society in February, 1877. Its flowers are very large, creamy-white, with a large dark crimson blotch in the centre. Flower-spikes, 3 ft. to 4 ft. in length.

C. vestita luteo-oculata.—The old yellow-eyed form, precisely the same as the red-eyed, except in that particular.

C. vestita gigantea.—This is the variety which Professor Reichenbach subsequently named C. vestita igneo-oculata on account of its fiery red centre. It comes from Borneo, and Mr. Sander has a small stock of it.

C. vestita Williamsii.—This fine new variety is only known to Orchid-growers generally through the plate in *The Orchid Album*, but as Mr. B. S. Williams, in whose honour it was named, has a goodly stock, we shall doubtless soon become more familiar with it. Its large three-lobed lip is of a bright rosy-crimson colour, and its sepals and petals white, with a blush of crimson on the margins.

C. rosea (Limatodes).—This pretty little plant, after playing such a good part as one of the parents of the noble C. Veitchii, has sunk into obscurity. It should not, however, be dropped, as our now better Calanthe culture can make it a very desirable plant.

C. Veitchii.—Messrs. Veitch's happy production between C. vestita rubro-oculata and C. rosea. Every year produces fresh testimonials for this lovely rose-pink hybrid. This year many have flowered it with spikes over 4 ft. in height, and with flowers of unusual brilliance, the bulbs being 15 ins. high.

C. Sandhurstiana is a hybrid of precisely the same parentage as C. Veitchii, but by some strange reversion or freak it is much darker than that variety, the flowers being dark crimson, tinted rose. It was raised by P. H. Gosse, Esq., and also quite independently by Sir Trevor Lawrence, who exhibited a plant of it at a recent meeting of the Royal Horticultural Society.

C. porphyrea.—This is another of Sir Trevor Lawrence's fine hybrids from C. vestita. It is a most magnificent thing, with bright purple sepals and petals and trilobed lip, yellowish at the base, with purple spots, the anterior part being purple.

C. lentiginosa.—A fine hybrid raised at Messrs. Veitch's from the grand C. Veitchii. Flowers white, slightly tinged with ochre, lip large, four-lobed, with purple spots at the base. This is a very pretty and distinct novelty.

C. nivalis is an old but still not common variety, with flowers of the true "vestita" shape, and of the purest white, without spot or freckle of any kind; a chaste and lovely winter flower.

C. Turnerii.—This is also of the "vestita" form, and has the pure white of C. nivalis, with a purple blotch at the base of the lip. It is said to be a Java production, and was named in honour of Mr. Turner, of Manchester.

C. Regnieri, a recent introduction from Cochin China, is one of the latest flowering and most desirable of Calanthes. There is endless variety in it, some of the labellums being white, some rose, some spotted in the centre with rose, and some with purple, and others varying in a very erratic manner. Some of the forms are apparently identical with C. Turnerii in flower, but others, again, are quite unlike that species. It was only introduced last year, and is already a great favourite. C. Regnieri and its varieties have the double or jointed bulb of C. Veitchii.

C. Stevensiana.—This is a distinct form of the C. Regnieri importation, with snow-white flowers and delicate lilac-purple marking on the labellum. It was named in honour of Mr. Stevens, the great head-centre of the Orchid trade at King Street, Covent Garden.—*James O'Brien.*

Odontoglossum Sanderianum.—This is now flowering very freely in the cool-house here, and it is a great favourite, being very pretty and sweetly scented. One plant is bearing a branched spike of fifteen flowers, which somewhat resemble those of O. gloriosum, but the lip is broader and pure white, with a dark blotch upon the upper half. The flowers vary in their markings upon different plants, some have the lower half of the lip prettily spotted with red. Professor Reichenbach, in naming and describing this Odontoglossum in 1881, spoke of it as likely to be a hybrid between O. nævium and O. Nevadense, and a good substitute for the true form of the latter, which was very rare.—*T. Simcoe, The Gardens, Lake House, Cheltenham.*

BERRY-BEARING PLANTS.

There are periods of the year when it is difficult to furnish greenhouses with gay flowering plants, and it is then when berry-bearing subjects come in so useful, and appear seasonable, as we all seem to look for them just now, on the approach of winter, and regard them with different feelings to what we should if we saw them in summer, when they seem out of character and to intrude on the vision, but with the advent of frost, we welcome them and like to have them before us. One of the best sorts to grow is Solanum capsicastrum, which forms a highly ornamental plant, and is exceedingly useful for table decoration or the embellishment of windows, according to whether they be trained as bushes or standards. For table work, the standards are the most suitable, as the heads being elevated, there is no obstruction of the view when persons are seated which there would be if bushes were used, and these look too squat independent of that. There are two ways of raising these Solanums, the one by cuttings and the other from seed, the first-named method being, perhaps, the best, as a selection of varieties may be made, and only such as are really good, and bear fine berries, are propagated from, by which means a superior strain may be kept up and perpetuated.

To get large plants another year, the present is a favourable time for putting in cuttings, which may be made from any of the young half ripe shoots, and if these are inserted in sandy soil, covered with a bell glass and placed on a shelf, in any warm house, they will soon strike, and be ready for potting off, which should be done when they have emitted sufficient roots to render it safe to disturb them. As it is necessary to keep young plants growing on, they must have gentle heat all through the winter, and, with it, it is important that they have a moist atmosphere, and be syringed occasionally, or they soon become overrun with red spider, an insect to which Solanums are very subject and suffer much from, by having their leaves injured and made to turn brown. In starting with the standards, the thing is to pick out all with nice stems and leaders, as any of the others will do for bushes, and having made choice of the best, every attention should be given to train them up straight by tieing them to neat stakes till they reach the required height, when the points should be nipped out, and the three or four top shoots that start encouraged, and all below rubbed off, that the stems may be kept clear and clean. After reaching the stage referred to, the plants will be ready for potting, and ought to have a shift, the size of pot most suitable for growing them in being 7-in., which is quite large enough for very fine specimens, as they berry better, if well fed, when confined at the roots. The plants intended for bushes should be stopped while they are still dwarf, and, after they break, be potted on and treated, when growing, just like the others.

The kind of soil Solanums do best in is a good fibry loam, mixed with a little sand and rotten manure, in which they should be potted firmly, when, towards the end of May or beginning of June, they may be plunged out in the open, as they set far more readily if exposed to the air, but it must be borne in mind that if the plants become dry, their flowers will fall. The time to sow seed is in February, when it should be scattered thinly in finely sifted mould, and if then covered with a pane of glass and placed on a hot-bed, or in a warm house, it will soon germinate, and the seedlings become large enough for pricking out or potting right off; after which, they must be nursed on till the season is far enough advanced for them to be turned out in a plunge bed like the others. Those who have plants of a year or two old, will find it a good plan to keep them, and when the berries begin to fall or turn shabby, they should be pruned in, so as to leave only an inch or two of wood, from which they will break again and bloom with the greatest of freedom. As soon as the plants have fairly started after the cutting back, it is necessary to shake them out in order that they may have their roots seen to and be potted afresh, which should be done in the same sized pots, when they ought to be kept close for a time to give them a start, and then be treated in the same manner as those mentioned above.

Ardisia crenulata.—Although this is generally treated as a stove plant, it will bear a greenhouse temperature, and when in a low degree of heat the berries last on much longer, consequently the plants are of far greater use and may be grown by anyone having only limited accommodation, as they do well in a pit. The easiest way to raise the plants is to sow some of the berries, which germinate quickly in heat, the best time for starting with them being early in the spring, as then they may be grown right on to the flowering without any check. As the habit of the Ardisia is naturally shrubby and dwarf, the plants require no stopping or training, but should be allowed to run up with straight single stems, which always branch out from the sides, and it is on these shoots that the berries are formed. The period for flowering is in June and July, when the plants should be kept up close to the glass in a light sunny position, which will enable them to set their blooms and to become loaded with fruit. This they bear in large clusters, and when it is ripe it is about the size and colour of Holly-berries, and quite as rich-looking.

Another plant, well deserving of cultivation for the embellishment of greenhouses and rooms, is the Skimmia japonica, which, though hardy, is seldom seen in the state of perfection it is to be met with in pots, as when outdoors the birds generally find it out and eat up the berries. These come in clusters at the end of the shoots, and are large and of a bright coral colour. The best way is to buy a few plants to begin with and pot them up, as they are cheap, and if this is done now they will be good for next winter. Small Aucubas, well berried, are also highly ornamental, and well deserving a place in a greenhouse, and if not stood there, they are of great value for halls or the outsides of windows, in the latter of which positions they stand the cold, and always look cheerful and bright.—*Alpha.*

THE HOP APHIS.

Regarding Hop aphis, it has been shown by observations forwarded (with specimens accompanying) from the latter part of March onwards, that attack begins on the Hop with its first growth in early spring, by means of wingless females depositing living lice, which have come up from the hills.

Also the opinion of a large number of Hop-growers, and of various skilled entomologists that attack of "fly" (that is, of winged Hop aphis which usually occurs towards the end of May) comes on the wing from Sloe and Damson, as well as from other Hops, has been so much confirmed that I see no reason to doubt its correctness, and after careful study of specimens forwarded from many localities, during the period from the latter part of March to September, I cannot see any reason for considering the "Hop aphis" [and the "Damson Hop aphis" other than slight varieties of one and the same species. In this I refer to the Aphis (Phorodon) Humuli (Schrank), and the Aphis (Phorodon) Humuli, var. Mahaleb (Foux), and not at all to the "Plum aphis," the Aphis Pruni (Reaum), or any other kind than those specified.

I have prepared a paper with full details of the information sent in, and figures accompanying for publication in my yearly report, and distribution in pamphlet form previously to the contributors, so as to be in time for spring operations.

With regard to prevention of attack, it has been found by experiment on the acre of Hop land at Stoke Edith Park, near Hereford, of which the use has been given by the courtesy of the Lady Emily Foley, that various applications to the surface of the Hop hills about the time of dressing in spring, entirely prevented the appearance of wingless females or lice on the bines on these hills (though the others in the ground were infested), until the attack came on the wing at the end of May. Of these applications, paraffin, mixed with ashes, or with earth, shoddy, or other dry material, answered the best, the bines on the hills so treated were reported thriving throughout the season up to good bearing.

Various methods of combining paraffin, or other mineral oils with soft soap and water, so permanently that the mixture may be diluted without again separating into oil and water, are stated to have been found serviceable for destroying aphides, in the experiments made under direction of some of the State entomologists of the U.S.A., but from personal experiment it seems to me so difficult to find the exact strength suitable for killing the insect, without risk to the plant, that I should be afraid, at present, to advise this application to the Hop leafage. As a watering, or as a more convenient method of applying paraffin in the attacks for which it is now used (as of mangold fly, for instance), the plan of mixing is likely to be useful.

I have verified the method of mixing by personal experiment, and find it very simple, and shall be happy to give details to all applicants.

Quassia has been acting well during the last season as an addition to the common soft-soap Hop washes.

Paris green was tried at my request and failed to have any effect on the Hop aphides.

A method of Hop washing by steam power has been introduced near Tunbridge Wells, which has, as yet, only been tried on a limited scale. So far it is stated to be successful, and to have the advantage of washing a much larger acreage, at a lesser cost per day than can be done by the hand or horse engines.—*From Miss E. A. Omerod's Report to the Royal Agricultural Society, December, 1884.*

HEATHS AT HOME AND ABROAD.

When, after a long voyage, the adventurous traveller, on leaving the deck of his vessel, first feels the sand under his feet, as he steps on shore in some distant land, his searching eyes will be met with many novel sights, strange to his former vision. And should he be a lover of nature, and pause to gaze at the wonderful vegetation of South Africa, in the vicinity of Table Mountain, and beyond, he will be bewildered at the sight of so much unusual beauty. And if he arrive when the many lovely species of bulbous-rooted plants are blooming, some of which kinds he may have nursed with tender care at home; or watched with curious expectation the many grotesque examples of succulent plants, which everywhere, with their odd-shaped and abnormal forms, attract his attention; especially the singular genus of Mesembryanthemum, of which there are between four and five hundred species flowering around him, he will be much amazed. Nor will his surprise be less when he beholds so many kinds of Pelargoniums, some of which sorts he remembers as having seen long ago. And how plain before the mind's eye will appear the unforgotten greenhouse at home, where, when a boy, he first beheld these odorous and pretty favourites of the olden time. And among these, upwards of two hundred dissimilar species, many of which, both foliage and flowers, are fragrant; with curiously blotched and beautifully pencilled petals, in every shade of colouring, from pure white to brilliant scarlet and crimson; he will find much to admire.

Of what Diaz, the Portuguese navigator, thought of "The Dark Continent," when first he landed there, differing so much as it does from the physical configuration of his native land, history remains silent. Yet, we can hardly suppose that at the sight of the fine portly green trees, handsome shrubs, and pretty flowers, he could remain indifferent, after being so long tempest-tossed, about what he aptly termed the "Cape of Storms." But dismissing for the present the notice of many interesting plants which flourish there, I will endeavour to confine my remarks to the genus Erica, and of that particular section known as Cape Heaths.

On leaving the quaint looking old city and environs of Cape Town, formerly settled by the Dutch in 1652, the enthusiastic traveller soon begins to meet here and there a variety of the small, handsome evergreen Ericas, as a foretaste of what is in reserve for him, as he journeys upwards and onwards. And presuming he is one of those inquisitive persons, who let nothing escape their keen observation, his progress will be slow indeed. On all sides, and especially while passing over the long stretches of undulating country, his attention will continually be drawn towards the increasing numbers, in many varieties, of these elegant miniature flowering shrubs. And, if he fortunately knows their botanical names, he will be much pleased with the winsome features he joyfully recognizes, like the meeting of old companions after many years, and numbers of free-growing kinds, such as Erica cerinthoides major, from 3 ft. to 5 ft. high; E. dichromata, from 4 ft. to 6 ft.; E. vernalis, 6 ft. to 7 ft.; E. Massoniana, 8 ft. or 9 ft.; and E. curiolaris, 12 ft. to 15 ft.; he will occasionally meet, overtopping those of a more dwarfed and compact habit, such as E. comosa, E. nigrita, E. blanda, E. petiolata, E. minima, E. elegans, and E. carnea. To specify individual kinds by name from upwards of five hundred indigenous varieties, would give the reader but a faint idea of what they are like, unless well versed in botanical nomenclature. And as he approaches the rising ground, along the well beaten path which winds up the mountain sides, further on, these ligneous gems assume a more symmetrical and sturdy habit, and, if possible, become more beautiful, until the summit of Table Mountain is reached.

After hard and persistent struggling up and along the tortuous and rugged footpath, which frequently doubles and zigzags among immense masses of detached rocks, through deep defiles and apparently impassable chasms, along which the purest spring-water comes splashing over precipitous cascades, from near the apex the tired pedestrian will find an inviting resting-place in a natural alcove. To his great surprise he will then see what may seem incredible to old Heath growers, who have only seen them in pots under glass—namely, low bushes of E. vestita elegans and E. princeps flourishing with all the freedom of bog plants in soil apparently never dry; while, *per contra*, E. pumila, E. densiflora, E. incana, and E. penicillata seemed equally healthy, growing in small cracks and crevices in the fissured rocks, where it was high and dry, with only a few grains of sand to root in.

The writer was completely nonplussed at the sight of healthy blooming Heaths, growing upon the face of precipitous rocks, upon the sunny sides of which it was unpleasantly hot to the touch, conditions fatal to them under cultivation. It is well understood by those who are versed in vegetable physiology, that climatic and atmospheric influences are powerful factors conducive to the health and vigour of plant life. And thus, much which is apt to perplex us, from seeming so ultra-abnormal at first sight, may often be accounted for, especially when we consider the external circumstances, which make so much difference to the welfare of indigenous plants, in their native habitats, to those unacclimated, from other lands.

Returning again to the subject, and following the ascending path, which, to his intense delight, will be found closely margined on each side with handsome Heaths; which absolutely cover every inch of soil possible to root in, with masses of highly-prized species, the sight cannot fail to remind him of those he may have often admired at home. True, there are no legends of the past wound around them, as there are about the Heath, or Heather, of other lands, of which the poet has often sung. Savage Hottentots and Caffres, who for ages have ignorantly wandered among them, keep no historical records; and although

no charm of romance invests them with anything prosy or poetical, they are, nevertheless, most intensely interesting to those who admire frutescent beauty. And whoever has enjoyed a ramble among them will not be likely to ever forget the peculiar refreshing odour arising from the myriads of pretty blossoms.

And, while still ascending, at every onward step brilliant colours and fresh forms of Heath beauty will delight the eye with pleasant changes, until, when near the summit, the novel sensation of passing above the fleecy clouds which eternally drape the top of Table Mountain will be experienced. Even when in cloudland the somewhat stunted, though symmetrical, Heaths will still be there, and with every possible tinge or shade of green tiny leafage these compact little plants seem to vie with each other for the palm of grace and beauty. All of this large and interesting family are exquisitely bedecked with a profusion of delicate, lovely, wax-like flowers, from pure white to flesh and cream colour; yellow, dark green, light green, orange, and purple; red, pale red, red and green, red and yellow, red and orange, orange and purple, white and scarlet, to brilliant scarlet, crimson, flame colour, &c.

Preferring to give form and colour of flower to mere technical terms, which I trust will give the reader a better idea of what they are like, I will as concisely as possible say the styles or shapes of flowers are tubular, or cylindrical, with some kinds long, while others again are short. Some species have inflated flowers of fair size, while another division has small globed-shaped ones. Narrow necked, with wide spreading borders, form another type. Small oval-shaped kinds constitute another group, which is followed by one which has lovely flowers enclosed in inflated calixes; while another section has curious, though extremely pretty, double flowers.

While "up above the world so high," the admirer of nature will get extensive views of land and sea. The magnificent panorama spread before him will be scanned with intense interest, combining as it does a matchless landscape, emerging into a marine picture, which fades in the dim distance of the deep blue sea.

"In prospects thus, some objects please our eyes,
The shapeless rock or hanging precipice,
Which out of nature's common order rise."

As this imperfect notice is getting longer than I intended, I will meet the lover of floriculture nearer home. With every opportunity of seeing Heaths, or Ericas, both in a wild or cultivated state, I unhesitatingly pronounce them to be as interesting and beautiful plants as ever graced a greenhouse. And my long cherished hope of seeing them cultivated in this country I trust will yet be realized.

Although the climate may be fickle and uncertain, yet, there is among the profession of horticulture, if properly qualified men are employed, and the opportunity given to exercise it, sufficient skill to grow and flower these matchless strangers, on this side the sea. In other words, no mere pretender must meddle with them, or disappointment will as certainly follow, as light comes with day. Of all plants with which I am acquainted, I know of none which require more practical skill in their management, than Cape Heaths. Presuming the above remarks may create a desire to possess a collection of these elegant plants, it is possible the reader may feel disappointed with the silence of the writer, for not fully stating how success may be achieved by those who are willing to try. But it would be a futile task, to attempt to convey the requisite knowledge, which can only be acquired by actual experience. Instead, I advise employing a competent man.

Of Ericas, a noted grower says: "No ligneous shrubs are better deserving of cultivation than the Heaths. For of what other genus can it be said that every species, without exception, is beautiful throughout the year, and at every period of its growth; in flower or out of flower, and of every size and age; perpetually green, and perpetually in flower, and these flowers of various colours and sizes, and of many shapes?" Another, equally wise on the subject, says: "The two splendid natural orders, Ericaceæ and Epacridaceæ perhaps contain a greater number of really beautiful plants, than are to be found in all the other orders put together." All of which your correspondent fully endorses. Supposing some of the readers desire to grow Heaths,—are of such a nature that they must have some,—I will give a list of a few beautiful kinds, which with ordinary care, they may manage to grow—namely: Erica caffra alba, E. caffra rubra, E. rubida, E. Wilmoreana, E. umbellata, E. sicula, E. arborea squarosa, E. Bowieana, E. mutabilis, E. cruenta superba, E. intermedia, and E. colorans.—*W. T. Harding, in American Gardeners' Monthly.*

Letters to the Editor.

APRICOTS UNDER GLASS.

I should be much obliged if some of your practical readers would give me the benefit of their experience in cultivating the Apricot under glass. I am desirous of covering a south wall with glass, but the structure is not to be heated, and I am anxious to know if the Apricot requires any different treatment to Peaches and Nectarines, grown in similar structures. What measure of success may I hope to attain with such a glass case?—*A Constant Reader.*

POTATOS FOR AN AMATEUR.

"A Sussex Amateur," in The Gardening World of January 10th, asks for information anent the treatment and cultivation of a few of the most esteemed sorts of Potatos—good alike for table and exhibition. The reply of Mr. Kerr and the reply signed "D." are so totally opposite that "A Sussex Amateur" will be fairly puzzled. If he takes "D.'s" advice about trenching his ground 2 ft. deep, he will (if his soil is like the generality of Sussex soil) have quite 12 ins. of clay on the top; and I think he will not grow exhibition tubers in that. Planting early kinds in rows 3 ft. apart is very wasteful—of ground. Wood ashes are not so easily obtained, and good artificial manure would be much preferable. I also think "D.'s" remark anent the nonsense written about the merits of new kinds of Potatos, applies more to his own selection than to either of the other two selections given by Mr. Kerr and Mr. Knight. The amateur will do well to follow Mr. Kerr's directions all through in working his crop. His selection, however, should include Woodstock Kidney, Radstock Beauty, and Vicar of Laleham, instead of Early King Offa, Dalmahoy, and Clyffe Hall.—*Ex-Sussex.*

THE FIRST CHINA ROSE.

Those of your readers whose gardening career commenced fifty years ago and upwards, doubtless read with interest your account of the old Hammersmith Nurseries and its past proprietors. I am myself at all times deeply interested in perusing memoirs of men who have contributed their quota to the advancement of science and art, more especially that of gardening, and as I have been well acquainted with very many of "the old school," as they are termed, my interest, as a matter of course, is intensified. I may mention, as one of the old school, the late Mr. John Dampier Parks, who was sent to China many years ago by the Horticultural Society of London, and who was a personal friend of mine. The early records of the Society (in Sabine's time) enumerate many Chrysanthemums collected by him, and some may still remember Parks' Small Yellow. Mr. Parks also secured in his travels the Yellow China Rose. I think this was sent home, if my memory serves me, by Captain Mangles, and may have been cultivated by those who still survive the period of which I write, and who, if still hale and hearty, have great cause to be thankful.—*Man of Kent.*

CARPET BEDDING.

Will any reader who is conversant with carpet bedding, kindly name about a dozen of plants specially suited for such purpose that are, if not hardy, at least fairly so, and are not of an exotic nature? Thus I know that Alternantheras are always strong features in carpet bedding, but also that their very tender nature militates against their employment by those who have no heating appliances for their wintering and propagation. I may be excused for having a warm taste for good carpet bedding, especially when done well, but it is a taste that cannot be indulged only with fairly cheap or hardy plants, by those whose means are limited or who have little gardening knowledge. If any reader would also kindly say a few words as to simple yet effective arrangements useful for an amateur, useful service would be done to *Romanus.*

SALT FOR VINE BORDERS.

I beg to thank Mr. Johnston for his ready and unreserved reply to my inquiry respecting the use of salt on vine borders. His dressing, I have no doubt, is a valuable aid to the vines, and I shall certainly put it to the test this season. I have never heard of salt being used by any one else, so that I presume Mr. Johnston may claim the credit of originality in connection with it.—*W. C. C. S.*

GRAFTING RHODODENDRONS.

Though a gardener with some ordinary knowledge of my vocation, I freely confess that I don't know everything, and especially am I ignorant of the ordinary course of procedure in the propagation of good kinds of Rhododendrons. Having some Ponticum stocks and some good hybrids also, which it is desired I should endeavour to increase, I shall be greatly obliged if anyone familiar with the ordinary routine of nursery work and specially of grafting, will say a little explanatory of the method, so that I may proceed with some fair prospect of success. I should like specially to know as to the best time for grafting, height from ground, time of year, character of scion, and style of grafting, with any other equally useful information.—*Rhodo.*

SUMMER LETTUCES.

Would any one or more of your readers kindly give their experience of the best keeping or standing Lettuces, both Cabbage and Cos for summer cultivation; say about three kinds of each? I find it difficult to get sorts that do not "bolt" in the summer time almost as soon as they get of fair size, and I feel that should not be so, as I have both seen and heard of kinds that do stand pretty well after they have hearted. I know it is more difficult to induce Lettuces to stand in hot or dry weather than it is early in the season, but then it is in hot weather that salads are most in need and most useful. If so many as six good keeping kinds cannot be mentioned, then but one or two will be thankfully received.—*Constant Reader.*

THE SUBURBAN FRONT-GARDEN.

Rambling around the suburbs of London during the last few weeks, I have been greatly impressed with the utter "want of fitness"—I won't use a longer word—of these and their occupants. The endless variety of taste and style is most puzzling. Here is one with a Jasminum nudiflorum nailed to the wall with inch broad shreds of red cloth; scores of them, looking at a short distance like bunches of Red Currants. Another nearly opposite, has a plant of Ivy in the middle, tied to a stick. Many have paths edged with bricks or tiles, and grass verges succeeding them. Others again have no paths at all, and a miscellaneous crowd of shrubs and conifers elbowing and jostling each other like a mixed drove of horses, bullocks, and sheep, in a fair. Some go in for spring-bedding others have no winter display at all.

The most pleasing, to my taste, at least, is one containing just eight plants, and yet looking its best all the year round. I will give as short a description of it as I can. First, I notice that the iron fence protecting it from the pavement is painted green, and appears to have had a fresh coat quite recently, the gate having a brass knob brightly polished. Next, the paths are of clean, hard, finely-sifted gravel, and this appears to be raked over once a week. There is not a weed, stick, or scrap of dirty paper to be seen anywhere. The whole of the ground not occupied by the paths is covered with turf, except one little round bed in the centre, which I can imagine is filled with

rich turfy soil, but it is mulched over with short horse-dung, and holds a standard Rose. I should have said that the path from the gate to the front-door is on the left side of the garden. On the right side, in a line between the house and the road, and about 3 ft. from the side fence, are three evergreen shrubs, each about 3 ft. high—the one nearest the road a common Irish Yew, the centre is a bushy little silver-edged variegated Holly, and the third is a Thuja Lobbi. I would have made the first and last change places, as the Yew does better in the shade.

On the side of the bay window, and between that and the door, a space of about 4 ft. wide, a sweet Jasmine is trained by means of a wire trellis; and on the other side, also confined by a wire trellis, is a Passion-flower. On the window-sill, in a curiously-shaped earthen-ware pan, is a noble Agave, and, growing in the same receptacle, spreading out like an evergreen apron, and nearly touching the ground, is a plant of the smaller leaved Periwinkle.

I can imagine the delight the owner of this little oasis—24 ft. by 12 ft.—takes in his front-garden; and I hope some day to find him at home in it, when I shall take the opportunity of sending your readers further impressions.—*A Rustic.*

EULALIA JAPONICA VARIEGATA.

This beautiful variegated grass, although quite hardy, well deserves a place in a warm greenhouse, or even in a stove temperature, as grown under such conditions it is not only much prettier than when grown outdoors, but few foliage plants are more effective for table decoration, &c. When well grown it might be used in preference to Pandanus Veitchi. It is easily propagated by division, which should be done about this season of the year. If divided into clumps of three or four crowns each, and potted in 48-sized pots, in any good rich compost, they will soon make nice plants. E. japonica zebrina is also a very pretty variety, but we give preference to the former.—*H.*

ROYAL HORTICULTURAL SOCIETY.

The following gentlemen have been selected by the Council to serve on the Fruit and Floral Committees respectively during the present year:—

Fruit Committee.—Chairman: F. Du Cane Godman, Esq. Vice-Chairmen: Mr. H. J. Veitch, Mr. John E. Lane, and Mr. R. D. Blackmore. Secretary: Mr. Barron. Mr. G. Bunyard, Mr. J. Burnett, Mr. W. Denning, Mr. J. Ellam, Mr. S. Ford, Mr. G. Goldsmith, Mr. T. B. Haywood, Dr. Hogg, Mr. A. Howcroft, Mr. J. Lee, Mr. S. Lyon, Major Mason, Mr. G. T. Miles, Mr. G. Paul, Mr. W. Paul, Mr. T. F. Rivers, Mr. J. Roberts, Mr. C. Ross, Mr. F. Rutland, Mr. J. Sheppard, Mr. C. Silverlock, Mr. A. W. Sutton, Mr. H. Webb, Mr. Harrison Weir, Mr. J. Willard, and Mr. J. Woodbridge.

Floral Committee.—Chairman: G. F. Wilson, Esq. Vice-Chairmen: Dr. Masters, Mr. J. Fraser, and Mr. Shirley Hibberd. Secretary: Mr. Barron. Mr. T. Baines, Mr. H. Ballantine, Mr. W. Bealby, Mr. H. Bennett, Mr. H. Cannell, Mr. J. Child, Mr. J. Dominy, Mr. J. Douglas, Mr. G. Duffield, Mr. H. Herbst, Mr. E. Hill, Mr. J. Hudson, Mr. J. James, Mr. W. B. Kellock, Mr. F. R. Kinghorn, Mr. J. Laing, Mr. J. T. D. Llewelyn, Mr. C. Noble, Mr. J. O'Brien, Mr. A. J. Perry, Mr. H. M. Pollitt, Mr. J. Smith, Mr. H. Turner, Mr. J. Walker, Rev. W. Wilks, and Mr. H. Williams.

ANSWERS TO CORRESPONDENTS.

Peach Buds Dropping.—*J. M.*—It is most likely owing to dryness at the roots, or to too much excitement, the wood not being over well ripened. The former is the most probable cause of the mischief.

Rose-holder.—*Jason.*—The Rose-holder you saw at the show was invented by Mr. R. Foster, of Ashford, Kent.

Books.—*J. K. C.*—Brown's *Forester*, published by Blackwood & Sons, is the best, but probably Grigor's *Arboriculture*, a much cheaper book, will suit your purpose.

Walking Sticks.—*P. B.*—A species of Licuala, a Palm from Penang, furnishes the stick known in commerce as the Penang Lawyer.

Carpet Bed.—*G. McA.*—Your request shall be complied with in an early number.

Names of Plants.—*Jock.*—Iris fœtidissima, the Stinking Iris or Gladwyn. The fruits are sometimes sold as "Wagga-wagga Holly," and we have seen them labelled "Roger Tichborne's."—*A. B.*—Chimonanthus fragrans.—*J. P. W.*—The common Ling, Calluna vulgaris; and Retinospora ericoides.—*G. Jones.*—Dendrobium Linawianum.

Laurels and Mahonias.—*Ireland.*—Laurels are easily propagated by cuttings of young or half-ripened shoots, inserted in a sheltered place under a wall or fence. The shoots should be about a foot long, have the lower leaves removed, and be cut to a joint in the usual way. Insert them in rows about 8 ins. apart, and at about 3 ins. apart in the rows; and be careful to tread them in firmly. October is the best month to put them in, but it is not too late to do it now. The Mahonias should be propagated by cuttings of ripened wood, set in sand in the autumn, and covered with glass.

Caladiums.—*Ireland.*—It is time to pot the Caladium roots now. Put them in small pots, in a compost of rough peat, turfy loam, leaf-soil, and sand. Then put them in a little bottom heat, and pot them on as required.

Dieffenbachias.—*Ireland.*—Grow them in rough peat and turfy loam, and place them in the hottest and most humid house you have. Under such conditions they will grow like weeds, but they will not grow in a cool house in winter.

Communications Received.—E. S.—W. C. (many thanks for your note. We are glad to hear "The World" is so popular in your district).—J. S.—J. J. W.—Authentes—W. Baskett (many thanks. Next week).—W. E. B.—T. W.—W. S.—R. D.—G. F.—J. J. B. (next week).—M. T. A. H.—P. & M.—J. A.

Trade Catalogues Received.

Daniell's Brothers, Norwich.—Illustrated Guide for Amateur Gardeners.

Wm. Thomson, 34 and 36, Tavern Street, Ipswich.—Choice Flower Seeds.

M. Cuthbertson, Rothesay, N.B.—Garden and Flower Seeds.

Benj. Soddy, 243, Walworth Road, London, S.E.—Flower and Vegetable Seeds.

Cardno & Darling, 80, Union Street, Aberdeen.—Select List of Vegetable and Flower Seeds.

W. Baylor Hartland, 24, Patrick Street, Cork.—Year Book of Seeds for 1885—Hardy Plants for Spring, Summer, Autumn, and Winter.

NOTICES TO CORRESPONDENTS.

The Editor begs to inform his readers that special attention will be paid in the columns of The Gardening World, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's bona fides. No notice whatever will be taken of anonymous letters.

LONDON SEED TRADE.

January 28th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady demand for Farm Seeds, without material change in values, although sellers of Trefoil hold firmly for full rates. White and Alsike unchanged. Supplies of English Red continue equal to demand, and medium qualities command prices current last week. Rye Grasses are firm, and meet with brisk inquiry. Bird Seeds and Blue Peas unchanged.

COVENT GARDEN MARKET.

January 29th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6– 5 0	Kent Filberts and Cobbs, per 100 lb.	55 0–
— Nova Scotian, per barrel	10 0–15 0	Pine-apples, Eng., lb.	1 0– 2 0
— Extra samples	18 0–21 0	Pears, French, p. doz.	6 0– 9 0
Grapes, per lb.	2 0– 5 0	St. Michaels	5 0–10 0

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0– 4 0	Herbs, per bunch	0 2– 0 4
Beans, French, per lb.	– 1 0	Horse Radish, bundle	3 0– 5 0
Beet, per dozen	2 0– 3 0	Lettuces, Cabbage, per dozen	2 0–
Brussels Sprouts, p. lb.	0 4–	— Cos, each	0 2–
Cabbages, per dozen	1 6– 2 0	Mushrooms, p. basket	1 0– 2 0
Carrots, per bunch	0 6–	Onions, per bushel	2 6– 3 6
Cauliflowers, English, per dozen	4 0– 6 0	Parsley, per bunch	0 6–
Celery, per bundle	1 6– 2 6	Radishes, per dozen	1 6–
Cucumbers, each	0 9– 1 3	Small salading, per punnet	0 4–
Endive, French, per dozen	2 6– 3 6	Spinach, per strike	2 0–
Garlic, per lb.	0 6–	Tomatos, per lb.	0 9– 1 6
		Turnips, per bunch	0 6–

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0– 4 0	Narciss, Paper White	2 0– 3 0
Azalea, 12 sprays	1 0– 1 6	Pelargoniums, per 12 sprays	1 0– 2 0
Bouvardias, per bun.	1 0– 1 6	—scarlet, per 12 sprays	0 9– 1 0
Camellias, 12 blooms	3 0– 8 0	Pinks, various, 12 bunches	–
Carnations, 12 blooms	1 6– 3 0	Poinsettia, doz. heads	3 0– 9 0
Chrysanthemums, 12 bunches	–	Primula, double bun.	1 0– 1 6
— large, 12 blooms	2 0– 4 0	Primulas, Chinese, bun	6 0– 8 0
Cyclamen, doz. blooms	0 3– 0 9	Pyrethrum, 12 bun.	–
Cineraria, per bunch	1 0– 1 6	Roses, outdoor, 12 bunches	–
Epiphyllums	4 0– 6 0	Roses, indoors, p. doz.	2 0– 6 0
Eucharis, per dozen	4 0– 8 0	Roses (French), per doz.	1 6– 3 0
Gardenias, 12 blms.	18 0–30 0	Stephanotis, 12 spr.	–
Heliotropes, 12 sprays	0 6– 1 0	Tuberoses, per dozen	2 0– 4 0
Hyacinths, Roman, doz. sprays	1 0– 1 6	Tulips, per doz.	1 0– 1 6
Lapageria, white, 12 blooms	2 0– 3 0	Violets, doz. bun.	1 6– 2 0
Lapageria, red, 12 blms.	1 0– 2 0	— French, doz. bun.	2 0– 3 0
Lily of the Valley, doz. sprays	1 0– 2 0	— Parma, doz. bun.	7 0– 8 6
Marguerites, 12 bun.	4 0 –9 0	White Jasmine, bun.	0 6– 1 0

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0–24 0	Ficus elastica, each	1 6– 7 0
Begonias, per dozen	4 0–12 0	Foliage Plants, various, each	2 0–10 0
Bouvardias, dozen	9 0–18 0	Genista, per dozen	15 0–24 0
Chrysanth., dozen	–	Hyacinths, doz.	8 0–10 0
Cineraria, per dozen	9 0–15 0	Lilium, various, per doz.	–
Cockscombs, dozen	–	Marguerites, per doz.	9 0–18 0
Cyclamens, doz.	9 0–18 0	Palms in variety, each	2 6–21 0
Cyperus, per dozen	4 0–12 0	Pelargoniums, scarlet per dozen	4 0– 6 0
Dracæna term., doz.	30 0–60 0	Petunias, per dozen	–
— viridis, per dozen	12 0–24 0	Poinsettia, doz.	9 0–15 0
Epiphyllums, doz.	18 0–24 0	Solanums, dozen	9 0–15 0
Evergreens, in var., per dozen	6 0–24 0		
Ferns, in var., dozen	4 0–18 0		

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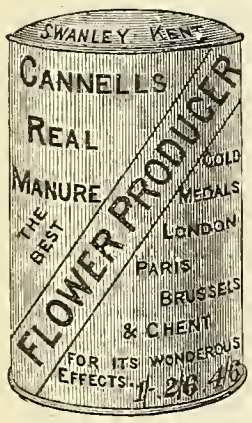

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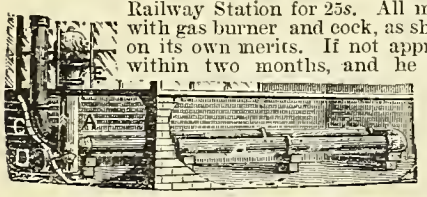

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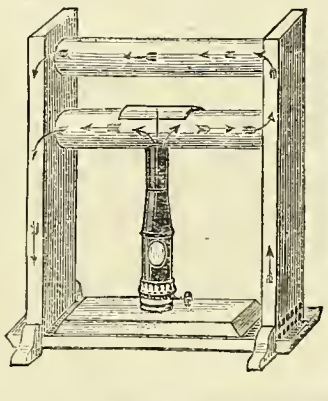

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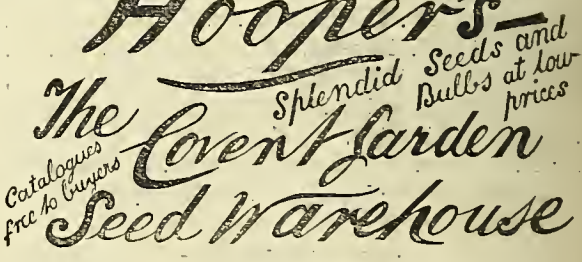

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Imported and Established Orchids.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY next, February 10th, at half-past twelve o'clock precisely, a remarkably fine importation of ODONTOGLOSSUM ALEXANDRÆ of the best type and in superb masses, LÆLIA ANCEPS ALBA (in flower), LÆLIA ANCEPS, varieties in flower, and ODONTOGLOSSUM ROSSI MAJUS, splendid varieties in flower, from Messrs. Fred. Horsman & Co., Colchester. Also a fine lot of ESTABLISHED ORCHIDS from various owners, including MASDEVALLIA MACRURA, CATTLEYA SKINNERI ALBA, L. ELEGANS ALBA, CATTLEYA EXONIENSIS, and many other rare and fine specimens, and a fine plant of Lælia anceps Williamsiana, with ten bulbs in flower.

On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

Lilium auratum, Plants, and Roses.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on WEDNESDAY next, February 11th, at half-past twelve o'clock precisely, 10,000 very fine bulbs of LILIUM AURATUM, just arrived from Japan in splendid condition; a consignment of AZALEA INDICA and MOLLIS, RHODODENDRONS, PALMS of sorts, DRACÆNAS, and other Plants from Belgium; 400 STANDARD and other ROSES from a well-known English Nursery; 2,000 Berlin Crowns LILY OF THE VALLEY; 2,000 double AFRICAN TUBEROSES; 1,030 GLADIOLUS GANDAVENSIS of sorts; CHRISTMAS ROSES; a fine assortment of the best varieties of hardy English-grown LILIES; the beautiful L. NEIGHERRENSE, and various Plants and Bulbs.

On view morning of Sale, and Catalogues had.

Sales for Next Week.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, during the coming week as follows, at half-past twelve precisely each day:—

MONDAY.—5,000 LILIUM AURATUM, 7,000 LILY OF THE VALLEY, 10,000 TUBEROSES, 3,000 GLADIOLI, and other Bulbs.

WEDNESDAY.—1,200 First-class ROSES, 800 FRUIT-TREES of sorts, Shrubs, Border Plants, Bulbs, &c.

THURSDAY.—Valuable Importations of ORCHIDS from Messrs. SHUTTLEWORTH, CARDER & Co., and several cases of Araucarias, as received.

SATURDAY. — ROSES, FRUIT-TREES, SHRUBS, CLIMBERS, BORDER PLANTS, LILIES, GLADIOLI, and other Bulbs.

On view mornings of Sale, and Catalogues had.

THURSDAY NEXT, SALE No. 6843.

White Lælia Anceps, in magnificent masses.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, by order of Messrs. Shuttleworth, Carder & Co., on THURSDAY next, February 12th, at half-past twelve precisely, a grand importation of the beautiful and rare white Lælia Anceps, including magnificent masses many of them with several hundred bulbs in splendid condition, the finest importation ever introduced. See dried flowers. Also Odontoglossum crispum (Alexandræ), the finest type possible to collect, grand masses and in splendid condition. Oncidium Kramerianum, with perfect leaves; Cattleya Trianæ, Lælia species found growing with the white Lælia, very distinct looking; L. autumnalis, received as atrorubens; Epidendrum memorale, &c. Also Established Masdevallia racemosa Crossii, M. Shuttleworthii, M. Trochilus, M. Schlimii, M. macrura, and M. Harryana.

On view morning of Sale, and Catalogues had.

LOVELY LILIES AND IRIS.

WM. GORDON has still the finest Collection of these. Buy of the Importer. The three lovely Lilies, Lilium album Krætzeri, Lilium Melpomene, Lilium Brownii, for 5*s.* 6*d.*, six for 9*s.*, post free. Over thirty varieties of Japanese Iris, all Hybrids, in all hues and beautifully marked, perfectly hardy, the admiration last season of all who saw them. Six varieties for 9*s.*; twelve for 15*s.*; the thirty varieties for 30*s.* Lilium Humboltii, each 1*s.*, 1*s.* 6*d.*, 2*s.* 6*d.* Lilium auratum, these surprise all my customers, specially imported Bulbs, 6*d.*, 9*d.*, 1*s.*, and 1*s.* 6*d.* each. Special terms to the trade.—WM. GORDON, Nurseries, Twickenham, Middlesex. See previous Advertisements.

GENUINE SEEDS.

JAS. VEITCH & SONS

ROYAL EXOTIC NURSERY, CHELSEA, S.W.

VEITCH'S COLLECTIONS OF SEEDS,
Suited to all requirements,
UNEQUALLED FOR QUALITY,
UNSURPASSED FOR LIBERALITY

The "Chelsea" Collection of Vegetable Seeds,

At 11s. 6d., 14s. 6d., 20s., and 40s. each.

These collections comprise only the most approved varieties in their various classes, and yield a constant supply of the best vegetables throughout the year.

The "Chelsea" Collections of Flower Seeds,

At 5s., 10s., 14s. 6d., and 20s. each.

These collections contain only the most easily cultivated, attractive and showy varieties, and produce a succession of beautiful flowers.

Veitch's New Potatos.

M.P.

A grand round white variety, enormous cropper and thorough disease-resister, of splendid table quality.

1 lb. 1s. 9d., 2 lbs. 3s., 4 lbs. 5s. 3d. (free by post).

MISS FOWLER.

A handsome white Kidney, very prolific, and of first-rate quality.

1 lb. 2s., 2 lbs. 3s. 6d., 4 lbs. 6s. 3d. (free by post).

For particulars of above and other choice Vegetable and Flower Seeds and Potatos, see Seed Catalogue for 1885, forwarded gratis and post free on application.

ROYAL EXOTIC NURSERY, CHELSEA, S.W.

SEEDS! SEEDS!! SEEDS!!!

Before purchasing your Spring supply, send for

DANIELS'

ILLUSTRATED GUIDE FOR

AMATEUR GARDENERS.

Magnificent Coloured Illustrations of

Flowers, Fruits, and Vegetables,

104 pages beautifully illustrated letterpress. This Catalogue may justly be termed the

GEM OF THE SEASON.

Price 1*s.*, post-free. Gratis to Customers.

DANIELS BROS., Seed Merchants, NORWICH.

F. SANDER & Co., ST. ALBANS,

ORCHID GROWERS & IMPORTERS.

An immense Stock of fine robust Plants always on hand.

SUTTON'S

BY ROYAL WARRANT Seedsmen to H.M. THE QUEEN.

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SEEDS.

SUTTON'S COLLECTIONS OF SEEDS,

SENT FREE BY PARCEL POST

TO ANY ADDRESS IN THE UNITED KINGDOM.

SUTTON'S 25s. COLLECTION of VEGETABLE SEEDS
Containing 64 favourite varieties, sent free by parcel post on receipt of a remittance for 23s. 9d.

SUTTON'S 30s. COLLECTION of VEGETABLE and FLOWER SEEDS
Containing 64 varieties of Vegetable Seeds and 24 vars. of Flower Seeds, sent free by parcel post on receipt of a remittance for ... ... 28s. 6d.

SUTTON'S 17s. 6d. COLLECTION of VEGETABLE SEEDS
Containing 50 favourite varieties, sent free by parcel post on receipt of a remittance for ... 16s. 8d.

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Containing 50 varieties of Vegetable Seeds and 24 vars. of Flower Seeds, sent free by parcel post on receipt of a remittance for ... ... 21s. 6d.

SUTTON'S 10s. 6d. COLLECTION of VEGETABLE SEEDS
Containing 40 favourite varieties, sent free by parcel post on receipt of a remittance for ... 10s.

SUTTON'S 14s. COLLECTION of VEGETABLE and FLOWER SEEDS
Containing 40 varieties of Vegetable Seeds and 18 vars. of Flower Seeds, sent free by parcel post on receipt of a remittance for ... ... 13s. 4d.

SUTTON'S 7s. 6d. COLLECTION of VEGETABLE SEEDS
Containing 30 favourite varieties, sent free by parcel post on receipt of a remittance for ... 7s. 6d.

SUTTON'S 10s. COLLECTION of VEGETABLE and FLOWER SEEDS
Containing 30 varieties of Vegetable Seeds and 12 vars. of Flower Seeds, sent free by parcel post on receipt of a remittance for ... ... 9s. 6d.

SUTTON'S
"POCKET GARDEN CALENDAR,"
"A useful little work."
Post Free to any address for One Stamp.

Sutton & Sons

SEEDSMEN BY ROYAL WARRANT TO H.M. THE QUEEN, AND ALSO THE FIRST SEEDSMEN BY SPECIAL WARRANT TO H.R.H. THE PRINCE OF WALES.

READING.

THURSDAY NEXT.—(Sale No. 6843.)

WHITE LÆLIA ANCEPS

IN MAGNIFICENT MASSES.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 28, King Street, Covent Garden, by order of Messrs. SHUTTLEWORTH, CARDER & Co., on THURSDAY NEXT, February 12th, at half-past 12 o'clock precisely, a grand importation of the beautiful and rare WHITE LÆLIA ANCEPS, including magnificent masses, many of them with several hundred bulbs, in splendid condition. The finest importation every introduced. (See dried flowers.)

Also ODONTOGLOSSUM CRISPUM (ALEXANDRÆ) the finest type possible to collect, grand masses, and in splendid condition; ONCIDIUM KRAMERIANUM, with perfect leaves; CATTLEYA TRIANÆ; LÆLIA, species found growing with the white LÆLIA, very distinct looking; L. AUTUMNALIS (received as ATRORUBENS); EPIDENDRUM NEMORALE, &c.

Also established MASDEVALLIA RACEMOSA CROSSI, M. SHUTTLEWORTHII, M. TROCHILUS, M. SCHLIMII, M. MACRURA, and M. HARRYANA.

On view morning of Sale, and Catalogues had.

Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, FEBRUARY 7TH, 1885.

Town Markets.—One of our market-garden farmers the other day touched a great sore in our present method of distributing vegetables, fruits and flowers to the great metropolitan public, when he spoke of the absurdity incidental to having only one central market, and of having to cart produce several miles through masses of consumers that others might have to bring it back again. Truly in the matter of market arrangements, London is very badly treated, for should any adventurous spirits seek to establish a market for garden produce elsewhere, the prestige of Covent Garden sits so heavily upon the interloper, that life is squeezed out of it in no time. If London were just now without vegetable markets, no one would for a moment suggest the establishment of one in so confined an area as is that of Covent Garden, so remote also from any great railway.

If it were now purposed to supply the wants of the metropolis with garden produce, certainly those who were charged with the matter would primarily conclude that facility of consignment first, and then facility of distribution were the chief aims in view. To that end we should see the myriads of loads of vegetables and fruits which now enter London at all points, intercepted at given spots rather on the margin of the town than within it, and instead of compelling a vast aggregate of traffic to congest itself within a central, restricted and inconvenient area, should so disperse it amongst some half-dozen districts and markets that growers, dealers and consumers alike may all be benefited.

Without doubt one of the greatest needs of our day is found in the bringing together more immediately of growers and consumers. The former at present and as a rule get too little for their produce, the latter equally pay too much. The dealer is the go-between, the now necessary disperser of the produce to the consumers, and he for his trouble, and having little risk, gets added to his wares some 20 to 50 per cent. Thus the consumption of garden produce is lamentably restricted, and the grower doubly suffers. The present system of market-sale also acts as a check upon the creation of small market growers, for not only cannot these compete in the central market with more experienced and larger growers, but their limited horse-power is most unduly taxed. Their only hope of getting a livelihood consists in the opportunity of dealing direct with the consumer, and that is not at all possible in a central market such as we now have.

Did a dozen really large retail markets exist around the metropolis, we could have consumer and grower dealing from the cart's tail, and both reaping the benefits of the deal. Now the growers must deal with a middleman, and the consumer obtains his needful garden stuff, stale and flavourless, some three or four times removed from its original vendor. We can hardly hope for any improvement in these market conveniences until London is blessed with self-government of a large-hearted kind, but even then trade affinities to Covent Garden will weigh heavily against new ventures, which would have to look for support rather to new growers than to the old ones, whose traditions naturally run with the ancient, though far from attractive, Square just by the Strand. A daily paper recently drew attention to the large expansion of the Central Flower Market now rendered necessary by the increase of the flower trade. It is one of the anomalies of our market trade that it should thus in the metropolis be in the hands of one individual, who is of course a great personage; but great noble or not, it is certain that within the boundaries of no municipality would a huge monopoly such as exists in London be allowed.

It is specially in the Flower Department that interests arise which materially concern the entire kingdom, because owing to facilities of transit flowers are sent from all parts of the country. Nay, we may go farther, and say that the Covent Garden Flower Market has cosmopolitan interests, for flowers reach it consigned from France, the Channel Islands, and, indeed, from goodness knows where. Perhaps it would be more difficult to establish general outer flower markets than to promote those for vegetables and fruits. The flower-purchasing public, spite of the great love for flowers found to exist, is still a limited one, for flowers are essentially luxuries, although as such very much loved by the town dwellers of every class.

Perhaps more flower markets where the consumers could purchase them fresh and cheap would stimulate their production, especially of the commoner kinds, and thus make their culture the more profitable. With such a vast body of consumers, growing for London markets should be a very profitable occupation. Such is not now the case, and the reason is to be found in restricted facilities of sale.

The Chiswick Potato Trials.—The announcement we were enabled to make last week to the effect that the testing of the seedling kinds of Potatos submitted to the judgment of the International Potato Show Committee would, by consent, be again conducted at Chiswick, shows that the premier Potato authority will continue to exercise its supervision over seedling kinds of Potatos for the present year, and will in doing that also do its best to give to really meritorious novelties the honours which they deserve. Although the International Show will not take place till the second week in October, the work of supervising seedling kinds submitted for approval must begin shortly, and terminate sometime ere the Show will take place. Raisers desirous of securing approval are invited to send their new kinds early, and a good even seed sample fit for planting. Those who drive the matter off till late in the spring often suffer through their neglect.

It cannot be too strongly impressed upon those raisers who send seedling kinds for trial that they should not only name them, but also do so with a view to permanence. It is exceedingly annoying to the Committee, as it is unfair to the public, that kinds which have received certificates under some designation given by the raisers, should, after coming into commerce, appear with totally diverse names, as in such case it is not possible to identify the originals. The policy of so doing also must be suicidal to those who offer them in commerce, as with change of name goes all possibility of recognition.

It is well that raisers, to maintain the identity of their best or certificated kinds, should select first good general (and not local) names, which could hardly be improved upon, and should farther insist that any such kinds sold into trade should continue to bear the original name. If something of this kind is not done, the Committee will have to protect its own work and reputation in some effective way.

Rain at Last.—Gardeners who have to fill ice-stores are doubtless now congratulating themselves upon the kindly accession of frost which enabled them to obtain the needful material in abundance. It is so long since such a chance was offered them that they have good reason to be jubilant. So far the frost has done some good, and as it was not at all severe, and further enabled much useful work to be done in other directions, there seems to be ample reason for congratulation with the winter so far. But those who anticipated continued frost and severity accompanying a comparatively dry winter, did not reckon with the American storms, which, starting up almost without notice, suddenly flood our country with warm air and heavy falls of rain. What a change was seen in the declining days of January, and what an abundance of moisture has February brought in its train! If the month continues to be as aqueous as its first days have been, we shall find it has well earned its old designation of February fill-ditch.

Anticipating some such weather, gardeners and amateurs may well pause ere they too hurriedly commit to earth seeds that cannot well endure the soakings incidental to a cold wet season. Still farther, it is not good policy to tread the ground when it is saturated, and though it will require many wet days to satisfy the cravings of the soil below, yet the surface must be the medium through which all the rain must percolate to the lower soils. So quickly, however, does the weather change, that the wild storms and hurricanes of Saturday last, lit up by lightning and heralded by sonorous thunder-claps, were soon hushed to peacefulness, the wind ceased to blow in squalls, and the sun shone forth, changing the winter wild into spring-like weather soft and mild, calling forth nature to untimely exertions. The wind, however, may return to the north and snow and frost may again visit us. For these reasons we are always glad when the winter is really over.

Frosted Plants.—An experienced gardener once said of frosted plants—"Whatever is touched with frost keep dark and cool, and damage will be lessened, if not entirely obviated." The truth of this remark has been often demonstrated; granted that some injury follows, it is undoubtedly true that by keeping frosted plants well covered up for a time, the harm they receive is thereby materially lessened. The effect of frost on plants depends very much on the state in which it finds them. Soft-wooded greenhouse plants are materially injured, if not killed outright, when they are in a moist atmosphere and a growing temperature, with full enjoyment of the light, and a sharp frost suddenly falls upon and seizes them. On the other hand, if moderately dry and well covered, so as to be almost in total darkness, very many, even of the tenderest character, will bear a few degrees of frost with impunity.

The advice we are giving may be of use just now, when sharp frosty weather may be experienced at any time, with occasional intervals of softer temperature, when vigilance is apt to sleep; and this sharp weather may be continued for a few weeks to come. Should frost get into a house, and it has roof and side blinds to it, draw them down at once; or if there are no blinds, and the lights could be covered for a time with a tarpaulin, or mats, or anything of the kind, it is a good plan; or if a number of newspapers (failing any outside covering) could

be employed, they would prove helpful. No one should be in a hurry to apply artificial heat; if put on, it should be done gradually and with great care.

To raise the temperature is, of course, essential, but it will be well to keep it at 33 degs. or 34 degs. for a day at least, that the process of thawing may proceed slowly. A few degrees of frost met in this way will do much less harm than is generally inflicted where the terrified cultivator heaps on the fuel, under the mistaken notion that fire is the proper antidote to freezing; and we may similarly apply this caution to fruit. Should the frost reach a store of Apples and Pears, some of them may be frozen hard. If they are allowed to thaw slowly and in the dark, they are little the worse for the visitation; but if allowed to thaw in full daylight, they would, in all probability, become quite spoiled in the operation. Happily, at the present time the atmosphere is dry, and, as a consequence, frost of a moderate degree is less destructive in its effects than when it suddenly follows upon a soft, moist, rainy time, and the atmosphere is charged with moisture.

Lilium auratum.—Ten thousand bulbs of Lilium auratum advertised for sale at one time! What becomes of all these annual importations, and how is the supply kept up? That many die here in our gardens we all know, but the why and wherefore few as yet seem to have made out. Some attribute the heavy losses to a fungus or disease on the scales, which they take after they are packed and when on their journey over, while others think it is from improper treatment after they arrive, and it is quite likely that both may be right. There is no doubt that decay of most kinds is brought about or caused by fungus of some sort, or if fungus is not the cause, it invariably accompanies decay, and all decomposing vegetable and fleshy matter is more or less subject to it, as may easily be seen by the mould on rotten fruit, or meat that has passed a certain stage and gone bad. There is no doubt that the Lily bulbs get much bruised in the taking of them up and handling them at packing, and those parts of the scales are sure to decay, and especially if subjected to moisture, and this when a lot are in boxes together is given off by by the bulbs. We do not know, however, that it is much use to buyers to pursue this part of the subject, as what concerns them most is a remedy against the mischief after the Lilies get into their hands, and from what we have had to do with these bulbs, our opinion is that the best way of treating them is to carefully scrape away all the dead parts, and then dust the places over with powdered charcoal and lime, which will stop the decay. The next thing in the case of bulbs bought at this time of year is to set about potting or planting them, as the sooner they are in the better, and, if they are to be planted, preparation should be made for them by digging out holes and putting in turfy loam that is chopped up and mixed with a good sprinkling of sand, or if fibry peat can be got, that may take the place of the loam, or the two blended together. In planting, the proper depth to place the bulbs is about 4 ins., when, before further covering them with soil, they should have some sharp sand dusted over them, which will help to drain off water from them and keep the scales clean. Equal parts of peat and loam also answers capitally for pot culture, and the sand is likewise necessary over the bulbs, which, when potted, should be placed in a cold frame and have no water, unless the soil becomes very dry, till the shoots show, when air must be given at all times when the weather is favourable. After flowering, the thing is to let the tops ripen off gradually, and soon after that the plants ought to be re-potted, that they may be in the fresh soil before the fleshy roots start, as after that it is impossible to carry out the work without doing some injury.

Gardening Miscellany.

On Tuesday the Fruit, Floral and Scientific Committees of the Royal Horticultural Society will meet at South Kensington, and in the afternoon the annual general meeting of the Society will be held in the conservatory.

The following shows are announced to be held at the Crystal Palace during the coming season:—Spring Show on March 27th and 28th; Summer Show on May 22nd and 23rd; Great Rose Show on July 4th; F u Show and National Dahlia Show on September 4th and 5th; Autumn Fruit Show and International Potato Exhibition, October 7th to 10th; and Chrysanthemum Show on November 6th and 7th.

It is reported that ten sheep were recently poisoned at Whitton Park, near Hounslow, from eating Rhododendron leaves.

Mr. G. H. Harding has been engaged as gardener at The High House, Campsea Ashe, Wickham Market, the seat of the Hon. W. Lowther, M.P.

The Grand Floral Fête at York is announced to take place on June 17th, 18th, and 19th.

Mr. James Hardie, of the firm of Messrs. Laird & Sinclair, of Dundee, died on the 23rd ult. Mr. Hardie was well known in the trade and highly respected.

We understand that the arrangement of the Forestry and Horticultural Exhibition, to be held this year at the Alexandra Palace, has been entrusted to Mr. Dick Radclyffe, vice Mr. Forsyth Johnson, who has resigned.

There was an excellent attendance at the sale of Messrs. Shuttleworth, Carder & Co.'s importation of the white Lælia anceps at Stevens's Rooms on Wednesday. Some magnificent pieces were offered, and good prices generally were realized, especially for medium-sized specimens. Another extensive sale of the same species is announced for Thursday next.

The Lea, Blackheath, and Lewisham Horticultural Society will hold its annual exhibition on July 8th and 9th.

The Queen has accepted a copy of Mr. Folkard's book on *Plant Lore*, which has been forwarded to her at Osborne by the publishers, Messrs. Sampson, Low & Co.

The new edition of *Paxton's Flower Garden* is now complete, the fifty-fourth part, with the index and title-page to Vol. III., having just been issued.

The exhibitions of the Reading Horticultural Society are fixed to be held on May 21st and August 27th.

Mr. John Stevenson, of the Timperley Nurseries, Cheshire, died on the 23rd ult., aged 63 years. For many years Mr. Stevenson was a most successful grower and exhibitor of Stove and Greenhouse Plants, Ferns and Orchids, and was widely respected.

Colonel Wheatley, R.E., of Her Majesty's Board of Works, has introduced from America, presumably for use in the London Parks, a manure spreader, which promises to be a success. The distributor deals with dung, earthy manure, &c., and spreads it evenly over the ground at a rapid rate.

Proposed Gardeners' Benevolent Institution for Scotland.—After Mr. Robertson Munro, of the Abercorn Nursery, Edinburgh, had read his paper on "Flowers and the Lessons they Teach," at the meeting of the Scottish Horticultural Association, held on Tuesday evening, it was moved by Mr. Downie, and seconded by Mr. Methven, President of the Association, "That a Gardeners' Benevolent Institution be established in Scotland." A long discussion ensued, and eventually the motion was carried unanimously. It was next decided to bring the matter under the notice of the Council of the Royal Caledonian Horticultural Society, with a view, if possible, of starting the new institution under its auspices; and the mover of the resolution was also instructed to communicate the result of the meeting to the Secretaries of the Aberdeen and Dundee Horticultural Associations, whose co-operation is anticipated.

THE ROSE GARDEN.

The planting of Roses should be pushed on to completion as quickly as possible. They delight in a stiff, loamy soil, therefore, where the latter is light and poor it will be necessary to incorporate some clay and short manure with it prior to planting. Do not bury the stems of the trees deeper than they were before in planting them, press the soil firmly about the roots with the feet, and, if standards, secure them to good stiff sticks, and afterwards lay on a few inches thick of short dung as a surface dressing, which will not only prevent frost from penetrating the soil, but it will also maintain the latter in a more equable condition about the roots than would otherwise be the case. Besides the good resulting from a mulching of this kind during the summer, especially if it should happen to be a hot one, cannot well be too highly estimated.

For beds we prefer Roses on their own roots. These may be planted about 4 ft. apart every way, and should be pegged down about the end of March, and the suckers which spring from the base of the plants during the summer should be pegged down about the middle of July for autumn flowering.

The following forty-eight varieties may be depended on for exhibition and other purposes, viz.:—François Michelon, Duke of Edinburgh, La France, Marguerite de St. Amand, Rosieriste Jacobs, Marie Baumann, Reynold's Hole, Merveille de Lyon, Louis Van Houtte, Marie Victor Verdier, Madame Willermoz, John Bright, Edouard Morren, A. K. Williams, Beauty of Waltham, Souvenir d'un Ami, Baron de Bonstettin, Magna Charta, Duke of Wellington, Madame Lacharme, Lord Macaulay, Paul Néron, Madame Emilie Fontaine, Archiduchesse Elizabeth d'Autriche, Sénateur Vaisse, Comtesse d'Oxford, Auguste Rigotard, Antoine Ducher, Xavier Olibo, Madame Nachury, Madame Gabrielle Luizet, Marquise de Castellane, Duke of Teck, Niphetos, Charles Lefebvre, Étienne Levet, Fisher Holmes, Alba Rosea, Bartholemy Joubert, Madame Eugéne Verdier, Ferdinand de Lesseps, La Rosiére, Camille Bernardin, Catherine Mermit, Sultan of Zanzibar, Mons. E. Y. Teas, Madame Therese Levet, and Edward Andre.—*W. H. W.*

DESTROYING WEEDS ON WALKS.

Many years ago, when Mr. Flemiug, gardener to the Duke of Sutherland, Trentham, introduced what he described as a salting machine, and which was intended to greatly reduce the amount of labour involved in the destruction of weeds growing in the gravel roads, walks, &c., it was considered to be a move iu the right direction, more especially in large establishments, where perhaps miles of walks and roads had to be kept in good order. The machine consisted of a boiler and heating apparatus, which distributed the salt and water over the walks in a boiling conditiou. Whether this contrivance was extensively employed, it is not my purpose now to consider, but having had to do battle with weeds for at least fifty years, it may be assumed that I have had very many encounters with them.

A knowledge of chemistry and chemicals has aided many both for good and, I may say also, for evil, but unquestionably the good preponderates in an immeasurable degree, and we are enabled now to accomplish things that were not thought of in our earlier gardening days. Fifty years ago found us hoeing and hand-weeding, but now independeut of that, and salting the gravel walks, we have agents that we can employ with much greater facility and success and at less cost iu the applicatiou, in fact, when compared, the cost of the one is uominal, when abour and all other contingencies are taken into account.

Having under my charge a large area of gravel roads and walks, it occurred to me that, instead of the tedious and unsatisfactory way in which the work had hitherto been done and the use of salt being objectionable to some, an easier method could be found. This led me to try carbolic acid mixed with water, and the result of many experiments made to ascertain the relative proportions of each that would answer my purpose was that one part of carbolic acid to forty-eight parts of water was found amply sufficient to

completely destroy weeds, moss, &c., however densely covered the walks or roads might be. I have used this chemical now for some years, and when applying it use one watering-pot only which holds three gallons. Half-a-pint of the acid is put into the pot first, and when the water is added the whole is well stirred up. It is then put on the walks in a regular way with a rose, not too fine an one, care being taken that the liquid is nicely distributed. It will give some idea of the area of gravel I have had to operate upon when I state that I have used between forty and fifty gallons in one season, the work being performed generally late in spring or early summer, but also whenever weeds show themselves.

Not only are the weeds destroyed by this mixture but the germinating power of the seeds is completely destroyed, consequently the gravel keeps clean for a very long time, and without being disturbed by hoe or rake. The cost of the carbolic acid to me has been 2*s.* 6*d.* per gallon.

I have been thinking instead of using the watering-pot of adopting something similar to Fleming's Salting Machine, without the furnace—in fact, a small watering-cart, as used for watering the roads during the summer months, but with a portable cover to enable the operator to fill and well stir the contents. Others may have tried the foregoing plan; if so, I think that they will agree with me that the remedy advocated in this paper is both cheap and effectual, and I am sure that those who may be induced to give it a fair trial will be quite satisfied with the result.—*G. F., Lewisham.*

PROPAGATING THE VINE.

During the present month those whose business it is to raise young vines for sale, either for planting out or for fruiting in pots, and also those who have to raise small stocks for home use, will have to see about getting the work in hand. At this season the usual method of propagation is by cuttings, layers, and eyes; later on grafting, budding and inarching may be practised as necessity may dictate. Rooting vines by cuttings is but little practised in gardens, this method of propagation being more suitable to the requirements of the owners of vineyards in vine-growing countries. In our own private gardens and nurseries, the vine is usually propagated under glass by eyes, or single buds of the ripened wood of the previous season's growth, and it is by far the best system. Mr. Barron in his admirable work on *Vines and Vine Culture*, which every Grape grower should possess, truly states that no art or skill is required in the preparation of the eye for planting. "The rule," says Mr. Barron, "is to select always the most perfect eyes from the best ripened wood of vines that have been ripened early, as such buds will be found to start much more freely than those from later ripened wood. It is the hard, well matured wood with firm plump eyes that must be looked for, when a stock has to be raised, in preference to thick soft wood, with seemingly forward eyes. It is well, therefore, to be somewhat particular in selecting the eyes, so that every one of them may be depended on; this being far better than putting in a great quantity and then having to throw the half of them away. Having the wood selected, proceed to cut the eyes (as shown in the illustration, fig. 1) to about 1 in. or a little more in length, that is to say, about half-an-inch on either side of the eye. Some persons prefer cutting the wood straight across, whilst others prefer a slightly slanting cut. We rather prefer the latter, but it matters little."

As to the season for putting in the eyes, Mr. Barron remarks that the beginning of February may be taken as a good and safe mid-season for performing the operation; and as to the manner of doing it, he considers the best plan of all is "to place the eyes singly in small (3-in.) pots, with charcoal or broken crocks put in the bottom, and then filled up with a compost of one-half of nice fresh turfy loam, and one half leaf-mould not too rotten with a good proportion of sand. When the pot is filled not over firmly, make a hole in the top of the soil large enough to hold a walnut, which then fill with silver sand, and placing the eye on this, press it down until the top of the sand is just level with the top of the soil. The pots containing the eyes should then be plunged in a bed, having a bottom-heat of about 80 degs. and a top temperature of from 65 degs. to 70 degs."

"Another good method, where a quantity of eyes have to be propagated, and where there is convenience for adopting it, is to prepare a small portion of the bed itself with suitable soil, and to place the eyes

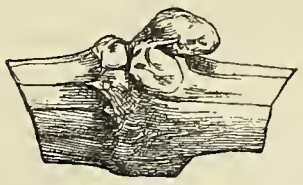


FIG. 1. VINE EYE PREPARED FOR PROPAGATING.

there at once, removing them and potting them off as they become fit. This is an economization of space in the propagating pit, which in the spring season is always much crowded. A most excellent plunging material is cocoa-nut refuse placed over hot-water tanks. The eyes themselves strike root most readily into this material when mixed with a little sand, only the roots formed do not make a sufficiency of fibres, so that they remove badly. The soil should be gently watered after putting in the eyes, and be kept just moist, but not at any time be allowed to become sodden.

FIG. 2. VINE EYE STARTED INTO GROWTH.

When these eye-cuttings commence to form a callus the buds will, at the same time, be bursting into leaf. Then is the delicate and critical period, for every part is tender and easily destroyed. It is necessary at this period to be extremely careful as to the watering and the temperature. Once, however, get the top growing and the roots started, as shown in the woodcut, fig. 2, to reach the side of the small pot, and they are comparatively safe, and this, if all circumstances have been favourable, should be in

FIG. 3. VINE EYE PREPARED FOR BUD-GRAFTING.

about a fortnight after putting in the eyes. About the time that the first leaf is fully developed, when they are about 2 ins. high, they should be potted into 5-in. pots, and from that time be grown on rapidly."

"The budding of the vine differs somewhat from the operation which is ordinarily understood by the term budding as practised with the Rose, &c. In the case of the Rose the bud, as attached to the bark only is inserted, the whole of the wood being removed, while in the case of the vine the wood of the bud is not removed, but left as it is in a graft, so that the operation may more properly be termed bud-grafting. The annexed illustration, fig. 3, shows a 'bud-graft' prepared for affixing to the stock, and represents a bud of the ripened wood of the previous season's growth. The mode of performing the operation is simple, it being only required to make a cut on the stock corresponding to the cut on the prepared bud, so that the inner bark of the stock and that of the bud may be brought together.

"Budding the vine in the manner here described is not much practised. It is, however, sometimes advantageous, as by its means the bare stems of vines can be re-clothed, for the buds can be inserted on any part of the stem. We have had recourse to this method when, by accident, a shoot has got broken off in the operation of tying down; and it is just at this stage, when the vines are in flower and the shoots are being tied down that the operation can be most advantageously performed." We have to thank Mr. Barron for the use of the illustrations.

DOUBLE POTENTILLAS.

While very far from agreeing with all the twaddle that is written nowadays with reference to the adaptibility of hardy herbaceous plants for all the purposes of the flower-garden, I prefer taking a medium course, and giving to these plants the place that they are justly entitled to—that of useful adjuncts to the present mixed system of keeping up our floral displays, and as helps in this direction very many of the hardy perennials are invaluable. No well-appointed garden can be said to be perfect without its mixed border, and it is this which usually affords to the amateur with limited means the source of his greatest pleasure, for it is amongst the varied denizens to be found here that nine months out of the twelve he can find something to interest and please. Out of the large number of hardy plants which I find to grow freely in this cold, smoky district, I class those which stand at the head of this article among the best.

Potentillas delight in a good strong loam of considerable depth, but are not particular in their selection, and will be found to do well in any ordinary garden soil where the situation is open, and they have the great advantage that they can be easily kept within due bounds, and are perfectly hardy, so much so that I never knew a plant when fairly established killed by frost, and as soon as the young Strawberry-like leaves begin to push up in spring they form, when not in bloom, a pleasant contrast to other plants by which they are surrounded. Their best position for growth and showing off their varied beauties is the mixed border, and growing from 1 ft. 6 in. to 2 ft. high, they form grand objects for a fourth or fifth row.

For planting in the wild-garden, where such a place exists, or upon a large rockery, they are also useful. While single varieties, such as Russelliana, atrosanguinea, Smouttii, and others have been in existence many years, the double varieties are of comparatively modern introduction, and each year brings some addition to the number already possessed. The large size of the blooms, being as large as a crown piece, very double, and of the most brilliant and varied colours, and produced in profusion throughout June and July, they cannot but become popular wherever grown. I grow about twenty-five kinds altogether, and the following twelve sorts I consider among the best:—

Versicolor flore-pleno.—One of the freest and most attractive of the group, yellow and scarlet, sometimes flaked like a Carnation, and sometimes blotched.

Beelzebuth.—A very fine Indian red.

Dr. Andrè.—Yellow, suffused with vermilion; very large and fine.

Hamlet.—A deep velvety chestnut black.

Variabilis flore-pleno.—Rose, edged with canary yellow, flaked with red; a very handsome and pleasing variety.

Louis van Houtte.—A deep crimson; one of the best of the earlier introductions.

Vervianum.—Bright scarlet.

La Vesuve.—Bright red, edges of the petals flushed with yellow.

Gloire de Nancy.—Deep yellow self.

Madame Rouillard.—Soft velvety scarlet.

William Rollisson.—Mahogany, suffused with orange.

Victor Lemoine.—Bright vermilion, stripped with yellow.

As soon as vegetation begins to show signs of returning vitality, strong plants can be obtained and put out, and will be found to give a good bloom during the summer. They should not be disturbed the second year, and when getting too large they should be taken up and divided, and treated the same as other perennials.—*J. Knight, Bilston.*

IVY ON WALLS.

It is often asserted that Ivy on walls is productive of damp, but where such is the case it is only under circumstances that would be conducive to damp were there no Ivy grown; at present we observe on a high north wall where Ivy has been established many years, that the brickwork is perfectly dry to the centre of the wall, while on portions of the same wall damp has penetrated through and through, and on these portions no Ivy has been grown.

The trimming of the plants has much to do with their success. Frequently Ivy may be seen dangling away from the building, and in course of time its own weight drags it to the ground. On ruins one wishes to see wild natural growth, but on dwelling-houses we prefer trimming in closely the previous year's growth. The operation being performed just when growth takes place, the denuded plants are unsightly only for a short time. The young growth soon forms a fresh green carpet, holding closely to the building.

Last year we planted a large number of fine Ivies which had been raised in pots, trained to upright poles to the height of 6 ft. and 7 ft. These planted and their shoots trained outwards and upwards have now a dense evergreen appearance, there being from six to ten main shoots on each. The new buildings which they were planted against with a view to giving them an aged appearance are now in character with the old erections.—*M. Temple, Carron House, Falkirk.*

DOUBLE CHINESE PRIMULAS.

At this season of the year few plants are more valuable, either for giving a supply of cut blooms or as a flowering plant for general decoration. Yet it is surprising how rarely we meet with them in really good condition, especially as there is little difficulty in growing them where they get proper treatment. The chief difficulty is, perhaps, in propagating, and this may be done comparatively easy if the right method is adopted and proper attention paid them. At this season, when the plants are flowering, they require careful attention to prevent damping off at the stems, they should be gone through, say, regularly every fortnight, and have all the bad leaves removed, taking care in doing so that as little of the leaf-stalk is left as possible, though they must not be taken off close enough to injure the stems.

After the plants have done flowering and the old flower-stems have been cleaned off, the plants will soon start into fresh growth and throw out extra shoots, and at this period it is best to keep the plants well exposed, so as to secure short sturdy growths. As soon as they have made a little growth they will be ready for propagating. The easiest and most certain way to increase the stock is to top-dress the plants previous to cutting them up. The plants should first be carefully cleaned, every particle of the old leaf-stalks must be cleaned off the stems, and all the old bloom-stalks removed. When this has been done, and the stems have had a little time to dry, the pots should be top-dressed with some good light compost, where it can be obtained there is nothing better for this purpose than good leaf-mould with an equal portion of sand added. The leaf-mould should be rubbed through a ¼-in. sieve, as if used too rough it will be difficult to divide the roots. When the plants are divided, in top-dressing, the soil should be pressed just firm enough to hold together, and the stems must be covered up close to the base of the lower leaves.

After this has been done, the plants should be placed in a warm growing atmosphere, giving only sufficient water to keep the new soil moist enough to encourage the new roots, which will very soon start out from the stems that have been covered up. In about three weeks or a month they will be ready for dividing, and if this is done carefully nearly every division will have a few nice roots, and will soon make good plants if potted singly in small pots and kept quite close until they have made a few fresh roots, when they should be gradually exposed, and as soon as they have made sufficient root they should be potted on. It is best, however, not to give them too much pot room, and the final shift should be made not later than September. For potting, a good rich light compost should be used, and the pots be well drained.

Select Varieties.—The old double white seems to be the most popular, especially for market work, as in addition to its wonderful productiveness, the flowers are more pure than any of the fimbriated varieties. Candidissima is the best fimbriated form, though there is very little difference between this and alba plena fimbriata and Fairy. The flowers of these are all pure white when they first open, but change a little pinky as the flowers get older. Too much cannot be said in favour of the varieties raised by Mr. Gilbert, but unfortunately the four varieties (Mrs. Barron, Princess, Marchioness of Exeter, and White Lady) are too much alike to be grown under different names. With us all produce a large percentage of pure white flowers, though all occasionally produce flowers striped and spotted with pink and purple. Earl Beaconsfield is a good variety, with cerise-pink flowers of large size and good form. King of Purples is the finest dark variety. Emperor, which has fern-leaves and very double flowers, is also a fine variety, but rather delicate in constitution.

Of the carmine varieties, there are four which are very similar, *i.e.*, Balfouri, Magnifica, Carminata flora-plena, and Peach Blossom. Balfouri is perhaps the best of these four. Miss Eva Fish, is very distinct, with large pale lilac flowers, and very vigorous habit. Exquisite, pale blush-pink, of dwarf compact habit. Annie Hillier is a very fine pink variety, but I do not know if it is in commerce yet, as I have not seen it since it was exhibited at South Kensington in December, 1880, when it was awarded a First-Class Certificate.—*A. Hemsley.*

KITCHEN-GARDENS.

Vegetable-growing at country residences has always been an important item among the multifarious duties of the gardener, and is likely to remain an object of his care and attention. In these times of retrenchment and economy it is a matter of surprise to many that such expensive arrangements are carried out for the growing of such vegetable crops as can be, and in hundreds of cases are, grown much better in a field enclosed with a hedge, and often (as many parts of Fulham Fields) with no enclosure at all. Expensive walls, gravel walks, box or other edgings, borders, and numerous unnecessary adjuncts are formed as if such were required to produce common vegetable crops, while one may see on the same property the best of crops on the outside slips and other auxillary portions, or it may be in the cottager's plot.

Walls do more harm by shutting out air than is compensated by any advantage they give in the way of protection. Then there is so much space wasted by paths and unproductive portions, that one cannot consider it in any other light than downright waste. The selling mania, too, is greatly impeded by the present style of vegetable-gardens. If profit and competition with market growers (*bonâ fide* ones) are the main objects, then we would advise proprietors to do their work in a manner commensurate with the extent under manipulation and the profits which are expected to be returned from the space. It is one thing to cultivate an acre of land encumbered with ornamental objects, but quite another with the same extent standing quite clear of work making extras. The former requires double the labour, and gives half or less returns than the latter.

Growing for market and cultivating for private use are widely different in practice. The crops in the former case remain no longer in the ground than will enable the grower to make the best market prices; but for private supply the crop has to remain till the family have had their wants supplied and then the remnant is sold. In many cases the remains of crops which have been reduced piecemeal are not worth the expense of carriage to market. The market system of clearing off the crops, manuring the ground, and starting another crop all in one day is smart practice, which can never be carried out in gardens where the family are having their daily supply. The whole system of vegetable farming is widely different and proportionately profitable and simple to that of private gardens.

The same remark also applies to fruit-growing under glass. The best is sent to table, and what can be spared, probably when prices are lowest, is sold. From walls the returns are so small that expenses cannot be covered by these means.

What we look upon as the most objectionable fault in the present formation of kitchen-gardens is the unsightly blots often seen on the landscape in the form of glaring brick walls. Passing along the railways one often looks upon and admires the noble demesnes of wealthy proprietors, but suddenly the whole is marred by coming in close proximity to a number of huge walls. It is true that there are many of these kitchen-gardens judiciously masked, while others are so shut out of sight that they are rendered almost worthless.

It is very noticeable at the present time that the keeping of kitchen-gardens is of a most objectionable character. One may go through the half of a county and not find a garden but what is smothered with weeds, and the whole aspect as if the place was abandoned. The want of labour is generally the cause of this evil, and we see no remedy for this while the systematic reduction of labour is going on.—*M. T.*

THE TAR DRESSING FOR VINES.

I had hoped when I saw Mr. Warden's first note in your columns respecting the merits of coal-tar and clay as a remedy for mealy-bug on vines that other and abler writers than I am would have added their testimony to his. With your permission I will give you my experience with it here. The vineries, two in number, had been cleaned and the woodwork fresh painted when I took charge of the gardens about two years ago. The vines having been well cleaned, but not scraped or anything approaching thereto, were painted with a strong mixture of paraffin, two coats were, I think, given, but very soon from many of the spurs were to be seen the white cottony appearance of the mealy-bug in its earliest stages. All that I could do while the vines were growing I did by constantly going over the vines and handpicking all that could be seen, but, despite all my efforts, the bug got into the bunches, from which I need not say it is impossible to dislodge them thoroughly or even partially without damaging the bloom to a serious extent.

Well, such being the predicament, I let both grow together until harvest, and when the bunches were cut for use I held each bunch that had bug in it under a tap and allowed the water, with as much force as possible, to fall into the centres, which did scarcely any damage to the bloom and cleaned the bug off as well as could be expected. I always did this some time before the Grapes were wanted that the water could drain off and leave them dry, so that when presented at table no one would have recognized them as the same as were only a few hours before covered with bug. When the winter came round I got the vineries washed with soft-soap and water, thoroughly syringing it off the glass before it had time to dry, after which the woodwork was painted, with paraffin mixed in the paint. The vines were, in the meantime, divested of any loose bark, especial attention being bestowed on the spurs, to remove anything that would easily come off, but no scraping or barking, and washed with soft-soap and afterwards dressed with tar mixture in the proportion of one part of coal-tar to twelve parts of clay that had been previously well worked together so as to break up all lumps thoroughly, but not passed through a sieve, as Mr. Warden recommends, and which is a better plan, though not absolutely necessary.

It will be seen that the mixture I used was very much weaker than that recommended by Mr. Warden, but the results were very satisfactory. In the earliest house no bug was to be found last season, neither do I think there would have been any in the late house

had I not introduced some plants with bug on them in the summer, and which got from them to the vines. I noticed particularly when the vines were cleaned and redressed with the mixture the other day that it was just above where the plants were standing that the bug was on them. Anyone, therefore, afraid of using it so strong as recommended by Mr. Warden, will be sure of good results at any proportion between that and the proportion I use.

I am, however, certain that no ill effects will follow the use of the stronger mixture, as I remember when an under-gardener seeing, while in active growth, pure coal-tar painted round the laterals between the bunch of fruit and the rod, the idea being to prevent mice from getting at the ripe Grapes, and although care was taken to prevent it going on the eyes nearest the rod, I have seen the eyes that were left to produce the next season crop completely smothered with the tar. The eyes certainly at first broke weak, but afterwards they were equally as strong as those that escaped without any tar getting on them. This was before Mr. Hunter, of Lambton Castle, advocated it as a dressing, and as far as I recollect he was the first that recommended its use for that purpose, I think in the proportion of six parts of clay to one of tar.

The gardens here being close to the city, I have many gardening visitors from time to time, and not a few have heard about the tar from me for the first time, and to say they have been surprised at such a mixture does not adequately express the meaning of the sceptical look I have seen on the countenance of many of them. I well remember one old man giving me a good rating for being so injudicious as to adopt new-fashioned notions. Many do not believe it is tar that is used, but say that I am humbugging them and that it must be soot that makes it the colour it is, until I get them to look closer and point out to them the tar, and when they cannot rub it off they then admit it, and I need hardly say that at the next visit they take stock of its results.

Having more specimen Crotons than room permitted for their further growth, I have been using some of them for house decoration, and when bringing a nice plant of C. Disraeli from the house about a fortnight ago, I conceived the notion of cutting it back hard and painting with the tar mixture, the old bark which had on it a lot of the white scale which sticks so close to whatever it gets hold of. The results are that rubbing the bark a day or two since I found it quite clean, while the Croton is breaking all that could be desired, proving that it will be useful for other purposes besides dressing vines. — *E. Dumper, The Gardens, Summerville, Limerick.*

PLANTS FOR EDGING.

The present is a good time to increase the stock of several useful plants for this purpose. We are particularly partial to Isolepis gracilis and Panicum variegatum, which, if used alternately, give such a good finish to a group, either on an exhibition stage or for conservatory decoration, that they deserve to be much more generally employed than they are.

Panicum variegatum may easily be propagated by cuttings. The method we adopt is to put six cuttings in a small 60-size pot, and as soon as they are well rooted, to pot them on into 48-size pots. They require a stove temperature, and should be grown in a shady position, as if exposed too much to the sun the variegation will not be so good. They may be potted in any good light sandy soil.

Isolepis gracilis.—This may be increased by division, and if the stock is plentiful they may be divided into good clumps and potted into 48-size pots at once, but if smaller divisions have to be made, it will be better to put them in small pots and to pot them on after they have made some growth. They succeed best where they are well exposed to the sun, but must not be allowed to get too dry, and as soon as the pots are filled with roots, manure water should be used liberally. Although this will grow in a lower temperature, stove treatment suits it best.

Selaginella Kraussiana, S. Kraussiana variegata, and S. Kraussiana aurea are also indispensable subjects for the same purpose. For propagating these the fresh growing tips only should be taken, and these put in in little patches, say six patches in a 48-size pot. They must be kept quite close for a short time, and as soon as they begin to start into growth, they may be placed in a more exposed position. In preparing the pots, they may be filled three-parts full with any rough siftings, and a little manure mixed with it, filling the pots up with some finer soil. Several other sorts of Selaginellas are very useful, among which we should select the following:—S. cœsia (S. uncinata), S. Poulterii, S. apoda, but these do not grow so quickly as the varieties of S. Kraussiana, the plant grown by many under the name of S. denticulata.

Tradescantias are also very pretty for edging or basket work. T. multicolor is one of the prettiest, but is inclined to sport, therefore cuttings from the best coloured shoots only should be taken, and they will retain their colour better if grown in light soil.

Mikania purverulenta forms a very nice contrast when used alternately with the above. To make nice pots of this it requires stopping several times; it also makes a very pretty plant if trained round a pyramid-shaped trellis.—*A. H., E.*

GRAFTING RHODODENDRONS.

Without claiming to be an adept at grafting general stock, I may be permitted to inform your correspondent "Rhodo" (*see* p. 350) that the time at which I have succeeded best with the grafting of these plants is during the latter part of July and the beginning of August, according to the state of the wood of the kind to be increased. The wood should be of the current year's growth, and should be at the time moderately firm, or it will perish by flagging. The stocks for grafting on should be moderately stout seedlings of R. ponticum, with clear stems 4 ins. above the soil, and should if anything be stouter than the scion. These should be potted up and plunged in ashes in the open-air for working next summer.

From 2 ins. to 3 ins. above the surface of the soil is a suitable height to work the plants if wanted to form dwarf bushes, but for standards they may be worked at any desired height. For general purposes the dwarf stocks are the best. When the time arrives for grafting the plants, suitable stocks should be looked out for certain grafts, choosing them as near of a size as possible. For saddle grafting the stock should be headed down to the desired height, as level and as neatly as possible, and then be cut in the form of a wedge, taking care to use a sharp knife and to make the cuts as clean and smooth as possible. The graft or scion should next be taken up, split for a distance, and each side or half of the scion should be shaved to form tongues that will fit the wedge form of the stock, so that the edges of the bark will meet together, in which position they should be held and tied by means of a piece of matting or raffia grass. Great care must be taken to thoroughly secure the graft by winding the matting a few times round the stock and scion above and below the point where the union is expected to take place. After the grafting has been performed the plants should be laid on their sides in a cool pit or frame, and be shaded from sunshine as well as kept close. It will also be necessary to sprinkle them over at least once daily, but not too heavily. In a short time they will be found to turn their heads up towards the light, and this will indicate that a union has been effected between stock and scion. Shortly after this the plant should be stood up and gradually inured to more light and air. Considerable caution is necessary in doing this, for if the graft is not properly united one bright hour might destroy all our hopes.—*W. C. C.*

MELON GROWING MADE EASY.

Most amateur gardeners look upon the Melon as a "cut above" them, and either never try to cultivate it, or, trying, take so much trouble with it that they fail. As a matter of fact, nothing that requires artificial heat is more easily grown than the Melon, if one only knows how. In the first place, there should be no attempt at starting the seed until the winter cold has got the chill off, say about the first week in March. Then make up your hot-bed, and at once (without waiting for the heat to go down) place upon it, near the top, about a stable bucketful of soil composed of the top spit of an old meadow, some fresh horse droppings, and a little sand, mixed together, but not sifted. Upon the soil draw an imaginary triangle, a foot each way, and at each angle put in one seed. Place a sheet of glass on the soil, and leave your lights off until the seeds come through. By that time the heat will have gone down to about the proper temperature. Now get three small flower pots, plunge them in the hot-bed, and put a seed in each, to fall back upon in case of accident, or to plant out presently under another light. In the centre of the triangle make a round hole, and pour water every morning into this hole, being careful that no wet gets to the collar of the plants. When the latter have grown about 4 ins. or 5 ins., stop them, and when side shoots are thrown out, stop them also until fruit buds are formed. Do not water them overhead until the weather is really warm, and then do so either early in the morning or late at night. When the flowers are opening, leave off the watering-can rose, and give water only at the roots. Give plenty of air night and day after June, and shade from very hot sun. It is better to fertilize the flowers oneself than to leave it to the bees. By taking a little trouble, you may have all your Melons swelling at the same time—a very desirable, but not absolutely necessary, matter. If you like to put the sweepings of your lawn round your frame, do so; they will do no harm, and in a cold summer will help the Melons to ripen. Having done all these things—have patience. The fruit will seem long in ripening; still, it will ripen, if left long enough. My last Melon last year, grown without any artificial heat whatever, was not ripe till October. It weighed 3 lbs.—*J. T. B. Wollaston, in The Field.*

GREENMEAT!

"Oh, who'll write a song (now at once don't all speak)
On the Cabbage and Greens of our land?"
Why, behold! notwithstanding the task is unique,
"Yours truly" will take it in hand.
Not much comes amiss to your versatile bard,
Providing 'tis made worth his while;
So he'll sing (for a price) of his earnest regard
For the Cabbages grown in this isle.

Chorus.

Then in praise of the Broccoli shout, dear boys,
Of the "Savoy" and bold Brussels Sprout, dear boys;
So suited to folk both of high and low means
Are the Cabbage of England and England's boiled Greens.

Let others write lyrics on England's roast beef,
From *this* vegetarians shrink;
A "joint," they say, causes of evils the chief—
'Tis, accordingly to them, worse than drink.
But boiled Greens and Cabbage are innocent fare,
In these no iniquities lie,
As are hidden in meat, people's minds to ensnare—
Besides, they're much cheaper to buy.

Chorus.

Then the Cauliflower's virtues let's greet, dear boys,
And the gay summer Cabbage let's eat, dear boys;
For good enough food e'en for kings and for queens
Are England's boiled Cabbage, and England's boiled Greens!

Meretricious is mutton, and vile is all veal,
And pork should be always pooh-poohed!
Beware, too, of beef—peace of mind it doth steal
Whenever you take it as food.
Then fish, flesh, and fowl do not chew, but *es*chew,
For all *these* vegetarians ban;
Yet I don't mind confessing (of course *entre nous*)
That *I* eat these three F's when I can.

Chorus.

Still greenmeat is awfully gay, dear boys,
If with meat 'tis combined every day, dear boys;
If served up with good joints, then your bard always leans
To England's boiled Cabbage, and England's boiled Greens.—*Fun.*

Eichornea azurea.—In the January number of *The Gartenflora* we notice a figure of this beautiful stove aquatic. It is a plant of very easy cultivation, and is quite indispensable in a select collection of aquatics. It is well suited for the margin of the tank, as its long branches can be arranged anywhere, and it continues to throw up its spikes of azure-blue flowers during most of the season. It was introduced from Jamaica in 1824.

The Amateurs' Garden.

THE GREENHOUSE.

With advancing days and more light, damp will become less troublesome, as when the sun breaks through, more air may be given than it has been safe to admit for some time past, but in opening the lights or ventilators, it is necessary to exercise some amount of care not to let in cold cutting winds, which, at this season, often prevail during bright weather, and if let into a house, among tender plants, do a great deal of harm to the flowers and foliage. This being so, it is far better to allow the temperature to run up a little higher than usual at such times, than to run any risk from sharp draughts, but though extra sun-heat does little or no harm, that from flues or pipes should be kept down to the lowest degree, as it is very drying when assisted by the solar rays, and, by creating a too arid atmosphere, is bad for the plants.

As cleanliness is of the first importance with these, any that have large leaves should be sponged with clear soapy water, and the sponge frequently dipped and washed during the operation, so as to free it of all dirt, when it will put quite a gloss or polish on the foliage, and rid the pores or respiratory organs of the dust and other deposit that chokes them. Not only ought the plants to be clean, but it is equally necessary to have the pots in the same state, as when covered with green, the soil soon gets in a sour inert condition, and the roots quickly suffer.

Although it is full early as yet to do much in the way of propagation, there are a few things that cannot well be got in too early, and among these are cuttings of the Solanum capsicastrum, which should be chosen from the best berried kinds, and taken off about 3 ins. long, when, after being trimmed in the usual manner, they may be inserted in sharp sandy soil, and if then covered with a bell glass, and kept close in a warm place, they will soon strike and be fit for potting off singly to be grown on as standards or bushes. Old plants that have their berries shrivelled or shabby, should be pruued hard back, and be kept rather dry till they break again, when they may be shaken from the old soil and repotted in new, ready for planting out by-and-bye, or plunging out in the opeu.

Begonias of the tuberous-rooted kinds are most valuable decorative subjects, and to prolong the season of these, some may now be started by giving a little water and placing them where they can get warmth, and when they break they may be cut through and divided, as all that is uecessary is to have a shoot to each piece of tuber to make separate plants of the parts.

Dahlias require similar treatment, and may now be started in the same way, but as the single kinds are now so much in vogue and come so readily from seed, it is a good plan to increase the stock of these and raise fresh plants by sowing, and if this is doue at once, the plants will be large and strong enough for planting by the end of May, and to flower well all through the summer and autumn.

PITS AND FRAMES.

These may now be turned to very profitable account especially if the pits happen to be heated, as Asparagus may be started and forced, Cucumbers and Melons raised and planted, while the frames will be available for placing on fermeuting material made up in beds, when seeds of various descriptions may be raised therein—Carrots sown and grown, and Potatos planted, or bedding stuff propagated, and a good stock of plants thus got up for the garden. In the lifting of Asparagus, it should be got up carefully by the aid, of a strong fork, so as to secure all the roots, and the crowns then placed closely together in the frame on a few inches of light soil and filled between with the same, when, if the lights are put on and kept quite close, the plants will soon start, and the heads quickly be ready for cutting.

To be successful with Melons or Cucumbers, it is necessary to have a good brisk heat, both above and below, the proper temperature of the bed being from 75 degs. to 85 degs., and that of the top 10 degs. less, and if these degrees can be maintained with a fair amount of regularity, the plants are sure to do well, that is, provided the atmosphere suits them. To bring it to the condition most favourable, it must be made moist, and kept in that state, either by frequent syringing or allowing the escape of steam from evaporating pans on the pipes or flues, or letting up that from the bed, the latter being the most genial and agreeable on account of being impregnated with ammonia, which both Melons and Cucumbers like. Cucumbers do best in rough fresh soil, coarsely chopped, and mixed with a little leaf-mould, and the heap or ridge on which they are planted laid loose and light, but though Melons require similar material, it is better for them when trodden and made firm, or they will grow too rampant and fail to fruit freely.

The seeds that ought to be sown now, and raised in hot-beds, are Solanum capsicastrum, Acacia lophantha, Centaurea candidissima, and Grevillea robusta, which take a long time to germinate, and are plants of sterling merit, either for rooms, planting out in beds, or for decorating greenhouses, as all are of a highly ornamental character, the Acacia and Grevillea being very fern-like and elegant both in foliage and habit. To expedite the seeds coming up, it is a good plan to soak them in warm water twelve hours before sowing, and if then placed in sandy soil in brisk heat, they will be up in a month or so, and soon after be ready for potting.

FRUIT AND VEGETABLE GARDENS.

As the season is now getting late for transplanting, the removal of fruit-trees and bushes ought to be brought to a close or they will start but feebly, and if large, and the weather sets in dry by-and-bye, they may die altogether. To prevent this and save them suffering any more than can be helped, they should be mulched round by having some half-rotten manure laid on the ground over the roots, and to keep the plants quite steady it is necessary that they should be securely staked or tied, so as to prevent wind-waving, which is destructive to the young roots on account of the strain and friction brought to bear on them, when the tops sway to and fro.

The way to treat Raspberry plantations is to mulch, and not dig or fork among the plants, as is too often done, whereby the surface roots are destroyed, which is productive of much harm, as they are the principal feeders. The same remarks apply with even more force to Strawberries, which, in many cases, are badly used, as not only are the rows dug between, but the plants are stripped of their foliage, and the crowns and hearts thus laid bare to the inclemency of the winter and spring, when the cutting winds and hard frosts dry up and almost perish them, leaving them in a low state of vitality and too weak to carry much fruit. Instead of denuding them of their leaves, they should be left as they are, and not be dug between, but have a good top-dressing of soil and manure spread amongst them over the ground, which, by encouraging fresh surface fibres and feeding the old, will add immensely to the strength of the plants and enable them to send up fine trusses of bloom.

Peas that are through the ground will need close watching to keep them from the attacks of sparrows, and those fresh sown will require equal care to prevent the attacks of mice, the best remedy against these being to catch them and kill them, which may easily be done by baited traps, and the sparrows may be scared away by straining three or four rows of black cotton just over the tops of the rows. To have early Lettuces, Cauliflowers, and Celery, a pinch of seed of each must be sown thinly in a pan or shallow box and placed in heat, where the soil should be kept just moist by an occasional spriukling, which will soon bring the young plants up, when they should be stood near the glass, so as to have full light, and to keep them from drawing.

Epacris onosmæflora flore-pleno. — The double form of this Epacris is a very desirable plant, both for pot plants and also for cutting from. The habit is dwarf, and the very double pure white flowers last a long time in perfection. Each flower is developed in the axil of a small bright green leaf which sets the flower off to advantage, and these leafy little spikes have a very graceful appearance.

Hardy Evergreen Plants under Trees.—In not a few gardens there are to be found places under trees where it is very difficnlt to indnce grass to grow, and if it is attempted to grow turf, it is necessary to renew it every season in spring. Under the shade of large horizontal branches of Cedars it is extremely difficult to induce anything to grow unless it be the common English Ivy, and the minor form of the common Periwinkle. The evergreen, St. John's Wort, Hypericum calycinum, is sometimes used for the purpose, but it is not so good as either of the preceding, although it grows freely and increases rapidly in any ordinary soil. The Ivy is the best, because the large leaves always look fresh and green. Under the spreading branches of the venerable Cedars at Gunnersbury Park, it does grandly, and is one of the featnres of the place. If walls, stumps, or trellises have to be clothed with something evergreen, then the Irish Ivy and the large-leaved Hedera Regneriana should be employed; both grow very freely, and are decidedly handsome and effective. It is well to give these plants a little surface dressing at times, but not over-doing it. As a matter of course, the leaves which drop from the over-hanging trees, falling among the carpet of plants beneath, generally rot, and make an excellent fertilizing material, which is decidedly helpful to them.—*E. W.*

Watering Plants.—One is often asked, "How often should I water so and so?" naming some favourite plant, as if there were a fixed time for this operation. I am convinced it is from some notion of this kind that so many failures arise. They say to themselves, "Well, I am not quite sure if my plant needs water yet or not; but, to make certain, I'll just give a little drop." And there is exactly where the danger lies. These constant "wee drops" are the ruin of more lives than those of plants, I am afraid. If water is needed at all, give it in abundance; if it is not needed, better give none. As the subject is of some importance, a few hints regarding it may not be out of place. But, after all, experience is the only safe guide in the operation. When a plant is too dry, the roots, as a matter of course, cannot attract sufficient moisture to counterbalance the evaporation which takes place through the leaves, and it droops, or, as it is technically termed, "flags." On the other hand, if a plant is watered too freely, the soil around its roots becomes sodden and impervious to the air, the leaves turn yellow, and the whole plant becomes weakly and out of health. Thus, an equable state of moisture is desirable. There are three ways by which you may know when your plants need water—1st, by the general appearance of the soil, or feeling it with your finger; 2nd, by rapping the pot with your knuckles, the pot having a sharp ringing sound when dry, and a dull, heavy one when wet; and, 3rd, by lifting the pots and testing their weight, wet soil being, of course, much heavier than dry soil. By any of these means, with practice and observation, you will soon learn the right system to adopt. This matter of watering I have found to be a great stumbling-block with many; possibly because it is the one thing oftenest requiring attention.—*R. Lindsay, Edinburgh, in Forestry.*

MAGNOLIA CAMPBELLII.

This magnificent species, said to be in every respect, except in having deciduous leaves, the noblest species of the genus, is figured in the January number of *The Botanical Magazine*. It is a native of the Eastern Himalaya, and before the destruction of the forests which clothed the higher elevations of the outer flanks of the Sikkim ranges was by far the most notable tree of the district. Sir Joseph Hooker remarks:—"I have seen the flanks of the mountains rose-coloured in spring from its abuudance aud its habit of flowering before the development of the leaves." Thirty years ago it was one of the commonest trees near Darjeeling, at elevations of 8,000 ft. to 9,000 ft., though now, accordiug to Gamble, it is becoming scarce. It is allied to M. Yulan and other deciduous species, but in its arborescent habit it has no rival. The trunk grows to 80 ft. high, the bark is dark, that of the branches being nearly black. The flowers measure 10 ins. in diameter, and the colour varies from delicate to deep rose. Sometimes four or five

may be seen on a short branch, reminding one of a bunch of Nelumbium flowers, but more vividly coloured. The wood is white and soft, with about twelve rings to the inch, and is occasionally used for planking. Repeated attempts were made to introduce this fine tree into this country by seeds, but without success, the fleshy albumen decayed and killed the minute embryo. At length living plants were successfully introduced. It is too tender for the open-air in the east of England, but succeeds in Ireland. It flowered in Mr. Crawfurd's garden, near Cork, in March of last year, and the leaves were fully developed in the following July. From this plant the plate was prepared. There is a plant in the temperate-house at Kew, which as yet has shown no signs of flowering. In the south of France and Italy it is quite at home, and has flowered on several occasions.

DIPLACUS GLUTINOSUS.

How very seldom do we see this beautiful Californian greenhouse plant in the condition that it ought to be? This is owing chiefly, I think, to its always, or nearly so, being confined to pots instead of its being planted out. The colour of its flowers being orange is a great point in its favour, as there are few plants which are so free-flowering of this particular shade of colour. I know and admit that it is a desirable plant for pot culture, and when it receives full justice it is a plant which adds greatly to a collection, be it at a flower show or in the conservatory at home.

I have a specimen which was planted out three years ago that now covers the end wall of the conservatory 16 ft. by 14 ft. It is now commencing to make its young growth, and by the middle of March it will commence to flower. From then till August there will be a continuous supply of its lovely tinted orange flowers, from which we can cut and come again. I had not previously seen it planted out, but the experiment has given entire satisfaction, the only drawback being that it loses the larger part of its foliage in the winter, and so exposes the wall rather more than is desirable. However, this is amply compensated for by the wonderful display of flowers it gives from spring to autumn. If any reader of The Gardening World has a spare plant, I should like to recommend a trial of it planted out, feeling confident that he will be pleased with the result. Those who have not grown this plant before may like to know that its culture is very simple. A good friable loam, with some old hot-bed manure and a nice sprinkling of sand to keep it open, seems to suit it well.

I should add that it is impatient of heat, and dislikes a close atmosphere. The only heat it receives here is during damp or frosty weather.—*J. S. T., Malvern.*

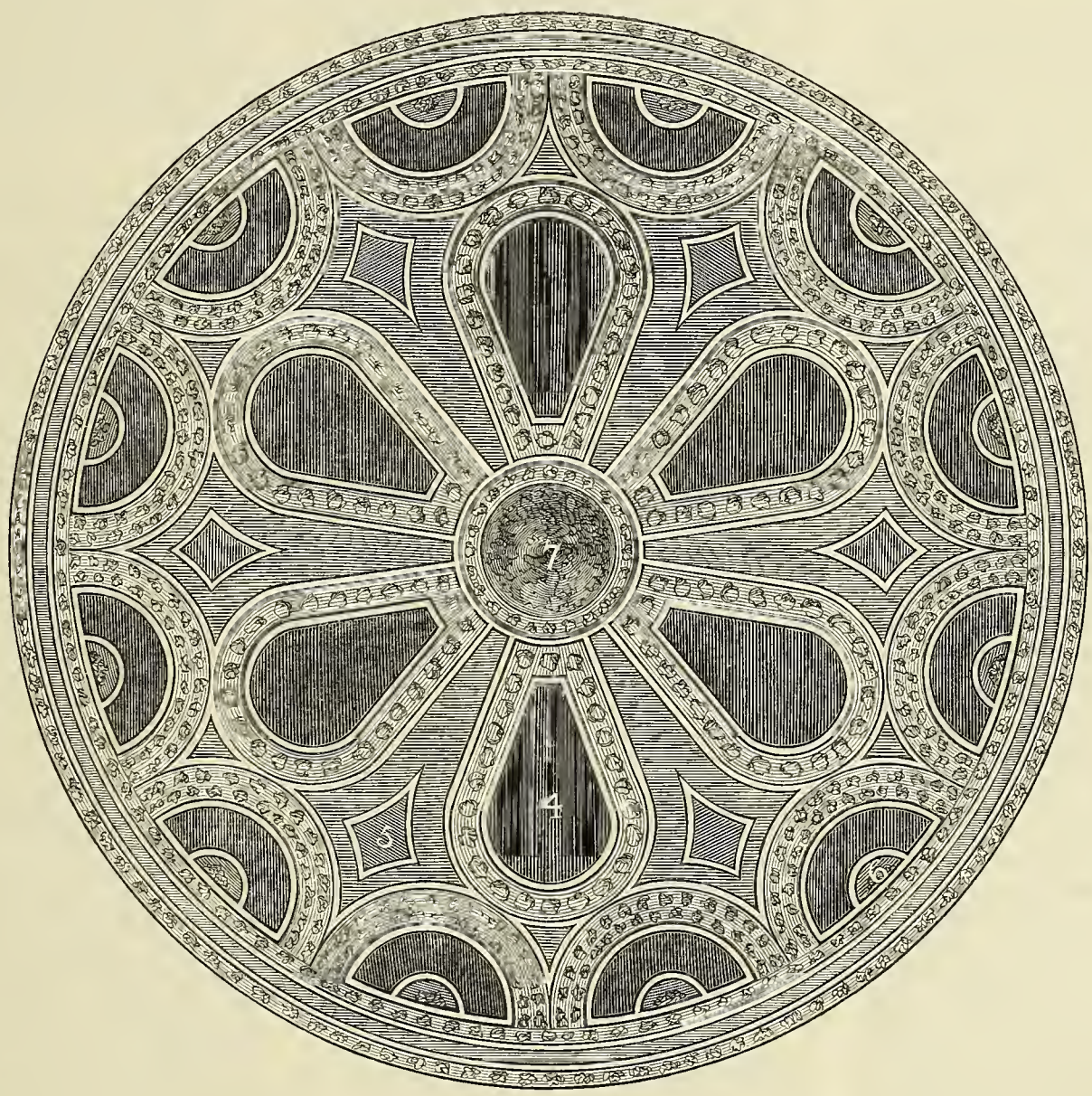
THE MISTLETO.

Although I am approaching the age of fifty years, and have spent more or less of my lifetime in twelve different counties, I never saw the Mistleto growing until I bought an Apple-tree with it growing upon it, from Messrs. R. Smith & Co., of Worcester, in the autumn of 1882, and there is no other tree in the garden that strangers will stop to admire so much as this Standard Apple-tree. Nearly all the top is getting covered with the parasite, in fact the Mistleto grows more freely than the Apple. I should add that both the male and female forms are worked upon the tree.

As trees can now be purchased with Mistleto Viscum album, growing upon them, I am surprised that they are not more frequently seen in gardens.—*T. W., Norfolk.*

CARPET BEDDING.

Where carpet bedding is carried out, gardeners will be busy now in getting out their plans and designs, and in working up their stocks of the different plants that will be required in due time to plant the same. The present is a favourable time, then, to introduce into our pages the design of a large circular bed, made and planted by Mr. William Gibson, gardener at the Royal Hospital, Chelsea, one of our most successful exponents of this style of garden decoration. Few gardeners we suspect, nay even few of the inhabitants of Chelsea, have any idea of the admirable manner in which summer bedding is carried out in the Royal Hospital Gardens. There is a terrace here 280 yards long—one of the finest in the country—on which there are sixteen beds in a line, six of them oblong, two oval, and eight round. The circular beds are 17 ft. 6 ins. in diameter, and it is one of these that was planted to the design here illustrated. The outer ring and the double and single rows of Echeveria were planted with the silvery-leaved variety, secunda glauca, with the exception of the ring round the central mass of Echeveria metalica (7), which was composed of E. glauca metalica. The second line from the outer edge, and the other lines running next to the Echeverias was formed of the yellow Pyrethrum Golden Feather, followed by a broader band of Alternanthera aurea, which also forms the groundwork of the bed. The sections marked 4, and the broad bands of the same depth of tint in the semi-circles, were planted with Alternanthera amæna; and the diamond-shaped pattern and inner portion of the semi-circles, with the deep green-leaved Mentha Pulegium gibraltaricum. As seen from the terrace walk it was exceedingly effective, the colours used being well balanced; and it was bright and gay long after flowering plants had passed their best.



A CARPET BED, DESIGNED BY MR. GIBSON.

FRUITS.

Fruit Culture under Glass.—Vines.—The vines in the Muscat-house, together with the border, having been treated as recommended at p. 315, should be started next week at a night temperature of 50 degs., raising it 5 degs. by day with fire-heat, and 10 deg. to 15 degs. higher with sun-heat, and plenty of atmospheric moisture at closing time. Syringe the rods three times a day—more or less frequently according to the nature of the weather—with tepid water to assist them in bursting their buds, after which the syringing of the rods should be discontinued, and sufficient moisture to produce a genial atmosphere be secured by damping the pathway and the surface of the border, especially underneath the hot-water pipes.

Peaches and Nectarines.—As soon as the pruning, washing, and tieing of trees in the late houses have been completed in the manner advised in the number for January 17th, together with the thorough cleansing of glass, wood, and brickwork, the latter by washing it with hot lime, to which a couple of handfuls of fine soot should be added to tone down the colour, the surface soil of the border should be loosened a little and removed, and then be replaced with a like quantity of a compost, consisting of three parts of good loam and one of lime rubble and wood ashes well incorporated, following this with a surface-dressing of a couple of inches thick of horse-droppings, and a good soaking of tepid water if the border be an inside one.

Figs.—These should have liberal supplies of tepid liquid manure at the roots, especially if the latter are confined to a rather limited space, in which case in connection with liberal and judicious applications of liquid manure the best results may be secured. Pinch the points out of the shoots at four or five joints beyond the fruit. Syringe the trees morning and afternoon, as much with a view to save the foliage from the attacks of red spider as to promote a growing atmosphere. Give a night temperature of from 55 degs. to 60 degs., 65 degs. to 70 degs. by day with fire, and 80 degs. with sun-heat, and plently of moisture when closing the house. Prepare successional houses for starting the middle of this month with a night temperature of 50 degs. to 55 degs., 60 degs. to 65 degs. by day, with a rise of 10 degs. by sun-heat. Thin the shoots out to 6 ins. apart, leaving young well-placed shoots which are well furnished with young fruit in preference to old ones.

Melons.—As soon as the plants are large enough for planting and the mounds are in readiness for their reception, they should be planted and afterwards treated as recommended at p. 310; and another sowing of seed in the manner there described should be made to supply plants for successional planting.

The Grape-room will need daily attention in the way of removing mouldy berries as soon as they appear. If not already done, pack some wadding between the shoot attached to the individual bunches and the neck of the bottle to prevent vapour arising from the water in the bottles and settling on the berries, which would cause the latter to decay.—*H. W. Ward, Longford Castle.*

Fruit-trees blown over.—In the winter of 1851-2, or thereabouts, I well recollect a Devonshire Quarrenden Apple-tree which grew on a grass plot in a large garden in Flintshire, being blown down. It was not cut up and removed to the wood stack, but lifted up so that the branches were off the ground, a forked piece of timber being used to prop it up. It looked very ugly propped up on its side, but the next year it produced a splendid crop of fruit, though previously it had borne very little, and the lesson I then learned was not to cut up blown down trees of Apples, if they can be propped up again. Thirty years afterwards came the terrible gale that swept over the country on October 14th, 1881, when thousands of trees were blown down. In the gardens here, some Apple-trees were snapped off about 3 ft. above the ground line, and we had a good-sized Pear-tree which, during the three seasons it had been under my charge never bore anything. This was blown over, but as the top fell upon some bushes, the force of the fall was somewhat eased, which prevented it from lifting up a mound of earth at its roots. In due time it was reared up again, and three forked props placed at an equal distance apart, kept it in an upright position. In the following year the tree bore and brought to maturity a splendid crop of fruit. I believe it to be the Duchesse d'Angouleme. It is a very fine Pear, large in size, with the skin of a dull yellow when getting ripe, dotted with brown russety spots and fit for use in November. The following year—1883—it carried a crop nearly as good as that of the preceding year, and last year it bore but a few. The gale did this tree good, it checked its strong growth—in fact it makes little wood, though it looks perfectly healthy. In looking over an old orchard near a farm-house in this neighbourhood in the autumn of 1883, I came upon a tree that was blown down by the same gale of 1881, and there it laid still with its roots exposed to the air. The farmer I suppose did not like to cut it up, nor did he take the trouble to prop it up a little, yet, two years after, it carried a slight crop, and when I saw it again a week ago, the old tree seemed bristling with fruit spurs.—*T. W., Norfolk.*

FLOWERS.

Seasonable Work in the Plant-houses.—At this season of the year, when plants are starting into fresh growth, they require careful watching and on the first appearance of green-fly, or any other kind of insects, steps should at once be taken to eradicate them by fumigating. In the case of Pelargoniums, Cinerarias, Calceolarias, Roses, &c., it is a good plan to fumigate periodically as a preventive. It is not only much easier to destroy the insects when in a young state, but when once they get a fair hold on the plants the leaves become crumpled and distorted, and it is impossible to repair the mischief or to thoroughly eradicate the insects. It is now a good time to start a batch of Hybrid Perpetual Roses. These start best if plunged where there is a moderate bottom-heat, but they should be in a position where they will get as much light as possible, and should have a little air on all favourable occasions. As soon as they begin to start into growth manure water should be used liberally. Azaleas that have been forced for early cut flower and are now over should be pruned into shape and kept in a good growing temperature, this will not only induce the plants to make a good growth, but if properly ripened off, after they have made sufficient growth, they will set their buds early, and force very freely the following season. While the Azaleas are making their growth, they should have a little mild stimulant occasionally and must be kept frequently syringed to keep down the thrips.

Vinca major elegantissima.—This charming evergreen, variegated trailing plant when grown in baskets, has the most pleasing effect. We have here, in the conservatory, four large baskets filled with it—suspended at the height of 18 ft. from the floor,—and in each basket there are from forty to fifty of its long graceful shoots, which come quite down to the floor. These baskets hanging as they do around and over a fountain with a large mirror in the background, have a most beautiful and striking appearance. For suspending in cool conservatories, corridors, or in window baskets, I know of no plant more suitable. Anytime during this month will be a suitable time to make a start with its cultivation in order to get a well-furnished basket quickly. Having procured a good strong plant from the open ground, proceed to prepare the basket by placing in and around the framework inverted turves or moss, to prevent the compost from running through. This may consist chiefly of loam, with an addition of rotten manure and a little coarse sand or broken brick rubbish, and when the plant has been firmly placed in the basket and watered, it may be hung in a moist shady situation until it has begun to grow freely, when it may be removed to a lighter and more airy position. All that will then be required will be a liberal supply of water at the roots, and also on the foliage by the use of the syringe, in order to keep red spider in check. This is the only insect pest it appears to suffer from.—*John Austen, Witley Court, Stourbridge.*

The Hoop Petticoat Narcisius.—I know of no bulbous plant which blooms in January so beautifully as Narcissus (Corbularia) monophylla, or which for bouquets compares so favourably with Orchids. Its flowers are so elegant in shape and of such spotless purity, that when grown on stems some 6 ins. or 8 ins. long, which obviates the necessity of wiring, it is truly invaluable. It blooms very freely, and in a cold pit or house comes into bloom at a time when white flowers are always valuable. Our first blossom opened five weeks ago. It is what gardeners call "a good doer" and soon increases in numbers, and when associated with Primulas, Cyclamens, &c., it has a very fine effect. As good bulbs are now becoming cheap, every one who loves flowers and who possess a greenhouse should endeavour to grow a few pots of it; and gardeners who have to provide cut flowers should grow it largely. The yellow form is no less beautiful, and does well in the open border. Some patches of it here last spring bore from forty to sixty flowers.—*J. C., North Hants.*

Three Good Tea Roses.—Tea Roses are always beautiful and always in demand, and it is surprising how long they continue to bloom when planted out under glass and properly managed. They are all beautiful in the bud state, but many are useless for cutting when they have passed that stage. The following three sorts can, according to my experience, be thoroughly relied upon, and they are Roses which every gardener ought to grow, viz., Étoile de Lyon, Perles des Jardins, and Sunset, the new American variety. They are all free growers, and produce good full flowers which are sweetly scented. Étoile de Lyon is, I think, next to Maréchal Niel in form—almost perfect in shape. Sunset proves to be a good full yellow Rose, an improvement on Gloire de Dijon in shape, and should it prove to have as good a constitution as that variety, must become a favourite. We had some fine blooms of it last autumn from a plant in a 6-in. pot.—*North Hants.*

Grevillea robusta. — This pretty greenhouse ornamental foliaged plant is most useful for decorative purposes, its finely-cut, fern-like leaves and light and elegant habit making it a most desirable plant to have in numbers. Its culture is of the easiest description. If seeds are obtained now and sown without delay and the pots placed in heat or on a gentle hot-bed they will soon germinate. When the seeds are up the young plants should be exposed to more light and be gradually enured to more air, and eventually be potted up and placed in a cool greenhouse, where they will be ready by July and available during several succeeding months for any use to which it may be thought desirable to put them. Having found them myself most useful in many ways, I feel warranted in recommending them to others.—*W.*

The Propagator.—During the month of February is a suitable season to look over such plants as Dracænas, Crotons, Dieffenbachias, and such like subjects, and those which have grown too tall should have their tops taken off and inserted singly in suitable sized pots, and placed either in a close propagating-case or on a hot-bed until rooted. Where numbers of plants are required of a comparatively small size it becomes necessary to put in a certain number of cuttings every year, so that a suitable stock may be kept up. In the case of the Dracænas, if the kind or kinds grown are scarce and the plant be rather tall, the stem, between the 2 ins. required at the base and that required to form the cutting, may be cut up into lengths of about 1 in. each, and a small portion of the bark taken off that part which is to form the under side. These should be laid flat over the surface of a pan and be covered with some fine soil, after which the pan should be placed in brisk heat, when these will soon throw up young shoots, sometimes two or three

to a single piece. When they have grown large enough to occupy 2-in. pots they will be found to have formed roots at their heel, when they may be detached and will soon grow into useful plants. Pandanus javanicus and P. Veitchii are very useful for house decoration. Where an old plant is at hand with shoots springing from the base of the stem, they may be either cut or pulled off with a heel and inserted in suitable pots, and placed in the full sun on a shelf near the glass in a stove or pine pit Considerable care is necessary in removing these cuttings, for, if young, as they should be, these making the best plants, they will sometimes leave the hard heel behind which it is so necessary to secure for the safety of the cutting.—*W. C. P.*

The Gloxinia.—If we consider their distinctness, their free-blooming habit, their beautiful colours, and their easy cultivation, it will at once be admitted that few stove-plants so well deserve attention as Gloxinias. It is now time to bring forward a batch of roots of these charming plants from their resting-place. If the roots are found on examination to have already commenced to grow, shake them out of the dry soil and pot them at once in the pots they are intended to flower in. When potted place them on a shelf in a pit or house near the glass, where they can have the benefit of a temperature of from 65 degs. at night to 70 degs. by day. Great care must be taken after potting to give water sparingly at first until they have made plenty of roots, when they must never be allowed to become dry; and they will be greatly benefited by an occasional application of soot water. If they have not yet commenced to grow, it is a good plan to shake the roots out and place them close together in pans or boxes filled with cocoa-nut fibre to start them into growth. When they have made shoots on the crown of the root about half-an-inch in length, lift them carefully out of the cocoa-nut fibre, taking care not to damage any small fibres they may have made, and pot them in soil of the same temperature as the house in which they were started, when they will receive no check in potting. The Gloxinia is more fond of peat than a good many growers imagine, and I would recommend as a good compost for potting them in, two parts of fibrous peat to one part of loam and one of leaf-soil, with plenty of coarse sand to keep the whole porous and sweet. By starting a batch of roots now, they may be had in bloom about the middle of May.—*W. Baskett, Wykham Park, Banbury.*

Rhododendron caucasicum.—Those who value Rhododendrons in pots for early forcing, cannot too soon make the acquaintance of this desirable early flowering sort, for I know of none that can so easily be induced to bloom. We had some plants in flower in the conservatory on January 12th, which bore from forty to seventy trusses on a plant, and of the beauty and usefulness of which, I need make no comment. We force about a dozen plants of it, some of them being large ones, and we have had them in flower in January during the last eight years that I have been here. The plants were put in a house in the middle of December, the temperature of which was kept at about 45 degs. at night and some 10 degs. higher by day, and three weeks of this treatment sufficed to get them into flower. These are in turn succeeded by other early sorts, such as R. Nobleanum, R. altaclarense, R. altaclarense coccinea, R. limbatum, R. Everestianum, Duchess of Sutherland, &c. Add to these some Azalea Mollis in variety, and the assortment of colours is grand. I would recommend all who force Rhododendrons to be careful to select suitable kinds for the work, as it takes double the amount of heat and time to get some of them into bloom at this season, than it does others. We grow about 200 varieties and so have had a favourable opportunity of noting the differences between them as to the time they come into flower. Those who have none should leave the selection to a respectable nurseryman, merely mentioning the the purpose for which the plants are required.—*J. C. F.*

Pelargonium Chelsea Gem.—This belongs to the silver variegated-leaved section of bedding Pelargoniums, and is in all respects a grand bedding variety, being robust yet neat and compact in habit, and the white variegations very pure. The flowers are pink.

VEGETABLES.

The Kitchen Gardener's Calendar.—Peas sown and subsequently treated as advised in the number for January 3rd last, may now be planted out in rows 4 ft. apart in a warm border, turning the plants carefully out of the pots and planting them with as much soil as possible adhering to the roots, with a garden trowel in the manner described at p. 283. Afterwards sow one row of round Spinach between the rows of Peas. As soon as the condition of the soil will permit of the work being done, plant out Shallots, Garlic, and Chives in beds 4 ft. wide, having an alley 1 ft. wide between each bed, and in rows 9 ins. apart and 6 ins. in the row. The Shallots may be inserted by the pressure of the finger and thumb barely under the surface of the bed, but the Garlic and Chives should be planted a couple of inches deep.

Make another sowing of Peas of any of the approved varieties which are found to succeed best in each particular soil or locality in drills 3 ins. deep and 6 ft. to 8 ft. apart. The seeds should be sown rather thinly —from 3 ins. to 6 ins. asunder—so that the haulms may have room to develop themselves and better results be secured in consequence. The same remarks also apply to Broad Beans, a sowing of which—Carter's Leviathan or Broad Windsor—should also be made in an open situation, in drills the same depth as recommended for Peas, and 3 ft. to 4 ft. apart.

See to the disbudding and sorting of pitted Potatos. Supplement last week's planting of Cauliflowers from pots by making a larger one with plants taken from cold pits and planted carefully with a little soil adhering to their roots in the manner advised at p. 347. Plant the pits so vacated with some of the earliest kidney-shaped Potatos in rows 12 ins. to 15 ins. asunder and 7 ins. in the rows, taking care that the young shoots are not broken off in the operation. Small plantings of Potatos should also be made on warm borders, where a little protection from spring frosts could be given if necessary. Make a small sowing of French Breakfast and Scarlet Short Top Radishes under a south wall between the fruit-trees.

Plant Jerusalem Artichokes in a good open situation in drills 4 ins. deep, 2 ft. asunder, and 10 ins. to 12 ins. apart in the row, and see that any bad bulbs that are among the store of Onions are removed forthwith to the rubbish-heap before they affect their neighbours.

Forcing Department.—Cover a few dozen roots of Rhubarb with deep pots or boxes, and these with 6 ins. or 8 ins. thick of long dung or leaves. Also cover a few rows of Seakale with improvised boxes, about 8 ft. long, 10 ins. wide, and 8 ins. deep, having a board of the same length and width for a lid, and sufficient leaf-mould over all to exclude light and air. Thus covered, providing the plants have been properly grown, Kale of the best quality may be looked for a month or five weeks later.

Earth up early Potatos by putting 3 ins. thick of soil between the rows. Maintain the supply of French Beans by sowing seven or eight seeds in 8-in. pots three parts filled with rich mould at short intervals, covering the seed with a little of the same compost, and afterwards placing them in a forcing-house. Top-dress successional batches when the Beans are about 3 ins. above the rim of the pots, and pinch the points out to make them branch. Sow Mustard and Cress every week, and see that there is a good supply of Mint and Tarragon kept up by potting up fresh roots occasionally. Maintain a good supply of Asparagus by planting additional frames, and afterwards, when the "grass" comes up, attend to the airing of the same.—*H. W. Ward.*

Perfection Brussels Sprouts: New Vegetables.—I should be obliged if some of your numerous readers would give their experience of the Perfection Brussels Sprout. We have grown a large quantity of it here this season, and of all the Sprouts I have ever seen this is the poorest. We have not one stalk in the whole lot worth the name of a Sprout. A great many new things are put into commerce every year bearing dashing names and sent out with glowing descriptions, yet which, when they come to be properly tested, prove to be not nearly so good as older kinds, and in a few years after causing disappointment, are no more heard of. This is not the case with all the new introductions, but it is with a great many of them; and as nearly every one likes to have something new, and many depend upon the new sort for a supply, the consequence is often a failure. Gardeners who have to keep up a constant supply of the different kinds of vegetables while they are in season, and who depend upon these new things, very often get into hot water with their employers for so doing. Therefore I would warn gardeners, and especially young ones, not to depend upon anything new for the main crop until they have previously tested it in a small way. By all means grow as many new things as ground can be spared for, but let them be only for a trial. If they do well grow them again, but do not depend upon them until you have grown them at least two seasons.—*W. C.*

New American Peas.—Three new varieties raised in the United States have found their way to England this season with a good reputation at the back of each. Since the American Wonder Pea came to this country a few years ago—a very useful, hardy, dwarf, early free-bearing variety, well suited for early exhibitions—English gardeners took more readily to Transatlantic Peas than they had hitherto done. American Wonder was the first Pea of American origin that has ever attained a world-wide reputation. It was raised by a native horticulturist, the late Mr. Charles Arnold, of Canada, by crossing Maclean's Little Gem with that standard variety, Fairbaird's Champion of England. A large number of seedlings came from a series of cross fertilizations of these two varieties, and all showing the most desirable qualities were subjected to further trials. The number was reduced from year to year by rejecting all that did not answer the expectations formed of them. Among the first seedlings selected by Mr. Arnold as the most promising were the two following varieties; and as with each succeeding year their desirable characteristics became more apparent and permanent, they were placed in the hands of Messrs. B. K. Bliss & Sons, of New York, for the purpose of being sent out:—American Wonder being an extra early variety, the first of the two to be described, Abundance, is a mid-season variety; it is of half dwarf growth, 15 ins. to 18 ins. in height, foliage large, thick, full, and dark green; pods nearly or quite 3 ins. long, roundish, and well filled, and containing six to eight large winkled Peas of excellent quality. One of the most striking features of this Pea is its remarkable tendency for branching from the roots, forming a thick bush. It is to all intents and purposes a free branching Pea, consequently the seeds require to be sown thinner than is usual, from 6 ins. to 8 ins. apart in the rows is the nearest that the plants should stand. It promises to make an excellent market variety, but in consequence of being scarce it yet commands a good price. The second is known as the Ever Bearing Pea. This is a late or main crop variety, being in bearing from mid-season to very late; height of haulm 20 ins. to 24 ins., foliage large, vigorous, and of a bright green colour; pods 3 ins. to 4 ins. long on the average, each pod producing eight Peas or thereabouts; pods large, and of fine table quality. It is a very free branching variety, so the plants should have plenty of room, and the seed sown much thinner than usual. If the ground is rich the plants should be quite 8 ins. apart. Probably we shall hear something of these Peas during the coming summer, as they have found their way to England.—*R. D.*

Fuchsia triphylla.—This beautiful Fuchsia has already been noticed in our columns (p. 52), and we observe that an excellent figure is given in the January number of *The Botanical Magazine.* There is little to add to the account already given, though it is interesting to find that in its native home of San Domingo it forms a round bush, not over 18 ins. high, every shoot of which is terminated by a raceme of orange-scarlet wax-like flowers. It is a plant of sterling merit, and of which we hope to hear more by-and-bye.

THE

Orchid Growers' Calendar.

On Potting East Indian Orchids.—Those who have finished potting their cool-house Orchids should now proceed with the Aerides, Vandas, Saccolabiums, Phalænopsids, &c., but where other matters are pressing, a week or a fortnight hence will do equally well, provided there are not too many to be seen to, in which case the shifting would last too long into the spring. A great many of these plants begin their growth actively in March, and I have always found it better to have them all finished well before that month comes in.

Baskets were formerly used for all Orchids of this class, and there is no doubt that they prefer them as they allow of a better supply of air to the roots. I have also found that Saccolabiums frequently produce much longer spikes when suspended in baskets, and that when so grown, the short, abruptly terminated spike, which is often a defect in S. Blumei when grown in pots, is done away with, and the infloresence assumes more the character of S. guttatum. The elongation of the spikes is brought about in the same way, as the tails of Cypripedium caudatum are made to grow to an extraordinary length by keeping them well away from the chance of contact; in this manner the tails of C. caudatum which had stopped growth on touching the stage, may be made to grow much longer by the plant being raised on an inverted flower-pot. So with Saccolabinms, even the chance of contact with any object often stops the growth of the spike.

This I first noticed when I had the entire mass of the original S. guttatum Holfordianum under my care, the first year it flowered on the stage, and were it not for the beautiful colouring of the flowers I should not have thought a great deal of it, but noticing the abrupt termination of the spikes, I concluded there was more in them than had been brought out, and so the next year, while the spikes were growing, I raised the plant high up over the shallow tank on the stage. The result was that the flower-spikes grew to an extraordinary length, and there being about a score of them, the plant was something to talk about. But there are drawbacks to the use of baskets to too great an extent. In the first place they are bound to decay sooner or later, and then the plants having covered them with their roots, are sure to receive a very rude check when the old baskets are removed preparatory to their being placed in new ones, and secondly, the baskets harbour insects. Therefore for general use, considered in all its bearings, there is nothing better than the common flower-pot, although for small or odd plants the baskets and rafts are very useful. When growing in pots, too, the proper growth of the flower-spikes can be secured equally well by the plants being raised well up during their growth.

Sphagnum moss is the best material in which to pot all East Indian Orchids, the pots being crocked rather more than two-thirds of the way up. Where the plants have many roots or long bare stems, it is better, after having trimmed away all the decayed portion, to place the plant as low down in the pot as desirable before crocking, and then to carefully place in the crocks and finish up with sphagnum, care being in all cases taken to divide the roots with the material used in potting in the same manner as they arrange themselves, and not to bunch them up together. In starting to pot in a house, it is best to clear a good space and thoroughly cleanse it, and then attend to the plants on the next portion, potting those which require it, and cleaning all, the plants being passed over to the clean space prepared for them as they are done, and the next portion thus made vacant cleaned and used in the same manner, and so on throughout the house. Where empty flower-pots are used for raising plants, these too should be washed as they are passed over, so as to destroy insects or fungus germs.

After re-potting, any of the leaves which have grown out of their place or got bent over, should be properly fastened and in a short time they will set right; Saccolabiums, Aerides, Vandas, &c., are liable to this, particularly when grown too close, and watch should always be kept on the young growth and the usual means be resorted to to keep it right if seen to be going out of its course. Until the plants begin to show signs of moving after re-potting, care must be taken not to give too much water, as it is particularly injurious to fresh-potted plants.—*James O'Brien.*

Temperatures for the Month.—The weather being so mild, considerable attention will have to be given to the heating apparatus in order to keep the temperature down, indeed in the cold-house it should be kept only just in hand, ready if frost sets in. The proper temperatures for the month of February are:—

Warm-house, East Indian, 65 degs. to 70 degs. by day, 60 degs. at night.

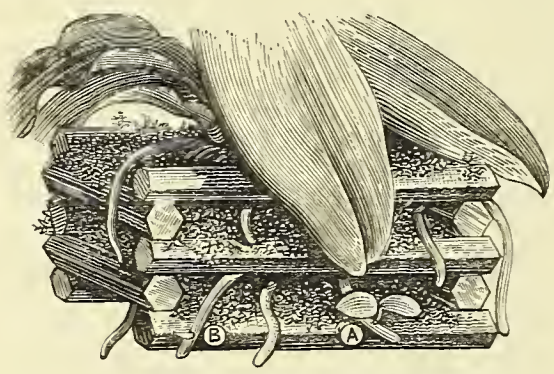
Cattleya or Intermediate-house, 60 degs. to 65 degs. by day, 55 degs. at night.

Cool or Odontoglossum-house, 50 degs. to 55 degs. by day, 45 degs. at night, Fahrenheit.

Air should be admitted freely in fair weather, a little being left on at the bottom all night in all the houses.—*James O'Brien.*

ORCHID NOTES.

The Propagation of Phalænopsis.—Hitherto I knew three different methods of increasing one's stock of this grand Orchid—*i.e.*, from seeds, from runners, and by division of the plant. I have never been able to obtain seed from my plants, but I am aware that more skilful cultivators have succeeded in maturing



PLANTS ON THE ROOTS OF PHALÆNOPSIS.

a few pods. As to the vegetation of this seed in our climate it is a different matter, none, to my knowledge, has ever germinated. It is only from hearsay that I know that it is possible to obtain plants by this method. If my informant is correct, Messrs. Veitch have succeeded in crossing some varieties and in obtaining seedlings. We may one day, how far remote I cannot say, hear of them and be presented with remarkable hybrids.

The second method of propagation is well known. P. Luddemanniana and P. Schilleriana will frequently produce a little plant at the extremity of a flowering spike. A few weeks after the blooming is over this runner will throw off a few roots. If it is then cut off and planted it will grow and bloom the following season.

The third method of increasing the stock is the best for such species as P. amabilis, grandiflora, Sanderiana, violacea, &c. The crown of a strong growing plant will frequently break into two or even three leaders. I have at present two plants of P. amabilis having each three new crowns. After a time each leader produces roots of its own, and the old specimen can then be subdivided without difficulty.

I was not aware till recently that there was a fourth method, and I wonder if it is known to all amateurs. I have a plant of P. Schilleriana growing in a basket, and some time ago a few of its roots were disturbed and bruised, or rather pricked, near their extremities. A green speck soon appeared there, and for days it did not seem to alter, but, upon close investigation, it resolved itself into a tiny leaflet. Later on the speck increased in size and gradually a second leaflet appeared.

I have now on one root a little plant with two small leaves (as shown at A in the above illustration), which I shall shortly remove and pot singly. A second speck (B), now increasing in size, will enable me to repeat the experiment. If a puncture on a root can really superinduce the formation of a plant, the propagation of Phalænopsis will be a matter of great simplicity, for these plants produce roots in abundance.—*A. F. L.*

Orchids in Flower.—Some beautiful varieties of the pretty little Pleione humile are in flower with F. A. Philbrick, Esq., Q.C., at Oldfield, Bickley, well illustrating the variability of the species. One extreme variety has pale lilac flowers, with the fringed lip profusely spotted with rose, and another has blush flowers with yellowish-brown markings in the throat. The plants which are in the most vigorous health are grown near the glass in a cold house and kept always moist.

Choice Orchids from Cheltenham.—Mr. James Cypher, of Queen's Road Nursery, Cheltenham, sends a sample of the flowers of some of the Orchids which he grows so well, viz., a grand spike of Barkeria Skinneri, with bright rosy-mauve flowers, each 1½ ins. across. It has been in flower for more than two months, and was grown on a bare block suspended at the cool end of a Cattleya-house and kept always wet. Lælia anceps Barkeriana, with flowers 4½ ins. across and dark purplish-crimson lip; a most perfectly formed and large-flowered Odontoglossum Rossii majus; an equally fine Dendrobium luteolum chlorocentrum; a giant form of Lycaste Skinneri delicatissima, with flowers over 5 ins. across and sepals 1¾ ins. wide; and a grand spray of Odontoglossum Cervantesii, with seven flowers which have been open two months and are still fresh. Mr. Cypher has many with seven flowers on a spike, and that proves that it likes his moist cool treatment. He has also a plant of Odontoglossum Hallii showing five strong spikes.

Cattleya Percivaliana.—This neat and lovely Cattleya is flowering well in most collections. Mr. Percival's two immense specimens have turned out grand varieties, and his many ordinary plants show very fine and varied forms. Among distinct forms of it, Mr. Hardy, of Timperley, has a lovely one with a very bright lip, having a broad lavender-coloured edge, which gives it a very handsome and distinct appearance.

Dendrobium Hasselti.—In the January number of *The Illustration Horticole* is a good figure of this plant, which, though not one of the lions of the genus, is still a very pretty plant. The racemes bear two or three pale rosy-purple flowers, and are produced along the old pseudo-bulbs, as in the D. nobile group. It is a native of the Indian Archipelago.

The Orchid Album.—The Orchids illustrated in the current number of this publication are Lælia peduncularis, Dendrobium cunentum, Odontoglossum Pescatorei, and Cyrtopodium cardiochilum.

FLORICULTURE.

Cyclamens for Market.—Cyclamen culture in a wholesale way for market, has hitherto been confined to a few noted growers, but the number seems to be increasing if we may judge from the quantities now brought to market. Some three or four years ago, the culture of this beautiful plant on a large scale was commenced by Messrs. H. Page & Sons, of The Grove Nursery, Teddington, and if anyone desires an illustration of the thorough way in which any plant is "done" when taken in hand by a market grower—the Cyclamens in The Grove Nursery will furnish one of an undoubtedly excellent character. During the last three weeks and especially before bulk was broken, the show of flowers in the long, low span-roofed houses, was a sight to be remembered, and though now some thousands have been sent away, those daily coming into saleable condition, and especially the splendid lot of plants which are being kept for seeding, in themselves form an exhibition of Cyclamens of a truly admirable character.

The Messrs. Page cultivate their plants on the modern principle of keeping them growing from start to finish, and a perfect market plant in a 48-size pot, with from twenty to twenty-five flowers standing well above the foliage is obtained in fourteen months from the time of sowing the seeds. For market work the Messrs. Page prefer the best type of persicum to the grandiflorum or giganteum strains, on account of their neat and compact habit and beautifully marbled foliage, and they also like those plants which throw their flowers some 3 ins. or 4 ins. above the foliage, these being considered the most useful for decorative purposes. But very few of the plants are grown in larger sized pots than 48's, and the compost used is good turfy loam and leaf-mould, with a little bone dust. They are grown in a temperature not allowed at any time to fall much below 50 degs., and great care is taken to keep the plants free from insects, and especially free from thrip during the summer months.

By selecting with great judgment the strain of persicum (true) has been improved to a remarkable extent of late years, and in this work the Messrs. Page are taking an active part, as the batch of plants selected for seeding bear witness. Every one of these may be said to possess merit in the highest degree, and should in turn produce even something better. The whites are very pure, and range in colour at the base from a delicate shade of mauve to a full purple tint, and some are delicately scented. Others of them are of the colour of Phalænopsis Schilleriana, a novel colour in a Cyclamen. The reds as well as the purples show a great range of tint between the lightest and darkest forms, and among the former we noted some with pale green flower-stalks, an unusual occurrence with the red-flowered varieties. The rose and cerise-coloured flowers are charmingly pretty, affording tints of colour that cannot be described, at least by us. The stock for next year consists of 30,000 seedlings, which are now being potted off into small 60's, and if all goes well with them, the Messrs. Page should in 1886 have a show second to none.

DWARF SCABIOUS.

These are well done in pots by Mr. J. Roberts, of Gunnersbury Park, Acton, and so successful is he with them, and so useful are they for cutting from in the autumn and winter months, that the wonder is more gardeners do not grow them to assist in giving a supply of flowers at the dullest season of the year. We are familiar with the tall old German Scabious from our childhood. The generic name, Scabious, is from the Latin *Scabiosa*, scurfy, from *Scabies*, scurf, in allusion to its scaly receptacle. The pretty Field Scabious, with its charming lavender - coloured flowers, will be known to many. This is Knautiæ arvensis, so-named in honour of Dr. Knaut, a physician and naturalist of Halle, in Saxony. The dwarf strain of Scabious is of German origin, and instead of growing to the height of 3 ft. or 4 ft., they do not get beyond 18 ins. to 2 ft. The flowers are as large and handsome as those of the tall German type, and as varied in colour; the rich maroon-coloured ones are very striking, while the rose, mauve, pink, blush, and white are pleasing also. The white-flowered and pale varieties appear to possess the best habit of growth, but all are free branching, a good plant furnishing an immense number of blossoms.

Mr. Roberts sows his seeds in April, which he considers the best time, to have the plants in flower in November and December. As soon as the plants are large enough, they are potted singly into 60-sized pots, and placed in a cold frame, then shifted into 32-sized pots, and again into 24-sized pots. During the summer they are stood out in the open, and made as hardy and stocky as possible, and well looked after in the matter of watering. They are kept in the open-air as long as possible, and when it is necessary to do so, are placed in a cold frame, and as they show signs of flowering, stood on a shelf in front of the glass crecture covering the Peach wall. The act of cutting induces fresh growth, and these flower in their turn. So pleased is Mr. Roberts with these pretty Scabious, that it is his intention to use them for bedding purposes next season, and for this purpose he will sow seeds during the present month, pot them off as before, and then bed out in May in the ordinary way. In bedding out in this way, the plants should be grown as dwarf and stocky as possible, and on no account should they be allowed to become drawn. If some seeds be sown in the open border in spring, the result cannot fail to be satisfactory.—*R. D.*

IDESIA POLYPHYLLA.

This remarkable tree is a native of Japan, where it is found under cultivation as well as in a wild state. It is a tree some 40 ft. to 50 ft. high, with straight trunk and numerous horizontal spreading branches, forming a broad rounded head somewhat resembling a Catalpa. It is quite hardy in this country. The female plant flowered in the Kew Arboretum last midsummer, and is represented in the January number of *The Botanical Magazine*. The bark is white or yellowish, the leaves drooping, with long stalks and an oblong cordate or orbicular outline, with distant serratures, deep green in colour and from 5 ins. to 10 ins. long. The flowers are ½ in. in diameter and yellowish in colour. The berries are numerous, as large as small Grapes, orange-yellow in colour, and with a greenish pulp. They are said to be eatable, though probably not worth eating, as they stain the herbarium paper dark brown or black, and would, perhaps, have a similar effect upon the mouth. It seems to have been first mentioned by Professor Oliver in 1864, from a fruiting specimen collected by Oldham, under the name of Kara Sendau, and to have been fully described two years later by Maximowicz, the Russian traveller and botanist, in commemoration of Ides, who undertook an exploration of China early in the seventeenth century. It was introduced to European gardens by Dr. Regel, of St. Petersburgh.

Letters to the Editor.

THE ROYAL BOTANICAL GARDENS, OLD TRAFFORD.

A Manchester paper having recently published a notice of some plants which have lately been added to the collections in these gardens, I shall feel greatly obliged by your kind insertion of this letter, in order that the public may know something of our present requirements and recent proceedings. About four years ago we found that the old range of glass-houses, which had been standing for fifty years, was worn out, and its removal became imperative, consequently it was taken down and a new range was built, not so imposing as the old one, but far better adapted for cultural purposes. Two years later it was found that the exhibition-house was not safe; this also had to be demolished and the present fine house was built. These improvements have been effected at a cost of £6,000. This amount has been raised partly by the creation of life members, partly by the successful Whitsuntide exhibitions, and partly by donations from friends of the Society. When the present magnificent exhibition-house was finished many gentlemen who had plants which had grown too large for their houses and who had also a desire to embellish the building, presented some fine specimens of various kinds. These, with some of the old plants saved from the old houses in the garden, numbering together 200 fine plants, are at the present time in the exhibition-house, and form a magnificent spectacle. Now, inasmuch as the whole of these plants will have to be removed to make room for the great annual display at Whitsuntide, and, inasmuch as we have no house to protect them, are they to perish? This must be the case to a certain extent unless a suitable home be provided.

Our only sources of income are derived from annual subscriptions, life membership, and receipts from exhibitions. I mention this because it was only yesterday, when asking a gentleman for support, he asked me, "What amount do you receive from Government?" It is an unfortunate circumstance that the need for these extraordinary items of expenditure should have come upon us all at once, but it is, of course, a circumstance over which no one has had any control. The exhibitions of horticultural produce, which for so many years have taken place here, have been among the most attractive events in Lancashire; liberal rewards have produced keen competition, and gardeners know that to be the gainer of a prize at Manchester is to stand at the head of their class. Knowledge has been sought for, and improved methods of cultivation have been gradually discovered. Horticulture is the parent of agriculture. It determines on a small scale the value of the principles on which an extended cultivation of the soil depends. It is associated with our food, our wealth, and many of our social enjoyments.

It is very gratifying to read in the public prints of large sums being given from time to time for purposes of art study and the preservation of art treasures. Surely it is of equal importance that a suitable home be provided for nature's treasures. In the best periods of art the science and art of gardening was united to the sister arts of architecture, sculpture, and painting. Then the same feeling pervaded and the same principles regulated them all, and if the misuse and misapplication of these principles in later times have forced again upon us the simple study and imitation of nature, individual arts have suffered by their disjunction, and it is satisfactory to know that they are now more combined. It is very generally admitted that the Manchester Botanical Society has been for many years doing important public work. At the annual meeting of the society two years ago the President of the institution said: "In merely a utilitarian and material point of view, he had no doubt it had a great deal more than repaid any expenditure which it had caused, but far above and beyond that he was quite certain that in a place like Manchester and a county such as Lancashire, it furnished a civilizing and humanizing agency with which they could not afford to dispense." I may state that the sum required is £2,000, and it is earnestly hoped that this sum will be raised by an extension of membership and donations from ladies and gentlemen who have the means to assist so worthy an object.—*Bruce Findlay, Old Trafford.*

A COTTAGE GARDEN IN ESSEX.

I was greatly interested in the leader in your issue of January the 24th on Teetotal Gardening, and especially in your reference to the Birmingham gun-finisher's garden. If you will allow me I will endeavour to give you a short sketch of a cottage garden in the south-eastern county of Essex. Being an agricultural county, the cottager is, of course, a labourer, his working hours being from 5 o'clock a.m. to 5.30 p.m., and his average wage 15*s.* per week. No sooner is the day's work finished and supper (or tea) over than he is busy in the garden, and besides what is termed the "home-garden" he has 20 rods of allotment, for which he pays 7*s.* 6*d.* per year, the home-garden being about one-half the size of the allotment. Like the Birmingham gun-finisher, our cottager is fond of his garden, and is not only able to boast of having space for a few things, but sufficient to supply the family with vegetables the whole year, Potatos, of course, predominating, while various other vegetables receive their share of attention. But the flower-garden is one of the chief objects of interest, being a strip on the left hand side leading to the front door, about 15 ft. long and 5 ft. broad, with a rustic edging of large stones, inside which is a row of red and white Daisies, while the border itself is planted with Stocks, Wallflowers, Pansies, &c. In spring a row of Crocuses may be seen peeping through, inside the row of Daises, and, later on, a few Tulips join in welcoming the coming summer. During the summer it is generally gay with annuals, Candytuft, dwarf Nasturtiums, Mignonette, &c., while at the back of the border space is afforded for two or three standard Roses, the Briars having been planted and budded by the owner.

Window gardening, too, receives a liberal share of attention, the chief subjects grown being Pelargoniums, Zonal and French, a Fuchsia or two, and a Begonia Weltoniensis, which grows and flowers uncommonly well, in fact seems "quite at home." A small piece of the kitchen-garden has recently been set apart for a few Dahlias, which are great favourites, and, in spite of its being only a cottage-garden, flowers of sterling merit are to be found in it. Both the scarlet Cactus

Dahlia, Juarezi, and the white one, Constance, have found their way there, and are much prized, while the opening of any newcomer is looked forward to with as much interest as any gentleman anticipates the flowering of a new and rare Orchid. In spring, when they are planted out they are carefully watched, and every flower-pot, old tin, &c., available is brought into requisition to keep John Frost at bay. The cottage is a thatched one, and during part of the year the front is gay with Everlasting Peas. It was at one time covered with the old monthly Rose, but this disappeared several years since. At the southern end is a Grape vine, but in some respects fate seems to be against it; however, it makes a bold struggle for existence, and yields a few bunches of black Grapes in return for the attention bestowed on it.

Although the cottager in question is not (like the gun-finisher) a teetotaller, he is strictly a temperate man, and his garden has for him a decided counter-attraction to the public-house. A cottage with such surroundings must be to the working-man indeed a home, and it would be well if more of the working-class could be persuaded to spend their spare time in their garden, instead of wasting their time on objects which conduce only to their social and moral injury. I regret to say many of the cottage gardeners in the district where the subject of my sketch is located seem less enthusiastic in gardening than formerly. In my opinion the cause is not far to seek. There was, until some six or seven years ago, a Labourers' Friend Society, which held yearly meetings and offered a number of prizes for cottage-garden produce, as well as a prize for the best kept cottage and garden; but for some reason—I never knew why—the society ceased to exist, and since then the labouring class of the district seems less interested in their gardens. It is my opinion that such societies tend very much to encourage good gardening, and on that account deserves every encouragement.—*F. S. B.*

THE NATIONAL CHRYSANTHEMUM SOCIETY.

I HAVE read your leading article, at p. 339, on "Prizes and Awards," in which you referred to the proposed alteration of the champion class for forty-eight cut blooms in the schedule for our next November Exhibition, and without referring to the somewhat startling, and certainly novel, proposition of offering a lump sum for each class, the judges to apportion the amount according to their views of the respective merits of the exhibits, permit me just to remark that, in my opinion, competitors very much prefer generally to know the actual amount of the respective prizes before entering into the competition.

Judges will doubtless express their own views on the proposed "new departure," and will also, no doubt, fully recognize the additional responsibility they would incur if your suggestions were carried into effect. [It is not a question for the judges so much as the exhibitors who make the Show.—*Ed.*] However, my object in addressing you is to call attention to a slight inaccuracy in your reference to our champion cut bloom class.

Hitherto we have had a class for forty-eight blooms, consisting of twenty-four Japanese and twenty-four incurved. This year we offer prizes value £10, £7, and £4 for forty-eight (not twenty-four, as you state) Japanese blooms, and a similar class for forty-eight (not twenty-four) incurved blooms, thus creating a champion class for each section, instead of combining the two in one class, a practice that judges and competitors alike have long since characterized as unsatisfactory for obvious reasons.

I venture to predict that these prizes will bring together such a table of blooms as has rarely, if ever, been hitherto seen.—*William Holmes, Hon. Secretary, Frampton Park Nurseries, Hackney.*

APRICOTS UNDER GLASS.

APRICOTS are very impatient of confinement, and therefore, if "Constant Reader" (p. 350) puts up glass over the trees on his south wall, he should be particular to have the house so constructed that air can be admitted freely both top and bottom, and to secure plenty of light by using no more wood than is necessary, and if he works on the lines here indicated, there is no reason why he should not succeed just as well with Apricots as with Peaches, as the only difference in treatment of the two is that referred to.—*Alpha.*

POTATOS FOR AN AMATEUR.

As a Potato grower both for table and exhibition, I have been deeply interested in the replies given to a "Sussex Amateur," who inquired in THE GARDENING WORLD for a dozen sorts alike good for cropping, table, and exhibition. On January 17th three replies were given, and "Sussex Amateur" reviewing these answers on January 24th, seeing the difference in the selections given, is perplexed as to which sorts out of the lot to select; and last week "An Ex-Sussex Amateur" attempts to solve the difficulty by having a dig at the recommendations given by "D.," and commending the selections of Mr. Kerr, Dumfries, and Mr. Knight, of Bilston, but does little beyond this towards cutting the Gordian Knot. Taking the lists of the first three correspondents, I do not detect a single variety recommended which has not got its merits; but I think the lists may be narrowed down into twelve sorts of superior merit, that may perhaps be of advantage to "Sussex Amateur" and other readers of THE GARDENING WORLD.

Taking the four lists I find, to begin with, that Beauty of Hebron, early coloured kidney, is recommended in three instances; and I place this first, as a better early Potato does not exist for general purposes. Reading Russet, light red round, is given in two of the lists; I place this second, as it is a perfect gem for exhibition, the tubers being so well formed and the quality and cropping excellent. Besides being a second early variety, the ground can be cleared in time for planting autumn crops. In white rounds, Sutton's Early Border occurs in two of the lists; this makes a first-class third in every respect. Vicar of Laleham, purple round, comes out in three of the sets recommended and The Dean in two; either will prove a grand fourth. In white kidneys, Cosmopolitan finds favour in two sets, and it cannot be dispensed with in a collection of twelve sorts. It has also been shown prominently in collections of three and six at the great Shows last year. In this we have our number five. Woodstock Kidney has two recommendations, and I place it sixth. For seventh and eighth I find Schoolmaster and Radstock Beauty also with two recommendations, and I esteem them both. The former needs special soil and cultivation, but when well grown is the finest of all white rounds for exhibition. Four sorts are now wanted to make up the dozen, and if I had the casting vote I should give it to Grampian, Prizetaker, International, and Mr. Breesee, the two latter being indispensable for exhibition, although of only second quality.

If "Sussex Amateur" grows the above twelve sorts and adopts the culture recommended by Mr. Kerr, he can afford to dispense with the other sorts recommended by your four correspondents, candidly believing, as I do, that out of the seventy or eighty sorts grown by me I could not, keeping three points in view—viz., cropping, quality, and exhibition use, pick out a better twelve Potatos. Probably "D.," as well as myself and others who know something about Potatos, may afford to smile at the attacks of "Ex-Sussex" for recommending deep trenching and new sorts. Experience proves these to be two essential points in successful Potato culture. With the exception of probably two in the above list all are new introductions within the last eight years, and I would like to ask "Ex-Sussex" if he can produce twelve dishes from twelve older sorts at all approaching them? It would, however, be folly for a young beginner in Potato culture to depend upon new sorts alone. I have new sorts of last year and shall probably buy others this season that I shall not consider after a fair trial worth keeping; but when modern introductions pass the test of experience and years of successful trial, it is equally absurb to discard them altogether.—*T. Willoughby, Bilston.*

Can "Ex-Sussex" be a professional gardener? If so his knowledge seems to be of a very queer kind. I am at this moment having a large breadth of ground trenched 2 ft. in depth, expressly for Potatos, and the subsoil is of a stiff retentive clay. Yet I shall not bring any of it to the surface. The whole of the well pulverized top soil remains on the top still, and the subsoil is broken up a spit in depth with a fork, and thus the ground is well prepared for the reception of Potatos presently. Then, with the aid of some manure and ashes of burnt refuse, I shall, no doubt, in a few months, raise some grand crops of tubers.

I think a "Sussex Amateur" can hardly do wrong if he adopts the same course in preparing his soil, for the advantages of deep tilth for summer crops cannot be over estimated. Whatsoever may be others' estimate of the width at which early kinds of Potatos should be planted, I can tell my critic that of the kinds I named, in well trenched and manured soil, rows 3 ft. apart are none too wide, whilst of strong growing kinds 4 ft. leaves no waste space. As to my selection, I hope I know what I recommend, and as the selection was to include at once good garden kinds and also those suitable for show, I should not mind backing my selection, if well grown, to beat any other selection made, and is second to none in table quality. Some, of course, are too new to be known to "Ex-Sussex," I do know them as well as the other sorts named, and can assure him that the nonsense written about new kinds of Potatos is not to be found on my side.—*D.*

ANSWERS TO CORRESPONDENTS.

BOOKS.—*B. N. T.*—*Fruit Farming for Profit* (F. Bunyard, 29, Week Street, Maidstone), and Shaw's *London Market Gardens* (37, Southampton Street, Covent Garden) will perhaps suit you. Both are cheap. We do not know of one book which treats on both subjects.

CAULIFLOWER, CELERY, &c.—*B. N. T.*—Your question is not clearly put—please repeat it in a more explicit form.

LADY DOWNE'S GRAPE.—*A. F. W.*—Mr. Barron, in his *Vines and Vine Culture*, states that this valuable late Grape was raised by Mr. Foster, gardener to Viscount Downe, Benningborough Hall, York, about the year 1835. It was first exhibited before the Horticultural Society ten years later, and sent out by Messrs. Backhouse, of York. Its parents were the Black Morocco and the Sweetwater, the latter being the pollen parent, and from the same cross came the equally valuable Foster's Seedling.

NAMES OF PLANTS.—*C. W. K.*—1. Cœlogne cristata. 2. Azalea amæna. 3. A poor variety of Sophronites grandiflora.—*Jason.*—A good form of Odontoglossum Rossii majus, but certainly not the variety rubescens.—*Ixio.*—Azalea, Fielder's white.—*Ireland.*—1. Pteris hastata. 2. Asplenium Adiantum-nigrum. 3. Peteris cretica albo-lineata. 4. Pteris serrulata. 5. Euphorbia Jacquiniæflora. 6. Adiantum gracillimum.

SCARLET RUNNER BEANS.—*E. M. W.*—You must not sow the seeds until the end of April or the beginning of May, as the plant is very tender and easily cut down by late spring frosts.

TOMATO FOR OUTDOOR CULTURE.—*B. N. T.*—The old common Red Tomato is the sort most largely grown by the market growers round London.

VITALITY OF SEEDS.—*B. N. T.* asks how many years the seeds of the following vegetables retain their vitality:—Beet, Cabbage (including Cauliflowers), Carrots, Turnips, Parsnips, Onions, Leeks, Radishes, Lettuce, and Parsley. Can any of our readers refer him to any information on the subject?

EUCHARIS.—*J. A. K., Croydon.*—It is not Eucharis candida, Sanderi, or amazonica, but appears to be an intermediate form, coming nearest to candida. It is probably an imported species. How long have you had the bulbs?

COMMUNICATIONS RECEIVED.—J. H.—J. C.—W. C.—Ch. Joly—Em. Rodigas—J. S. T.—H. W. W.—W. H.—C. W.—F. S. & Co.—W. P. R.—Scribo—D. Simcoe—T.—Authentes.

Trade Catalogues Received.

H. CANNELL & SONS, Swanley, Kent.—Illustrated Floral Guide for 1885.

GEORGE WHITE, Carriage-hill House, Paisley.—Florists' Flowers, Bedding Plants, &c.

NOTICES TO CORRESPONDENTS.

THE EDITOR *begs to inform his readers that special attention will be paid in the columns of* THE GARDENING WORLD, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "THE EDITOR."

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's bona fides. No notice whatever will be taken of anonymous letters.

LONDON SEED TRADE.

February 4th, 1885.

MESSRS. HURST & SON, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small attendance at to-day's market, and a moderate demand for agricultural seeds. No change in the values of Clovers and Perennial Rye Grasses. Italian Rye Grass is dearer. Tares are also held for an advance. Bird Seeds and Blue Peas unchanged.

COVENT GARDEN MARKET.

February 5th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 5 0	Kent Filberts and Cobbs, per 100 lb.	55 0-
— Nova Scotian, per barrel	10 0-15 0	Pine-apples, Eng., lb.	1 0- 2 0
— Extra samples	18 0-21 0	Pears, French, p. doz.	6 0- 9 0
Grapes, per lb.	3 0- 5 0	St. Michaels	5 0-10 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	- 0 1	Horse Radish, bundle	3 0- 5 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	2 0-
Brussels Sprouts, p. lb.	0 4-	— Cos, each	0 2-
Cabbages, per dozen	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	2 6- 3 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 9- 1 3	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	0 9- 1 6
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Narciss, Paper White	2 0- 3 0
Azalea, 12 sprays	1 0- 1 6	Pelargoniums, per 12 sprays	1 0- 2 0
Bourvardias, per bun.	1 0- 1 6	—scarlet, per 12 sprays	0 9- 1 0
Camellias, 12 blooms	2 0- 4 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 6- 3 0	Poinsettia, doz. heads	3 0- 9 0
Chrysanthemums, 12 bunches	-	Primula, double bun.	1 0- 1 6
— large, 12 blooms	2 0- 4 0	Primulas, Chinese, bun	6 0- 8 0
Cyclamen, doz. blooms	0 3- 0 9	Pyrethrum, 12 bun.	-
Cineraria, per bunch	1 0- 1 6	Roses, outdoor, 12 bunches	-
Epiphyllums, 12 blms.	0 4- 0 6	Roses, indoors, p. doz.	2 0- 6 0
Eucharis, per dozen	4 0- 8 0	Roses (French), per doz.	1 6- 3 0
Gardenias, 12 blms.	18 0-30 0	Stephanotis, 12 spr.	-
Heliotropes, 12 sprays	0 6- 1 0	Tuberoses, per dozen	2 0- 4 0
Hyacinths, Roman, doz. sprays	1 0- 1 6	Tulips, per doz.	1 0- 1 6
Lapageria, white, 12 blooms	2 0- 3 0	Violets, doz. bun.	1 6- 2 0
Lapageria, red, 12 blms.	1 0- 2 0	— French, doz. bun.	2 0- 3 0
Lily of the Valley, doz. sprays	1 0- 2 0	— Parma, doz. bun.	7 0- 8 0
Marguerites, 12 bun.	4 0 -9 0	White Jasmine, bun.	0 6- 1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Genista, per dozen	15 0-24 0
Chrysanth., dozen	-	Hyacinths, doz.	8 0-10 0
Cineraria, per dozen	9 0-15 0	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargoniums, scarlot per dozen	4 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	18 0-24 0	Solanums, dozen	9 0-15 0
Evergreens, in var., per dozen	6 0-24 0		
Ferns, in var., dozen	4 0-18 0		

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TO ADVERTISERS.

ADVERTISERS are requested, in order to save time, to address all Letters relating to Advertisements to THE PUBLISHER; and Advertisements for the current week's issue must reach the Office not later than the first post on Thursday Morning. "Stop" Orders cannot be received after the same hour.

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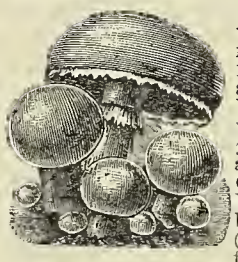

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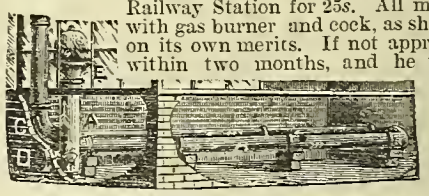

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WEDNESDAY NEXT.

Lilium auratum, Roses, and Plants from Belgium.

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MESSRS. PROTHEROE & MORRIS have received instructions from Messrs. SHUTTLEWORTH, CARDER & Co. to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY Next, February 20th, at half-past twelve o'clock precisely, a grand importation of WHITE LÆLIA ANCEPS, including many magnificent masses with two, three, and four hundred bulbs; also Odontoglossum crispum (Alexandræ) of the finest type in large masses and splendid condition, Oncidium Kramerianum, Cattleya Trianæ, Lælia majalis, L. autumnalis, Epidendrum nemorale, &c.; also established Masdevallia chimæra, M. racemosa Crossi, N. trochilus, M. Harryana, and M. Shuttleworthi.

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MESSRS. PROTHEROE & MORRIS beg to announce that their next SPECIAL SALE of FLOWERING ORCHIDS will take place on TUESDAY, February 24th, and they will be glad to receive entries by the 17th inst.

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February 11th, 1885. CLOVENFORDS.

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READING.

Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, FEBRUARY 14*TH*, 1885.

Carpet-Bedding.—The very elaborate, and, when planted, beautiful design in carpet-bedding, illustrated last week, serves to remind us that this fashion in flower-gardening is not scotched yet; nay, it would seem as if it were as popular as ever, for in not one single garden, public or private, in which carpet-bedding is practised does it seem as if its charms were fading. No doubt there are objections to this style of filling flower-beds that are, from the objector's point of view, reasonable and just. Beds of that sort in no respect accord with old-fashioned methods of flower-planting, and they seem altogether out of accord with those styles found in mixed planting, wild gardening, or similar unstudied methods of disposing of garden flowers. But then there is even in what is called natural or unstudied planting much monotony, for the same effects always result; the divergences, if any, depending rather upon variety in plants and habit than on anything else.

Many gardeners who have natural capacities for elaborating intricate or even beautiful designs in bedding, naturally feel their abilities are restricted if tied to the creation of such planting effects as shall be the most simple and devoid of taste. That natural aptitude will force itself to the surface in some way, and many a man who otherwise trained would have made a good artist or designer in other materials, has perforce been compelled to limit his artistic skill to such scope as carpet-bedding affords. Thus art of a peculiar kind has been served, and a new interest has been aroused in decorative gardening.

We may take it for granted that the first development of summer-bedding which displayed itself some forty or fifty years since with such tender plants as Fuchsias, Heliotropes, Verbenas, Petunias, Lobelias, Scarlet Pelargoniums, was really little else than a revolt against the humdrum decorative efforts of old days. From various sources interesting additions had been made to a limited selection of soft-wooded plants, which proved to be singularly floriferous, and, planted in masses, productive of effects more enduring and gay than ordinary hardy border plants afforded. Just then, also, glass-houses and frames were becoming cheaper, and systems of heating for the exclusion of frost were being rapidly developed, and so special stimulus was given to the growth largely of what now have become stereotyped as bedding-plants.

But carpet-bedding, as now seen, was a product of slower growth, because we needed for its full development not only artistic skill in the designer, but also many suitable plants, and these requirements were but slowly introduced. We have now not only men who design and plant carpet-beds with wondrous skill and perfection, but we have also almost a wealth of plants that lend themselves to the purpose, so that happily just as the demand for carpet-beds grew, elements to create them have arisen. We should really be thankful for this style of bedding that it has given to us the means of employing many interesting plants, the which otherwise would have been regarded with contempt, or perhaps would not have been found at all in gardens.

Then there is that about all carpet beds not seen in other planting, and that is the permanence of the designs, indeed they are progressive as well as permanent for charming as any bed may be when first planted, it does but seem to improve with age, and thus the oftener seen the more thoroughly enjoyed. It is very instructive to note how the million when gathered in some of our public parks or gardens, will pause and cluster in admiring crowds around some carpet bed. They are not of course educated judges of what is appropriate or correct, nay, they do not trouble themselves with arguments on taste or fitness. To them the bed is a picture. It is a harmony, for spite of its many intricacies and varied plants, it is yet well-balanced, in no sense garish, and reflects itself upon the eye with a singularly pleasing effect. No admiration can be more gratifying than is that thus involuntarily acknowledged by the admiring crowds who are pleased and delighted beyond measure with a good "Lobster Salad-bed." To say that the *vox populi* is the *vox dei* is rather a far fetched assertion, but certainly in matters artistic, there seems to be a genuine capacity in the untutored mind to pick out that which is really beautiful, and loudly to express its admiration.

It is perhaps a mistake in the planting of any carpet bed to make the design too intricate; the forms large and small should always be even and distinctive, yet not too broadly apparent through the use of distracting colours. Greens, greys, pinks, blues, bronzes, and similar tints happily blended, evolve more pleasing effects than do those designs which include striking contrasting colours. Thus we find very many of the green, silvery, and bronzy hued succulents to be exceedingly pleasing when employed, and singularly striking are those dense-growing moss-like plants which naturally make soft and effective carpets. The green Herniaria glabra, Pennyroyal, and Sedum Lydium, cannot be well excelled; neither can the silvery Sedum glaucum, and S. acre elegans or Antennaria tomentosa. Of golden carpet plants the Golden Spergula, and compact habited Golden Feather are most valuable, and the Alternantheras that propagate so freely and give such beautiful though subdued reddish and bronzy tints are indispensable in the creation of varied and striking carpet designs.

Perhaps some large beds have a flattish aspect, because they have no raised surfaces or lack those dot or dress plants which many good designers employ to such great advantage. All carpet beds should be somewhat raised, if not over their entire area at least in their centres. Most designs will readily lend themselves to such elevation, and the introduction of but a few suitable dress plants, materially helps to enliven any bed howsoever large its area. The objections made to the labour involved in planting and keeping neat a number of carpet beds are of little moment, weighed against the many compensatory advantages which result. Gardening would be robbed of its chief charm if those who garden were not permitted to exercise their varied tastes in whatsoever way they esteem as best adopted to give pleasure and delight.

Proposed Orchid Conference.—We are pleased to hear that the Council of the Royal Horticultural Society propose to hold a Conference on Orchids, in the large conservatory at South Kensington, on Tuesday and Wednesday, May 12th and 13th, and at which the President, Sir Trevor Lawrence, Bart., M.P., will very appropriately preside. The Council hope to assemble at the proposed Conference a thoroughly representative exhibition of Orchids, embracing plants in flower and in seed as well as cut blooms, and, with the hearty co-operation of the leading amateur and trade growers assured, there should be no doubt about the result, though the date selected be somewhat late. With respect to the plants in flower little need be said, as no doubt every collection of note will be well represented, but with regard to the plants bearing seed, let us hope that every possessor of such will send them, as everything connected with the fructification of Orchids is of special interest, giving, as it does, a new and sure point from which to study and determine the plants. When both natural and cross fertilization of Orchids is more extensively gone into new light will be shed on many points which are now considered knotty. Of course it would be useless to say that seed bearing does not draw on the strength of the plants, but now that they are properly grown in healthy temperatures the ill effects is but slight, and only results in checking the plants a little, without injuring their health. It is therefore to be hoped that amateurs will at once fertilize any odd species they may have, as the subjects will be interesting even in the earliest stages of development. Those who have perfect seed-vessels on imported plants would do well to preserve them carefully, and send them to the Conference correctly named. From the programme before us we learn that the plants will be staged in the conservatory, where the atmosphere will be specially attended to, so as to ensure in all respects the well being of the plants. Tuesday, the 12th, the ordinary meeting day of the Committees, will be devoted to a general examination of the various subjects presented, and the doors will be open at twelve noon. On Wednesday, the 13th, the Conference will meet in the conservatory for the reading of papers and discussion, the chair being taken by the President at 10.30 a.m. precisely.

National Auricula, and National Carnation and Picotee Societies (Southern Section).—The Schedules of the above Societies have, we are informed, been issued to all subscribers, as far as their addresses could be ascertained. There may be some members, however, who subscribed for the first time in 1884, who have not yet received them, and who should apply to the treasurer, Mr. Rolt, of 170, Hartfield Road, New Wimbledon, who has failed to obtain from Mr. Dodwell any account of the funds in his possession or a list of the subscribers for last year. Under these circumstances, the treasurer would be glad to receive promises of support. This can be given in various ways. The first and best way is for each present subscriber to obtain a new one; the second would be for those interested in the success of the societies to double their subscription; or, thirdly, to give a donation for this year, and so place the societies again on a sound financial basis.

Suspended Growth.—It is one of the marked features of what is still a very open and comparatively mild winter that all things seem resting still, in fact are, as compared with some previous seasons, quite backward. It has been suggested that this torpidity in nature may be traced to an intuitive perception that hard weather is yet to follow, but that is problematical. What seems more probable is that, in spite of a comparatively mild temperature, we have had little sunshine, and that the bursts of warmth found in February in some previous years have been wanting, and, therefore, the early forcing warmth, which seems so out of place in winter, is being reserved for more congenial seasons. But there is still another reason, obvious enough as far as common hardy

plants are concerned, and which it is most probable affects in some way shrubs and trees. That is the excessive drought of last year, and specially of the autumn, which checked root development and at the same time the production of those stout crowns and growths which are so much the quicker amenable to excitability than are less robust growths. We see this specially evidenced in Polyanthuses and Primroses, which, often in free bloom at this date, are this year very late and dormant and also much wanting that robust leafage which a moister season leaves behind. On all kinds of trees there is still a restfulness that is both marked and encouraging. Probably the buds are harder or riper than in some seasons, hence their more restful or less excitable condition. This backward state of things is eminently satisfactory, because as long as the crowns and buds lay dormant they are safe, whilst if developed by warmer weather later on they come away with greater force and strength, and for that reason are all the more fruitful. There seems good reason to hope that we may have a more equable spring than some preceding ones have been.

The Tree Tomato.—In the temperate-house at Kew a plant may now be seen in fruit of the the Tree Tomato, Cyphomandra betacea. Mr. Morris, who some time ago sent home a good batch of seeds from Jamaica, states that it is not generally known and the fruit seldom used, but as it answers in every respect the purposes for which the ordinary Tomato is esteemed, it is, without doubt, a fruit that should be more extensively cultivated for winter use, its bearing season being from November to March. The plant is of shrubby habit and 5 ft. or 6 ft. high, and Mr. Morris states in *The Gardener's Chronicle* that it is easily raised from seed, and comes into bearing in about two years.

KALAMAZOO CELERY.

Midway between Detroit and Chicago lies the beautiful city of Kalamazoo, sometimes appropriately called Celeryville. Fifty tons of the esculent are exported from Kalamazoo daily now during the height of the shipping season. Kalamazoo Celery is famed from ocean to ocean, and is the brand called for everywhere. Shipping begins about July, increasing till the holidays, then gradually decreasing until the crop is disposed of in the spring. More growers are annually holding their crop until the firmer markets of spring. Three thousand tons were shipped from this point alone during 1883, and the shipment for 1884 is estimated at 5,000 tons. From 1,500 to 2,000 acres are devoted to the industry in this vicinity, and the production of a superior article has never exceeded the demand. Twenty thousand stalks are easily raised during the season on an acre, and the wholesale price ranges from 15 to 25 per cent. per dozen.

Marsh land has become the home of this luxury, and Hollanders are the main producers. Driving north from Kalamazoo through the country, one passes great 100-acre farms devoted to the sweet-scented Celery, reminding one of that Methodist hymn—

> "Sweet fields beyond . . .
> Stand dressed in living green."

One would never forget a drive through the Celery gardens in any direction from Kalamazoo; the long rows keeping their bright green till November, as crop follows crop; and the fields being unmarred by fences or anything except the cozy cottages of the thrifty Hollanders. The irrepressible Yankee has, of course, bought large tracts and gone into its culture, but the mass of growers cultivate from 3 to 10 acres, raise the choicest article, and make the most money. Too much expensive hand-labour is required to justify going into the business on a large scale.—*Detroit Free Press.*

Gardening Miscellany.

Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, has received a Royal Warrant appointing him Nurseryman to H.R.H. the Prince of Wales.

Mr. John Methven, of Edinburgh, has been elected president for the year of the Scottish Seed and Nursery Trade Association; Mr. R. B. Laird, vice-president, and Mr. David Hunter, secretary.

Mr. James Wells, the oldest pensioner on the books of the Gardeners' Royal Benevolent Institution, died a few days ago at Lyndhurst. Mr. Wells, who was elected a pensioner in 1860, had reached the good old age of ninty-seven years. He was for many years gardener at Easthampstead Park.

Another pensioner of the Institution has also died within the last few days, in the person of Mr. Charles Elworthy, of Taunton. Mr. Elworthy was gardener first to Sir John, and afterwards to Sir W. C. Trevelyan, at Nettlecombe, from 1832 until a few years ago, when he was succeeded by his son. He was an excellent practical gardener and a great authority on British ferns, of which he raised many new varieties, especially of Athyrium and Scolopendrium, beautiful forms of which bear his name.

An Exhibition of Plants, Flowers, and Fruits will be held in the Botanical Gardens, Sheffield, on July 17th and 18th.

The Wirral Rose Show will be held on July 18th, at Birkenhead.

Mr. Henry R. Illman has resigned his appointment as foreman to the Cranston Seed and Nursery Company, and commenced business on his own account as a nurseryman and florist, at Hampton Green, Tupsley, Hereford.

Mr. Andrew Dick who some years ago was gardener at Dale Park, Arundel, and subsequently at Lord Vernon's, Sudbury Hall, Derby, died at the Denham Road Nursery, Uxbridge, on the 5th inst., aged seventy-six years. Mr. Dick, after leaving Sudbury Hall, went to Kew, where he remained until stricken down with illness some fifteen years ago.

The Rev. James Sprunt with whom some years ago originated the sport from Safrano which developed into the popular Tea Rose Isabella Sprunt, recently died in Dupplin County, North Carolina.

We regret to learn of the death on the 19th ult., of the distinguished American Pomologist, Charles Downing.

Mr. Jules Chuffort, Vice-President of The Royal Society of Horticulture and Agriculture of Tournai, died on the 9th ult.

The Seventh Annual Show of the Harpenden Horticultural Society has been fixed for Wednesday, August 26th.

The prizes offered last year by the Scottish Seed and Nursery Trade for the best essays on "The best and most economical system for the afforestation of waste and otherwise unprofitable lands in the United Kingdom," have been awarded to Mr. Wm. Mackintosh, Lovat Estates Office, Beauly, and Mr. Wm. Lindsay, Kinnoul Hill, Perth.

The Committee of the Brockham Rose Association have accepted an invitation from Sir Trevor Lawrence, Bart., M.P., to hold their Rose Show at Burford Lodge on June 27th.

Mr. Goldsmith's late foreman at Hollanden, Mr. T. Crosswell, has been engaged as gardener to Lady Forester, at Meaford, Stone.

At the meeting of the Preston and Fulwood Horticultural Society, to be held this (Saturday) evening, at the Old Legs of Man Hotel, Fishergate, Mr. Wm. P. Roberts, of the Gardens, Cuerden Hall, will read a paper on "Bulbs, Corms, Tubers, and Rhizomes."

At the last monthly meeting of the St. Peter's, Hammersmith, and District Gardeners' Amateurs', and Cottagers' Improvement Society, held at 91, Black Lion Lane, Dr. Stephen Nockholds, Dr. Lawrence, Mr. Newton, Mr. Bray, and Mr. Bain were elected honorary members, and Mr. H. Wakeman, Mr. C. Smith, Mr. W. Griffin, Mr. C. Johnson, Mr. Finch, and Mr. Hedges, as ordinary members. The president, Mr. Stanton, read a paper on the Introduction and Cultivation of Chrysanthemums, the latter portion of his subject dealing with the plants from the cutting to the flowering stage. An interesting discussion ensued, in which the vice-president, Mr. Woods, and the hon. secretary, Mr. H. J. Farrow (a successful working-class amateur) took part.

SHOW PRIZES AND AWARDS.

In reference to Mr. Holmes' criticisms of the proposals as to an entire rearrangement of the present mode of offering prizes at Exhibitions recently made in these pages, allow me say that as to the relative value of the prizes now to be offered in these champion classes respectively, whilst they are more fairly adjusted than has previously been the case, there still remains the obvious defect which I have pointed out, and, of course, it is a defect found in all or nearly all similar prize arrangements: that the proportion of the value of the prizes will probably be altogether diverse from the merits of the respective exhibits. Taking the first prize of £10 as representing 100 per cent., does any one who knows anything of the merits of competing collections of cut Chrysanthemums in such a competition as these champion classes will provoke, for a moment imagine that there will be anything like 30 per cent. difference between the first and second lots, and still further, 60 per cent. difference between the first and third lots? Of course, nothing is more improbable, whilst it is almost certain such is the experience of judges that the real difference between the first, second and third will be found within the limits of from 10 to 15 per cent. of points. Hence, whilst the winner of the first prize, with his 100 per cent. of points, gets £10, the other two, with 135 points between them, gets only £11 very unequally divided.

To fairly distribute the prize money in such a case, having full regard to the average merits of the respective collections, the prizes should differ in value only 10*s.* instead of £3 in both cases. Mr. Holmes must not be too sure that exhibitors would always prefer the existing plan. It may be best for the first-prize winner, but, as a rule, it is unjust to the winners of seconds, thirds, and so on, and these, after all, constitute the majority of prize takers. It is true that so drastic a change or revolution (for such it is) in our present system of making Exhibition awards is apt at the first mention to take men's breath away; but when they have recovered and are able to think over the proposal they will then see that it is based absolutely upon fairness and justice.

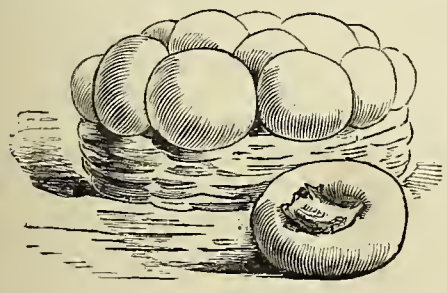
Mr. Holmes seems to assume that the proposed plan of allotting a lump sum in three or more prizes to a class as the case may be, would be distasteful to judges as throwing more work upon them, but there he is in error, because it is not at all proposed to add to their responsibilities by calling upon them to apportion the prizes. In all cases judges should, instead of marking in the proper columns of the books with which they are furnished, first, second, or third, as the case may be, they would place the number of points each collection had been found to possess in those columns up to the number of prizes to be given. Thus, taking fifty points as a maximum, John Smith, instead of being marked first, would have forty-eight put against his name. Thomas Jones would come next with, say, forty-three, and William Robinson, third, with forty, and the judges' work would be done. The apportionment of the total sum of money set apart for the class would rest with the committee, and assuming that the total sum was £6, the ordinary disposal of which would be £3, £2, and £1, the apportionment would be about this—first prize, £2 5*s.*, second, £2, and third, £1 15*s.*; for absolute mathematical accuracy could not be ensured.

But there is another phase of the present method of giving prizes, which calls for the consideration of show committees, because they are themselves often the sufferers. Is it not very often the case that in classes, plant classes especially, there is seen a fearful disparity between the merits of the first-prize lot and the second, or between the second and the third, and yet such is the hard-and-fast rule drawn by schedules now that plants of miserably inferior merit often get second and third prizes just because there are other collections of course worse, and the prizes must be awarded. If in such cases the judges could return the first-prize lot of plants as having fifty points, and the second and third lots as having, say, twenty and fifteen respectively, the prizes could then by the committee be allotted fairly according to the obvious merits of the competing collections. Too often now prizes are awarded to things which are so inferior as to make the committees ashamed of their presence, and yet they are helpless as against the rules of their prize schedules.—*The Writer.*

CAULIFLOWERS AND BROCCOLI.

In your issue of January 10th these are especially alluded to both at pp. 293 and 294, but the time at which they can be produced depends so much on management, even with a mild climate, that a few more words thereon will not, perhaps, be amiss. Now, in these days of progress, sowing Cauliflower seed in the fall and keeping the plants through the winter is time wasted, seeing that you can sow in January and cut in May, proper kinds being used and proper management adopted. If Cauliflowers or Broccoli are required any time before Christmas they must be sown in rich soil and never receive a check. When planting them out in their final quarters take out a spadeful of soil and water well a day or two before planting with soapy water, to which add a wine-glassful of paraffin to each pot of water. Loosen the soil, take up the plant with a large trowel, disturbing the earth about it as little as possible, and fill up the hole with good rotten dung and earth in equal proportions. Never let them want for moisture, and when you water do it effectually and use weak liquid manure, as sprinkling the plants with water is both a waste of time and injurious to the plants. Of sorts I prefer Veitch's Extra Early Forcing, which, in my opinion, is surpassed by none. Sow early in January and again in February under glass; early in March sow Eclipse under glass and at the end of the month in the open ground, when Veitch's Autumn Giant should also be sown. Of this it would be waste of time to allude further, as it is praised by everybody who has grown it, and who has not? These are all the Cauliflowers I consider necessary.

Of Broccoli all that come in after Christmas should be sown in ordinary garden soil without manure, and when finally planted out, make a hole only just large enough to take the plant on *hard* ground (I believe Mr. Gilbert makes his holes with a crowbar). Fill the holes with soapy water and paraffin, but do not break down the earth in any way, all that is required is to get your plants strong and hardy to stand the winter, and how this is to be gained by rich soil and quantities of manure I cannot conceive, as, by adopting such a plan we make the plant tender, gross, and succulent, and Jack Frost does the rest. But as no manure has been used till after Christmas it must be made up for in the early spring, when the earth should be drawn away from the plants, a good spadeful of rich manure, without earth, be placed round each plant, which must be covered and trodden firmly. For sorts the earliest I use is Sander's Mammoth White Autumn, respecting which I can fully endorse the testimony of Mr. Gilbert, as alluded to by Mr. Knight, but Mr. Knight is in error as to the distribution of it as new this season. I have an illustration of it, taken from the catalogue of Messrs. Lamoureux & Co., Plymouth, some years since, and I have grown it for three years in succession. It is truly a magnificent variety, and the only one needed in the fall. We have many grand kinds in the seedsmen's lists, but it must not be forgotten that



"CUPS."

Eclipse and Veitch's Autumn Giant Cauliflower carry us well through the autumn, and when they are to the fore Broccoli are at a discount. Veitch's Self-Protecting is my next kind, a splendid variety, followed by Snow's Winter White, a valuable sort, no doubt, but I should like to get a substitute for it, as I quite agree with "B." (p. 294) that it is tender, and all the principal seedsmen admit that it is difficult to get true. Before reading Mr. Knight's report at p. 293 I never heard that it was at all hardy. As to Cornish growers depending on it that fact is of little value to growers generally. I remember reading in one of the horticultural papers a reply made to a gardener at St. Ives, Cornwall, who asked for advice, stating that for many years he had lived there and had not seen any ice, and the reply was that they could not advise a man living in such a climate, as it was one of which they had no experience. Knight's Protecting and Lauder's Goshen Late White Protecting follow, then Cattell's Eclipse and Sutton's Late Queen complete the list. The latter is the most compact, but not quite so hardy as Cattell's, which, sown in April, produces splendid heads in the following May, and sown at the end of June, at back of a north wall and planted out in the same position, produces quite through June the following year. Purple Sprouting I, of course, grow, and I quite agree with "B." that it should be grown by everybody and that it is not half appreciated, other kinds *may* fail, this *never does.—T., Dorset.*

MUSHROOMS FOR THE MILLION.*

As good wine is said to need no bush, so it may be taken for granted, we think, that when a book reaches a third edition, it requires no praise. For the best of all reasons—the fact of The Gardening World not being in existence when Mr. Wright's valuable manual made its appearance in the spring of 1883, we were unable at the time to join in the general chorus of praise with which its advent was received. The publication

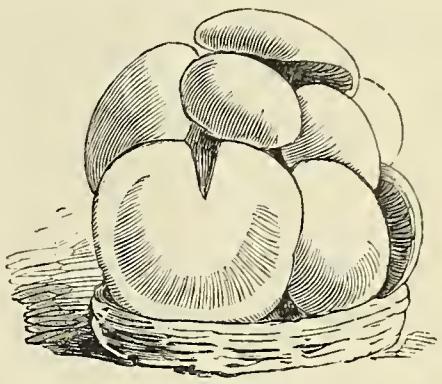
OUT-DOOR MUSHROOM BED.

of the third edition, however, affords a fitting opportunity for directing the attention of our readers to a work which we have read with much pleasure, and, we hope, with not a little profit, and which we heartily commend to the serious perusal of all who would grow their own "buttons," yet who are not familiar with the practical details of Mushroom cultivation.

In the introductory chapter, Mr. Wright states that he was asked to treat the subject as fully as a somewhat lengthened experience of the work and great facilities for observing the work of others enabled him to do, but that he preferred to take "a broad view of the matter, and to regard the crop as one which the greatest possible number can have a share in growing and enjoying, rather than being content to consider it as a luxury for the affluent, who alone obtain a more or less adequate supply." This is the key note, and from the first page to the last it is well kept in view.

The earlier pages are devoted to short chapters on such important subjects as the nutritive properties of Mushrooms, the means for growing them, and the open-air system of cultivation, followed by a comparison of the profits of various outdoor crops, which shows that the remunerative character of Mushrooms surpasses them all, that it is, in fact, the most remunerative outdoor crop known.

Details then follow on the cost and profits of Mushroom culture, based on the experience of Mr. J. F. Barter, of Lancefield Street, Harrow Road, an extensive and successful grower of Mushrooms for market, and which fairly make the mouth to water as we read of £853 4*s.* being the actual profit for an acre of Mushrooms. In succeeding chapters we are shown how it is done, what manure is suitable and what is unsuitable, how to prepare it for use, the best site to select for the bed, and finally, how to make it of



"BROILERS."

the form shown in the annexed illustration, which represents a portion of a bed "taken from the life" from which the crop is being gathered. Had our valued correspondent, Mr. Warden, not recently described in our columns, p. 262, the method of making these outdoor Mushroom beds, we should have been tempted here to reproduce the sound practical advice which our author gives on the subject. We pass on, however, to the all important matter of "the spawn," and its manufacture into "Mushroom bricks," a knowledge of which, though interesting, Mr. Wright does not consider necessary for the great mass of Mushroom growers. "When a man builds a house it is of no advantage to him to know how to make his own bricks, for he can purchase them better and more cheaply; so it is with the vast majority of cultivators of Mushrooms, and beginners especially will find it more economical to purchase good Mushroom spawn than to endeavour to make it, and fail," and with that remark we entirely agree, for how to make good "Mushroom bricks" is one of those things that cannot altogether be learnt from the books, but must be acquired by practice.

As regards soil for Mushrooms, it appears that Mr. Barter uses heavy and turfy loam, "just such as a gardener would covet for growing Roses and Chrysanthemums, and the produce is large, Mushrooms often being cut weighing half-a-pound each," which proves clearly enough that the character of the soil used is not such a matter of indifference as many imagine. In connection with the subject of temperature, Mr. Wright clearly brings out an important fact, which we suspect is not known to most growers, *i.e.*, that "cold does no real injury to Mushroom beds, it only arrests the growth of the mycelium—does not destroy it," but he truly observes that while a low temperature must not be sought for, it may, on the other hand "be asserted with much confidence that a high temperature and dry atmosphere are inimical to Mushrooms, and the cause of many failures and unsatisfactory beds."

On the subject of gathering Mushrooms we read:—"If the old practitioners who gathered the crops so tenderly, and almost in fear and trembling lest no others should follow, could see the manner in which Mushrooms are gathered for market, they would scarcely believe their own eyes. Not only are they torn ruthlessly from the beds, but the roots are dug out if they are not sufficiently broken in the process of pulling. It is usual to have two baskets, the large Mushrooms being placed in one, and the 'buttons' in the other, the soil being knocked off the roots as the work proceeds. When the stems are separated, as many are, close on the surface of the bed, leaving the stump undisturbed in the soil, this stump is at once scooped out with a knife, leaving a round open cavity in which a Walnut might be placed. This to the uninitiated appears barbarous work; it looks like spoiling the beds and preventing the production of successional crops. That it has not that effect is certain, or those to whom every pound of Mushrooms is an object would not adopt it."

* *Mushrooms for the Million.* By John Wright, Third edition. London: 171, Fleet Street, E.C.

Before being sent to market the Mushrooms have to be "graded," and three distinct grades are in demand, which are known as Buttons, Cups, and Broilers, the relative values of which may be gleaned from the statement that when large Mushrooms, or broilers, realize 1*s.* per lb., the cups will sell for 1*s.* 3*d.* and the buttons for 1*s.* 6*d.* Two of the grades are represented in the illustrations on p. 373 (kindly placed at our service by the author) which also show the manner in which the produce is arranged in punnets. "Buttons are Mushrooms in embryo—that is to say, the cap of the pileus is nnited to the stalk, and the laminæ, or gills, are not visible. It does not matter what the size of these young Mushrooms may be, whether of the dimensions of a small Cob-nnt or a large Walnut; if the gills are veiled they are still bnttons. 'Cups' are a step advanced in development. Immediately the membraneous covering that united the hood with the stem breaks, the term 'buttons' is no longer applicable, and the young Mushrooms are recognized as 'cups,' but only retain that designation so long as they arc unopened, and do not show more than a ring of the laminæ, half-an-inch in diameter. When they expand fully and assume the form of an inverted tea saucer, showing the gills clearly, they are matured for culinary purposes and become broilers; but they are not perfect for the purpose of reproduction, as spores are not distributed nntil the laminæ have changed from a lively pink colonr to a brownish-black, and they should be gathered, sold and eaten before that change occurs."

There are a number of other subjects to which we should have liked to allude, did space permit, but must now content ourselves with the remark that the author has done his work thoroughly well, and we trust an early result of his labours will be a supply of Mushrooms for the million all the year round.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

It is matter for great regret that a knowledge of the existence of this admirable Society is not more widely distribnted. It is doing an excellent work in a quiet and unassuming way, and it may be said to take up a certain work of a beneficial character at a point where it is dropped by the Gardeners' Royal Benevolent Institution, inasmuch as it offers special advantages to under gardeners, which form a very numerous class in this country. The United Horticultural Benefit and Provident Society is an outcome of the United Horticultural Society, which had its head-quarters in the city of London some years ago. In 1865, an important exhibition was held by this Society in the Guildhall of London, and the proceeds of the Show were devoted to a Benefit Fund in connection with the Society. This was subsequently merged into the Society which heads this paper. The original promoters were Mr. William Marshall, Mr. James Crute, Mr. Shirley Hibberd, Mr. B. S. Williams and others, and Mr. William Heale was the first secretary. On his resignation in 1872, Mr. J. T. McElroy, The Gardens, Moray Lodge, Campden Hill, Kensington, was appointed, and he has retained the office ever since. The highest tribute of gratitnde and praise is due to Mr. McElroy. At the time he was appointed secretary, he was too old to be made a member, but he serves the Society with a fidelity, devotion and earnestness that could not be exceeded by any member; all the remuneration he receives for a great deal of arduous labour, comprising the working out of many details, is the small balance left over from the management fund at the end of each year, averaging from £3 10*s.* to £5 10*s.*, more or less as the case may be.

There are three separate funds in connection with the Society—viz., a Benefit Fund, a Benevolent Fund, and the Management Fund. From the Benefit Fund comes a certain rate of sick pay for those who need it, and assistance is rendered from the Benevolent Fund after a member attains seventy years of age in time of sickness, in seasons of distress, and in special circumstances at the discretion of the Committee. A member who pays the sum of 2*s.* monthly both to the Benefit, Sick and Deposit Fund, a sum of 2*s.* annually to the Benevolent Fund, and a sum of 2*s.* 6*d.* annually to the Management Fund receives a weekly allowance in sickness during twenty-six weeks of 10*s.* 6*d.* If he pays 3*s.* to each of the two first named funds, and 2*s.* 6*d.* to the last he receives 16*s.* per week during that time. After twenty-six weeks' full allowance half the amount is allowed for twenty-six weeks more, he is then transferred to the Benevolent Fund, to receive such sum as the Committee deem fit.

During the time he is on the Benevolent Fund no money is taken from his deposits. No sum is provided for at death, as the members' deposits, with the interest accumulating, will more than counterbalance any funeral money. Should any member die in straitened circumstances, the Committee are empowered to assist the widow and children, if any. After attaining the age of seventy years, the member ceases to pay into the Sick Fund at all, and he is provided for from the Benevolent Fund in case of sickness or distress, irrespective of any sums he may have invested. Three trustees are appointed, and the Society is managed by a Treasurer, Secretary, and Committee of twelve persons, four of whom retire annually, but are eligible for re-election. There are monthly subscription nights, these being held at the Caledonian Hotel, Adelphi Terrace, Strand. The Society, which, except during the past two years when it obtained a greater share of publicity, has somewhat hidden its light under a bushel. In consequence of this publicity, forty-seven new members joined in 1883, and thirty-five in 1884. There are now 163 on the books, and the increase of the past two years is certain to continue.

During the past year the sum of £307 17*s.* 6*d.* was invested in Three per Cent. Consols, and the Society has now £3,000 so invested. The annual income of the Society is something like £360, and during the past year £23 2*s.* 6*d.* has been paid from the Sick Fund, the largest sum ever before paid in one year. These particulars were furnished in the annual financial statement made by the Secretary on the occasion of the annual meeting of members on Monday evening ast, at the Caledonian Hotel, Mr. Richard Dean, one of the honorary members presiding. There was a full attendance of members, who took great interest in the proceedings. There is no doubt but that the position of the Society is one greatly in advance of that of the Foresters, Odd Fellows, Druids, &c. Its affairs are administered in the most economical manner, and were the assets of the Society realized and equally divided among the members it would amount to nearly £19 per head! About two-thirds of the interest derived from the money invested in Consols is paid over to the Benefit Fund, and the remainder to the Benevolent Fund.

Hearty votes of thanks were accorded to Mr. James Hudson, the excellent Treasurer, and Mr. McElroy, the Secretary, and they were well deserved. It may be added that the Society is governed entirely by those who participate in its benefits, and not a few members come long distances in order to attend the annual general meeting.

EARTH MOISTURE.

I am in a position to fully corroborate the statements of yourself and whilom correspondent with reference to the condition of the earth as regards moisture. I have had occasion dnring the last ten or eleven years to remove and rearrange some hundreds of trees and shrubs. This has been done annually, commencing as soon as the season comes round for the operation to be performed with safety. This season I have found the soil very much drier than I ever remember. Some of the balls of earth attached to the roots did not appear to have a particle of moisture in them. However, we have had some copious showers lately, and the rain is finding its way to the roots, so that, as I have now completed my work of removals for the season, there is every probability of a satisfactory issue resulting therefrom.

I hand you a sketch of an Arbutus, or Strawberry-tree, one of the many shrubs that I have had under my special charge since they were very small plants. It measures 24 ft. in circumference and abont 6 ft. high, and is one amongst a variety of plants of equal proportions, consisting of Hollies, Portugal Laurels, Aucubas, Laurestinus, Phillyrea, Euonymus, &c., which were planted twelve years ago. The beds and borders are for the most part made up with the top spit of a meadow, the subsoil being a strong retentive clay, the beds being raised considerably above the surface, secures efficient drainage, and although the soil below is cold, the plants are never water-logged, as is sometimes the case when shrubs are planted in similar soils on the level ground. I have removed shrubs at nearly all seasons of the year, but to succeed great care must be taken in doing so, and proper attention given subsequently. In the winter of 1860-61 I was engaged to remove some Deodars, Arbor-vitæ, &c., 12 ft. high. The weather at the time was very severe, and the trees had to be removed by a given time or left behind through the property changing hands. I had no alternative but to proceed in spite of the severity of the frost. In fact, I enlisted the aid of the Ice-king, inasmuch as I had trenches dug round each tree, leaving a good ball of earth attached to the roots, and securing the trees by good strong stakes, I left them to the mercy of the frost until the balls of earth became like a solid mass of concrete and could be removed in their entirety. In this way I succeeded in transporting them to their new qnarters, and they did well, although it was a question with some whether the experiment would not prove fatal to them, bnt by adopting the plan I preserved a good ball of earth. On the other hand, had I not done so, I should not have had a particle of soil adhering to the roots, as it was of a light sandy texture. There was no lack of moisture, the year 1860, having been (unlike 1884) a very wet one.—*G. F., Lewisham.*

ON BUILDING GREENHOUSES.

In these flower-loving days the subject of greenhouses is one of increasing importance. The materials for bnilding a greenhonse cost very little, but the cost of one supplied by a professional builder is comparatively high; for the builder employs skilled workmen whose high-priced labour he pays for, and he must have his own profit. A handy amateur, with the help of a plan, could build his own greenhouse, and an excellent plan supplied by the well-known firm of Messrs. Boulton & Paul was published in The Gardening World of the 17th of last month. As some details of construction might be useful to those who wish to be their own builders, I send you the following:—

In building a greenhouse two things should be especially attended to. The first, that the pitch of the roof shonld be neither too high nor too low. When the pitch is too high the upward current of air is rapid, and plants become quickly dry; on the other hand, when the pitch is too low there is not sufficient slope for the rain to run off as it should, and some of it drips into the house; also, there is not near room enough for working comfortably within. The happy medium appears to be one not less than 25 degs. or more than 40 degs. With such a pitched roof, the temperature would be even, and there would be sufficient head room for the worker. The second, that the plants should have plenty of light, and be as near to the glass as possible; the panes should therefore be large. The position of the house is also a matter of importance. That of a span-roofed house should depend on the purpose for which it is intended. Where plants requiring high cultivation are to be grown to perfection, the custom of some of our best market-growers is to build their houses from east to west, and as the southern sides of houses so built are exposed to the full rays of the hot summer sun, they generally whitewash those sides. But if the house is chiefly required for the protection of bedding plants during winter or for growing Cucumbers or Tomatos which rejoice in the sun, the house should run from north to south. A lean-to house is, for sake of economy in fuel, generally built against a south wall.

Assuming that the house is to be 10 ft. wide, according to the plan of Messrs. Boulton and Paul, let ns take its length at any convenient number of feet—say 20 ft. 9 ins. to suit the width of the glass. As a 10-ft. house is narrow, the pitch of its roof should be correspondingly high to give head room for the worker—say about 40 degs. The height of the walls should be 2 ft. 6 ins. above the ground level, and 6 ins. below for foundation; the height of the house from the level of the ground to the apex of the roof will be about 6 ft. 6 ins.; the pathway down the middle should be 2 ft. wide, the border on

each side 4 ft., and the doorway should be 2 ft. wide and 6 ft. high. Brickwork 4½ ins. thick will be sufficiently strong. The bricks need not be of the best, those at 30*s*. per 1,000, exclusive of carriage, are good enough for the purpose. The wood should be the best yellow deal, and painted with three coats of oil paint; scantlings of the requisite size, bevelled and grooved ready for use, can be bought from the timber merchant. The glass should be 21 ozs. to the square foot, lower priced glass may be used, but it is a doubtful economy. A good size for the panes is 18 ins. by 12 ins., placed so that their longest sides shall run with the length of the house, by this arrangement the sash-bars will be 18 ins. apart, less wood will be used than if they were nearer together, and more light will be supplied to the plants.

In building his greenhouse, the first thing the amateur should do is to carefully mark out the plan of the house on the ground, being especially careful that the sides are at right angles to each other, this he can easily do with the help of a carpenter's square. The foundation having been laid, the door frame should be put in its place, and then the wall should be built. The next thing is to put up the frame of the roof. The wall-plate 4½ ins. wide by 2 ins. deep, halved at the corners, should be bedded in mortar on the top of the wall, with its ends morticed into the doorposts. The ridge-plates, running the whole length of the house and projecting an inch or two beyond should be 4½ ins. deep and 1½ ins. wide. The four end rafters, each 3 ins. deep, 2 ins. wide, and about 6 ft. 6 ins. long, rebated on one side, should have their ends sloped on the under side to fit the wall and ridge-plates. As the length of the house is 20 ft. 9 in., each side will hold thirteen panes in each row of glass and will require twelve sash-bars to support them, these should be 1½ ins. wide, 2½ ins. deep, and about 6 ft. 6 ins. long, with their ends sloped like those of the rafters. The places where the ends of the rafters and sash-bars will rest on the wall-plate and ridge-plate having been carefully marked on the wall-plate and chiselled out of the ridge-plate, the ridge-plate and rafters are set up in their places, and the rafters nailed or screwed to the wall and ridge-plates. The sash-bars are then put in their places and nailed to the plates. The lower ends of the rafters and sash-bars should reach to the outer edge of the wall-plate, and the lower squares of glass should touch the wall-plate and extend an inch or two beyond, in order that the rain water from the roof may fall clear of the walls.

Two ventilators are enough on each side of the roof. Each frame should hold four panes of glass and should measure outside 41 ins. by 27 ins., with its side and top rails 2 ins. wide and 2 ins. deep, and lower rails 3 ins. wide and 1½ ins. deep. The position of the ventilator should be equidistant from the end rafters and equidistant from each other, *i.e.*, there should be an interval of three panes, or 4 ft. 6 ins. between the outer side of each ventilator and the end rafts nearest it, and a similar interval between themselves. The sash-bar intermediate between the two on which the sides of the ventilator will rest, should be shortened a couple of feet and its end morticed into a cross rail 2½ ins. wide, 1½ ins. deep and 40 ins. long, whose ends should be morticed into the sash-bars adjacent. The ventilator should be hinged strongly by their upper sides to the ridge plate. It will be observed that no ventilators are provided below, as in a 20-ft. house a sufficient supply of air can be admitted through the open doorway.

For receiving the glass at the ends of the house, sash-bars are let in to the rafters above and morticed into the wall-plate below, and strips of wood 1 in. wide and ¼ in. thick, are tacked to the outer sides of the doorposts and the under sides of the rafters. The woodwork should then receive a primary coat of white and red lead. The putty for glazing must be soft, it should be liberally used, and a good bed prepared for the glass to lie on. The glass should be carefully placed on its bed, pressed well into the putty so as to leave no space through which water could trickle, and tacked down with brads to the rafters and sash-bars. The loose putty should then be neatly dressed off and a second coat of paint given to the work.

The door of the house should open inwards. It may either be framed and its upper part glazed down to the wall-plate and the lower part panelled, or, what would be cheaper and answer as well though it would not be so seemly, it may be a plain clump door. The doorposts 6 ft. 6 ins. high, should be of 3-in. by 2-in. stuff, with the narrow end inwards; the lintel of 3-in. by 2-in. stuff, 2 ft. 6 ins. long, with its ends morticed into the doorposts, and the sill of 4-in. by 3-in. stuff, 3 ft. 6 ins. long, with the doorposts morticed into it. The doorway will be 6 ft. high and 2 ft. wide.

In order to open and shut the ventilators, each should be provided with a double cord and a piece of curved iron, with an eyelet at one end and a flange at the other, the flange being screwed to the bottom of each of the ventilators. One end of the cord is tied to the eyelet and passed over a pully fixed to the woodwork above, for the purpose of opening; the other end is fastened to the lower rail of the ventilator.

The cost of such a house will be as follows:—

	£	s.	d.
960—say 1,000 bricks at 30*s*. a thousand ...	1	10	0
Carriage	0	2	6
Sand and lime	0	3	6
Wall-plate, 4½ ins. by 2 ins....	0	7	0
Ridge-plate, 4½ ins. by 1½ ins.	0	2	0
4 Rafters, 3 ins. by 2 ins. by 7 ft.	0	2	0
24 Sash-bars, 2½ ins. by 1½ ins. by 7 ft. ...	0	12	0
4 Ventilators	0	4	0
Doorway frame and panelled door, framed	0	13	6
182 panes of 21-oz. glass, 18 ins. by 12 ins.	2	13	0
Glass for ends	0	13	6
Carriage	0	6	0
Putty, 5*s*. Paint, 15*s*.	1	0	0
Irons for ventilators, 3*s*. Cord, 1*s*. Nails, 5*s*.	0	9	0
	£8	18	0

A handy amateur who is able and willing to be his own builder can thus have a greenhouse 20 ft. 9 ins. long, by 10 ft. wide, at a cost of £9. Should he not care to lay his own bricks, he can hire a man to do it for something less than a pound.

In the foregoing estimate the cost of the staging is not included. In a professional builder's estimate it generally forms a separate item. The staging can be made as follows:—A row of posts at intervals of 3 ft. or 2 ft. 6 ins. are set up on each side of the pathway, each post should be 2 ft. 6 ins. high by 3 ins. by 3 ins. A bearer, 20 ft. long by 4 ins. wide and 1 in. deep, is nailed to the top of the posts; other bearers are nailed across, one end on the top of a post and the other on the wall-plate. On these cross-bearers battens, running the whole length of the house, 2¼ ins. wide by 1 in. deep, are nailed at intervals of an inch.

	£	s.	d.
16 posts, 2½ ft. by 3 ins. by 3 ins.; 2 bearers, 20 ft. by 3 ins. by 1 in.; 16 bearers, 4 ft. by 3 ins. by 1 in.	2	4	0
Nails	0	1	0
Paint	0	15	0
Cost of Staging	£3	0	0

Professional florists, however, prefer borders to staging. Where borders are to be made a wall 2 ft. 6 ins. high and a brick thick is built on each side of the pathway. The lower part of the spaces enclosed between them and the outer walls of the house are filled to within 6 ins. of the top with any convenient material, ballast, gravel, or rubbish (ballast is preferable, as it gives the best drainage), and the upper 6 ins. are filled with ashes, which afford a good surface for the pots to stand on. Borders made in this way require a good many cartloads of stuff to fill up the spaces. A cheaper plan is to sink the pathway 2 ft. 6 ins. below the ground level, and to build a brick wall, half a brick thick, to support the earth on each side. The border is then ready made. When this plan is followed the outer walls should not be so high, 15 ins. or 18 ins. are quite high enough. This plan, however, should only be adopted where the soil is light and is naturally drained, on clay soils it is apt to make the house damp.—*A. S. B.*

Adiantum Capillus-veneris var. obliquum.—This is one of the numerous varieties of our elegant British Maiden-hair. It is a robust, erect-growing plant, with broad pinnæ, and, judging by a figure in the January number of *The Illustration Horticole*, is a very desirable variety. There are so many excellent varieties of this plant that the task of selection is by no means an easy one.

NOTES FROM GARDENS.

Trafalgar Park, the seat of Earl Nelson, is situated near Salisbury, in the county of Wilts. The mansion, a large brick building, commands extensive views down the valley of the Avon on the south-west side, and this side of the mansion is also clothed for some distance up the walls with fine specimens of Magnolia grandiflora. Here also the flower-garden is situated, forming a good foreground to the verdant valley which stretches beyond. It is a very neat and compact garden, and in the summer months is made gay with the usual class of bedding plants. One feature in this garden, which is not common, is a fine border of Clematis Jackmanni, trained to stumps driven into the ground, which it completely covers, and is a grand sight in the autumn months. The house, garden and pleasure grounds are all situated on high ground, for go which way one may we soon come to a point from which extensive views are obtained.

The kitchen-garden is situated some distance from the mansion, and is nearly four acres in extent, surrounded by high walls, and divided by a range of glass-houses. In one of the vineries I noticed a batch of Souvenir de la Malmaison Carnations in excellent condition. The greenhouse was gay with Cinerarias in bloom, Richardia Æthiopica, and well-berried plants of Solanum capsicastrum, and Capsicum Little Gem. In some frames under one of the walls was a batch of Violets, bristling with buds and giving promise of an abundance of bloom on the first appearance of sunshine. The varieties grown are Marie Louise and the pale blue Neapolitan. I can safely say that I never before saw the latter variety doing better, and in Mr. Morgan's estimation it is equally as good if not better than the other kind named. The walls are covered with handsome fruit-trees, especially noticeable being some large Fig and Pear-trees.

One remarkable feature of this garden is the enormous wall that flanks the west side the whole length, and on the west side of the same the ground falls sharp towards the River Avon over which one looks, and this gives additional space on that side, the wall being, I should say from appearance, some 20 ft. high, and it is clothed with handsome and fruitful Pear-trees from base to summit. What would such a wall be worth to many gardens, yielding, as Mr. Morgan very justly says, valuable fruits for the dessert for seven months out of twelve—viz., from August to February?—*W.*

A FLORIST'S VALENTINE.

From Bill Blossom, Gardener, to Miss Rose Budd.

Thou Rose of perfection, thou bud of delight,
Thou sweetest of Cereuses, blowing by night,
Thou Cactus superb, about which florists rant,
Thou nice little, neat little, sensitive plant.
Thou delicate Snowdrop (which sounds rather chilly),
So I'll call you instead a dear Daffadowndilly;
Thou columbine graceful, that mak'st my heart chuckle,
Thou Hyacinth fragrant, thou sweet Honeysuckle;
Not London Pride thou, but the Pride of the Nation,
Thou primest of Pinks, thou incarnate Carnation;
Thou dear Flos Adonis, thou bright Amaranthus,
Thou Pæony perfect, thou pet Polyanthus,
Whose eyes are more bright than the beams of Aurora,
And pierce through and through me thou great Grandiflora.
The wound they've inflicted is dreadful exceeding,
For my breast at this moment with Loves Lies a Bleeding;
Though Heartsease I've got in my bed a prize winner,
I've none in my bosom, as I am a sinner!
Thou Tulip, whose two lips seems crying—Come kiss us!
If I might I would give my best double Narcissus.
But it's wrong to refer to such private particulars,
So I'll beg you'll excuse me, thou pride of Auriculas!
Though I cannot help thinking what pleasure, oh, Gemini!
One embrace would now give me, thou dainty Anemone!
If I had not lost my botanical manual,
I would go on much longer, thou dear tender Annual;
But oh, come, for this boldness a thousand of pardons,
Oh, come and take root in your own lover's gardens,
From which during lifetime you never shall miss him, ah;
Thou regular out-and-out Speciosissima!
Then soon all his Bachelors' Buttons he'll sever,
If you take your own faithful Sweet William for ever.
—*From The Gardener and Practical Florist, 1844.*

The Amateurs' Garden.

THE GREENHOUSE.

In cases where a miscellaneous collection of plants has to be treated in this structure, it is a difficult matter to meet the requirements of all, as most of the hard-wooded subjects like a low temperature and plenty of air, while those of a soft nature need a little more warmth. This being so, the only way to arrange matters and accommodate the two kinds is to give and take, as it were, although it is better to dispense with certain things, such as heaths, except it may be the free-growing kinds like E. hyemalis, E. Wilmoreana, and E. gracilis, which are the most showy and useful for amateurs, as they come into bloom during winter and spring, and are the easiest of the whole family to manage. Striking a balance between the different plants referred to, the most suitable temperature to keep at this season by the aid of fire-heat is from 50 degs. to 55 degs., which amount of warmth will agree with all flowers, and enable them to open freely and last a long time in perfection.

To maintain a gay appearance and have the house well furnished a little foresight and management are necessary, as it is only by contriving and making use of every available place that a good succession of things can be kept up. In illustration of this, it may be mentioned that deciduous plants, such as Lilacs, Syringas, Ghent Azaleas, Deutzias, Solomon's Seal, Lilly of the Valley, and others of that class, may be forwarded greatly by standing them under the stage, and Hyacinths, Lachenalias, Crocuses, Tulips, and similar bulbous subjects may be brought on by placing them on any of the back shelves near the glass; but it should be borne in mind that they must not be neglected and allowed to suffer from want of water, or the blooms will be poor. Primulas and Cinerarias will be much helped by giving them weak liquid manure, but care must be exercised not to wet the hearts of the first named, or they canker and go off at the collars.

Pelargoniums, both zonal and show kinds, should now have the points of the shoots nipped out for the last time before blooming, and as soon as they break again it will be necessary to give them a shift into larger pots, the best soil for the purpose being fibry loam in which they should be potted firm, and afterwards stood on light airy shelves, well up to the glass. As prevention is better than cure, it is a good plan to fumigate with tobacco occasionally to keep off green fly, which otherwise are sure to get into the shoots of the show and fancy varieties, when they soon stop the growth and cripple the plants. Calceolarias, both shrubby and herbaceous sorts, are also very subject to aphis, but the smoking of these latter must be done with care, as the leaves are soft and tender and will not bear much at a time.

PITS AND FRAMES.

The time has now come when these structures will be of great use, as there is propagating to be done, seed sowing to be carried out, and bedding stuff to be potted and started into growth, but before the active campaign begins, the first thing is to see that the glass and walls or woodwork are clean and in good order, as light is life to plants, and one of the chief things towards success is to be free from insects at the commencement, and lime-wash and water do much to rid pits and frames of these parasites. Tan is generally to be had for the carting near towns, and where it can be got fresh from the fellmongers, nothing is better for affording bottom-heat, as when sweated a bit before using, which it should be, the fermentation is steady and regular, and the mild steam it gives off, is just the thing for cuttings or tender seedlings, the one striking readily under its influence, and the seedlings growing with a strength and vigour quite pleasing to see.

If tan cannot be obtained, the next best substitute is dung and leaves, mixed, but these must be prepared by being turned over a time or two, so as to let out the fiery gases, and when put into the frame, have a sprinkling of sawdust or cocoa-nut fibre over the top on which to stand the pots, or plunge them in if desired.

One of the chief things in striking cuttings is to have good sharp sandy soil to insert them in, and it is equally important that the pots be well-drained, which should be done by half filling them with broken crocks, and placing over them a thin layer of moss, or the rough siftings from the soil, filling up with the fine on the top, and if the cuttings are then properly made, dibbled in and watered, they cannot fail to root. If damp shows itself by any of the leaves decaying, it is a proof that the frame is too close, or that there is too much steam, which amounts to the same thing, and it should be let off by just tilting the light to allow the slightest crack of air, but if symptoms of flagging are seen, the air must be taken off by day and put on at night. Pelargoniums and other fleshy things of that class, do not like confinement, but do best on a shelf, if they can be placed in a warm house or pit where the atmosphere is moist enough to keep their foliage fresh till they strike.

THE FRUIT AND VEGETABLE GARDEN.

Amateurs generally combine the useful with the ornamental and grow Grapes as well as flowers in their greenhouses, and very well the two do together if the plants are properly chosen and the vines are not too close and are kept thin enough not to throw a dense shade. As the season for ripening the fruit is short, the thing is to start and get the buds to break early, as a month gained at the end of the season is a great object, for it enables one to finish off the Grapes well by the end of September, and when that can be done their quality is far superior to such as ripen later on, which instead of being rich and sugary are poor and watery, and will only hang a short time on the vines.

To start these and get them to break regularly, all that is necessary is to make use of the solar rays, by opening the ventilators late in the morning, when the thermometer has reached about 60 degs., and closing again by two or half-past, when the floors should be sprinkled to cause a moist atmosphere. Not only will such treatment suit the vines, but it will be beneficial to most plants and flowers, as the heat by night will run down, and need not stand higher than 50 degs.

In the outdoor fruit department, Plum and Cherry-trees, and Gooseberry and Currant-bushes must be watched, as bullfinches generally find out the first-named, and sparrows the latter, and devour the buds just as they are breaking, and thus do away with all chance of a crop.

Manuring and digging are the chief operations to be carried out in the vegetable-garden, but before doing either it should be decided what crops are to be put on the ground, as some, such as Cabbage, Broccoli, Brussels Sprouts, and Onions, require the land trenched and heavily manured, while Carrots, Beet, Turnips, French Beans, &c., do not need the soil to be deeply worked, and if it is in good order, they are best grown without fresh manure. As weeds will now be showing, the hoe should be run between the rows of Spinach, young Cabbage, and other spring crops standing, as the stirring of the surface does much good besides cleaning the beds.

CULTURE OF INSECTIVOROUS PLANTS.

The cultivation of these plants is by no means difficult. They require pretty much the same description of soil, moisture, and general treatment. Nepenthes alone requires much heat; an average temperature of 70 degs. suits them very well. The soil should consist of fibrous peat, with the earthy matter shaken out. To this should be added from a third to a half of chopped sphagnum, and a sprinkling of charcoal, pot-sherds, and silver sand thoroughly well mixed. This will form a free open compost. Owing to the large amount of water required, good drainage must also be given. In re-potting Nepenthes, very small pots or baskets should be used, in comparison with the size of the plants, and great care taken not to injure the delicate roots. It is better not to shake the old soil out, unless it has become soured and unwholesome. It that case the soil should be washed away, thus preserving the roots. The best time for this operation is about the middle of February. They should be placed near the glass, and not shaded too heavily, unless in very bright sunshine. To have an abundance of pitchers produced, they should be kept constantly cut back, as when growing too freely they usually fail to produce pitchers; and this is what might be expected, bearing in mind what has been stated regarding their habits. So long as the plant is drawing plenty of nourishment from its roots, it has less need to develop pitchers, but when cramped and pot-bound, they develop freely.

Some years ago, on going through our stoves with Mr. Stuart Low, who had just come home from Borneo, where he had discovered some interesting species of pitcher-plants, and showing him a very fine plant of Nepenthes Rafflesiana, and asking him what they were like at home, he said, "You never see them bearing pitchers like those, but simply one here and there, and mostly near the ground. But after a fire has taken place, and the forest burnt down, the Nepenthes spring up just covered with pitchers." So that in our case the pruning-knife gives equal results with the forest fire in the home of the Nepenthes. I prefer, on the whole, seeing pitcher-plants grown in baskets, as the pitchers show in them to better advantage.

A good many hybrids have been raised in this country and in America—the best by far, indeed, I may almost say, the best pitcher-plant in cultivation. is Nepenthes Mastersiaua, raised at Chelsea in the Messrs. Veitch's nursery. It is a hybrid between N. sanguinea and N. distillatoria. I have succeeded in raising a large batch of hybrid Nepenthes, the result of a cross between N. Rafflesiana and N. Chelsoni. They, at all events, are most interesting plants in the seedling stage. The first leaves produced, after the cotyledons or seed leaves, are perfect little pitchers, and every leaf since produced has developed a pitcher, which they are likely to continue forming so long as they are in the young condition. With a few exceptions, Nepenthes are readily propagated from cuttings, the simplest way being to insert the cutting through the bottom of an inverted flower-pot, without any soil, placing it in a heated case, in fact rooting the cutting in moist air, and afterwards potting them off in the usual way.

Sarracenias require much the same soil as Nepenthes, but in re-potting nearly all the old soil should be shaken out and almost no heat but that of the sun given. An ordinary greenhouse is the best place to grow them. They should be firmly potted, slightly raised in the centre, and the surface covered with live sphagnum. They also require abundance of moisture; to ensure which, the pots should stand on sphagnum, which retains the moisture. This is better than placing them in flats of water, as in this way the soil is apt to sour, thus causing decay at the roots. All the species are increased by division, and from seed.

The various species of Drosera, including Dionæa and Drosophyllum, require the same treatment in every respect as that stated for Sarracenia, the only exception being that the soil should be made a little less rough. With this difference, they may be very well grown together and treated alike. Droseras are easily raised in quantity from seed, and in some strong-rooting kinds such as Drosera dichotoma, by root-cuttings. If the roots are cut up into the smallest pieces and strewn over the surface of a seed-pan, covered lightly with sandy soil and introduced into heat, in February; then, keeping them close for a few weeks, each little piece of root will grow. Almost any quantity of this elegant species may be thus had in a single season.

Notwithstanding all their dangerous enticements to insect life generally, insectivorous plants are as liable as others to be preyed upon by the ordinary plant pests. Green fly attack the young leaves of some, causing them to become deformed; on others thrip and scale do much damage if allowed to get a hold. These must be kept in check by the usual means for destroying such pests.—*R. Lindsay, Royal Botanic Garden, Edinburgh, in Forestry.*

A correspondent of *The Live Stock Journal* states that in November he planted 13,000 Drumhead Cabbages in an open field, and at the present time cannot find one that has not either been eaten off close to the ground and destroyed, or the leaves eaten off close, by rabbits and hares!

SEED TIME.

The season for seed-sowing having again returned, it is well to consider not only which is the exact time to sow the different kinds, but also what is the best manner to sow them. How numerous and frequent are the complaints received by the seedsmen from their customers at this season, they only can tell. I did once hear the confession inadvertently made, that a certain "big house" employed a special clerk, whose unthankful office was to reply to those grumbling, ungracious missives; and this important, and no doubt very useful personage, was commonly known and recognized amongst his compeers in that establishment as "the complaint." I do not wish to make an addition to this list of grumblers, which is already swollen so large; indeed I may say I am one of those fortunate individuals who have not had much cause for complaint in this respect, nor would I presume to attempt on the other hand to espouse their cause, simply because I am not equal to the task, and also because I am not quite sure if there is not a little of truth sometimes in those complaints that are made. Old seeds may be furbished, mixed with, and sent out as new, but in some seasons when thus treated they tend rather to improve than impair the quality of the sample, so that perhaps the least said on this head the better. They should not, however, be too old to germinate. Then, again, it is said that a packet of seed often resembles the wizard's bottle, in freely producing anything and everything you may choose to ask for in the way of varieties. This, I am inclined to think, pertains not so much to these as to former days. We have, let us hope, left such practices in the past. If now attempted, I cannot believe such jugglery is committed to any extent, and most assuredly not by those respectable firms whose reputation is far more valuable to them than the results of such trickery would be. The cry that seeds will not grow does, however, still prevail, but the fault is, perhaps, more often to be attributed to the gardener, the weather, or the legion of birds and insect enemies with which he has constantly to battle. These alone make early seed-sowing very precarious, nor does the gardener always adopt those means which are most conducive to perfect germination.

It is no uncommon occurrence to see the seeds of early and even tender vegetables sown in the open ground in February, simply because that month is said to be the proper one, although the frost and snow has scarcely melted from it, and although the temperature of the soil under the circumstances at the time cannot exceed 34 degs. Perhaps a hailstorm follows and the seeds are frozen through, it may be at the time they are germinating. Under such conditions it is hardly reasonable to expect success, and yet such cases are of common occurrence even till the end of March, at which time many early seeds should have been sown, otherwise they will be late in coming into use. In many instances the seeds are sown in a comparatively sunless border, or in a light flour-like soil, such as will scarcely retain sufficient moisture to enable them to vegetate during the dry winds which sometimes prevail, and which cannot possibly be made sufficiently firm round the seeds to ensure that condition so essential to perfect germination. If they must be sown in the open ground at this season it should be on the sunniest border, but wherever there is a cold pit or frame at liberty, the earliest kinds, such as Lettuces, Cauliflowers, Brussels Sprouts, Carrots, Radishes, and even Broccoli and Cabbages should not be risked in the open ground.

As great quantities of plants are not generally required at this early season, the most economical and useful method is to prepare a number of seed pans, fill them with moderately rich soil, and after sowing the seeds place them in the pit or frame till the plants are in rough leaf, when they should be pricked into the soil in the frame to receive all the air possible, or on a warm south border. Such seeds as Cauliflowers, Celery, or such as require to be got forward should be placed in a moderate heat. By this means much time and anxiety will be saved, and the tender sprouting seeds will be screened from the bad weather, birds, slugs, and other destructive insects, and if they do not freely germinate under such conditions, there must be something wrong at the seed store from which they were obtained, and the sooner a change is made the better. There is, of course, the cost of the pans to be considered, but this is more than counterbalanced by the lesser quantity of seeds required, and the other advantages far outweigh this trifling expense.—*Scribo.*

THE FAVOURITE ORCHID.

Odontoglossum crispum (Alexandræ).—Reference to our illustration of the lovely mauve-spotted and tinged O. crispum Veitchianum at p. 37, September 20th, and to that of a pure white variety from Mr. Vanner at p. 117, October 25th, will serve to give a good idea of the extraordinary range for variation which the species has between the two extreme forms, and a glance at the accompanying notes at those dates will furnish some interesting details connected with it. We now give an illustration of a plant of O. crispum bearing between fifty and sixty blooms, from Dr. Paterson's famed collection at Bridge of Allan in order to show its habit of growth.

Odontoglossum crispum, from its great beauty and easy culture, may be called the favourite Orchid, beloved by all, but especially by the amateur and beginner, who, having no pretensions to being either learned in Orchids or their culture, finds no difficulty in growing the innumerable varieties of this plant to perfection. So great has been the demand for it that it has become to the growers of plants under glass what Lilium auratum has to general plant cultivators, and many thousands of it are imported every year, always to find a ready sale.

ODONTOGLOSSUM CRISPUM, GROWN BY DR. PATERSON, BRIDGE OF ALLAN.

The hybrids, too, which flower out of the importations, are very lovely and interesting, and give additional interest to the grower. Sydney Courtauld Esq., of Bocking Place, Braintree, who has been particularly fortunate with these hybrids, at present has some fine examples of them in bloom, one specimen of O. Andersonianum lobatum having a grand spike of over thirty blooms on it.

O. crispum coming from an elevation of 7,000 ft. to 8,000 ft. in Bogota, requires a cool, moist, and rather shady house of a temperature ranging between 45 degs. and 65 degs., and there with a plentiful supply of fresh air and an abundance of rain water, no difficulty will be found in growing it. But often fresh importations are lost by wrong treatment even by those who grow established plants well. By far the best mode of treating newly-arrived specimens is to crock them into pots, and water the crocks from time to time until the plants begin to grow, and then to pot them in fibry peat and living sphagnum in the ordinary way.

FRUITS.

Fruit Culture under Glass: Vines.—Give copious supplies of tepid diluted liquid manure to the roots of vines growing in pots, and which are now swelling their crops, and close the house at 85 degs. with plenty of atmospheric moisture on bright afternoons. The same remarks are applicable to permanent vines in the same stage of growth. Aim at a minimum temperature of 60 degs. to 65 degs. Pot vines—if the object is to secure ripe Grapes from them as early as possible—should have 5 degs. more heat at night and the same by day. The vines in successional houses will require attention in the way of disbudding. This is an operation that should be performed as soon as the buds have bursted, when all the superfluous and weakest ones should be immediately rubbed off, leaving of course, the strongest and most promising shoots at 15 ins. to 18 ins. apart on either side of the rod. The temperatures at this stage of growth should be at from 55 degs. to 60 degs. (according as the weather is cold or mild), by day with fire-heat, and 10 degs. more with sun-heat and air. Damp the house in the morning and in the afternoon, at closing time. If the vineries are air-tight, it will be advisable to open the ventilators sufficient at night to cause a circulation of fresh air in the house during favourable weather.

Peaches.—Attend to the disbudding of trees in the early house, doing it by degrees so that the tree may not experience any check in the operation, and in the carrying out of which, the formation of the tree for next year should not be lost sight of, as the side-buds now left, as close to the bases of the individual shoots as possible, will balance the growths of the trees for another year.

Melons in Hotbeds.—The plants raised from seeds sown as advised in The Gardening World of December 27th, p. 263, will now be ready for being transferred to the mounds in the frames on the hot-beds. Put two barrowfuls of rich fibry loam or road parings, to which one-fourth of horse-droppings or rotten dung should be added in each light, a couple of days prior to planting to allow of it becoming slightly warmed. The young plants being thoroughly moist at the roots should be turned carefully out of the pots, and two planted 9 ins. asunder along the centre of the ridge the same depth in the soil as before, and press the soil firmly about the roots without disturbing the latter any more than can be helped. Then give sufficient tepid water to settle the soil around the roots, make a circle of fresh soot and lime about 4 ins. in diameter round each plant as a protection from injury by slugs as much as to prevent a superabundance of moisture from settling around the stems of the plants, which would cause them to damp. Shade the plants from bright sunshine until the roots have pushed well into the new soil, when it should be discontinued, and the points be pinched out of each plant—assuming that they have then made three or four rough leaves each. Train the shoots resulting from this stopping, three laterals from one plant and two from the other, regularly over the surface of the bed under each sash, having previously filled in the space between the ridge and the side of the frame with 6 ins. or 7 ins. thick of the same compost as that composing the ridge.—*H. W. Ward.*

The Golden Spire Apple.—This variety attracted special notice at the Apple Congress held at Chiswick, and it has also been commended as a handsome, useful variety that ought to be more generally known. I can fully confirm all that has been said in its favour. Five years ago I grafted it, along with several other good sorts, on the free stock, and with good care and special attention I have had two good crops off the Golden Spire, considering the age and size of the tree, while the other varieties have yielded but very few fruits. Its fruit resembles those of the Keswick Codling in shape, but somewhat larger, of a bright yellow colour, flesh white and of a crisp, acid flavour. It is an excellent keeper, and altogether an Apple that deserves a place in any garden.—*D. Wilkie, Sundrum, Ayr.*

The Duchess de Bordeaux Pear.—At the meeting of the Fruit Committee on Tuesday, Messrs. Geo. Bunyard & Co., of Maidstone, exhibited some fruits of this old variety, and gained a First-Class Certificate for it. At first sight it might be taken for a good sample of Knight's Monarch, but it is quite distinct from that sort in all other characteristics. The skin is lemon-coloured, heavily covered with russet; and the flesh yellowish, melting, and richly flavoured. It is in season now, and will keep good for another month. Mr. Bunyard states that the tree is a good grower, hardy, and a free-bearer. Dr. Hogg states that it was raised by M. Secker, at Gohardière Montjean, near Angers, and was first exhibited so long ago as 1859.

FLOWERS.

Seasonable Work in the Plant-houses.—Hitherto it will have been the aim of all who have to produce flowers in quantity, to push on everything that would add to the supply; but the time is now coming on when it will be necessary to take steps to prolong the flowering season of some classes of plants, and this may be done considerably by using a little judgment and forethought. In the case of Azaleas, some of the latest flowering varieties should be selected and kept in the coldest position available. A house with a northern aspect is a good place, if plenty of air can be given, and in case of frost, just sufficient fire-heat to keep the thermometer above freezing point. Genistas may be treated in the same way, but care must be taken that these are not allowed to become too dry in the pots, especially as the bloom spikes begin to show, for if once allowed to become very dry at this stage, the flower-buds are sure to fall off instead of opening.

Bulbs.—Most of these will now be starting into growth naturally and must be uncovered before they have become too much drawn, and care must be taken to prevent having too many in flower at the same time. Mignonette.—A good batch of this may now be sown. In preparing the pots, good rich loam should be used, with a little addition of well-rotted stable manure and a little old lime-rubbish, the pots must be well-drained, and the soil should be pressed as firmly as possible. Rhodanthe.—This is another very useful annual for pot-culture, and may be treated similar to Mignonette, except that the pots should not be filled so firmly, or it may be sown in pans or boxes and be pricked off afterwards. All kinds of bedding plants must be got forward as opportunity occurs, and some of the hardier kinds may soon be got into the cold frames, if they can be well protected with mats or other covering in case of frost.

Imantophyllum miniatum.—This plant is so useful and so beautiful throughout the winter season that I cannot refrain from writing a few lines in its praise. Being a native of Natal, where the temperature may be described as medium, this plant does not require much heat to force it into flower at mid-winter provided it has been subjected to a good period of rest during the late summer and early autumn months, by being placed out-of-doors in an exposed position and kept moderately dry. About the middle of September it should be placed in the greenhouse until the middle of October, and should then be transferred to the forcing-house, where a moderate temperature is maintained. The bloom spikes will shortly afterwards appear, when good supplies of liquid manure should be given, so as to give additional strength and colour to the flowers. It should be kept in this temperature till the end of April, and then be transferred to the greenhouse till the end of June, when it may be again placed out-of-doors. It blooms more freely when pot-bound, but so as to maintain it in health and vigour a portion should be potted every second year. This should be done early in March; the compost most suitable is two parts turfy loam and one part sandy peat, in which it assumes that intense green which gives it such distinction of character. When potting the plants should be selected as nearly as possible of one size, and all offsets removed. If large specimens are desired, about nine plants should be placed in a 15-in. pot, and three in an 8-in. and single plants in 6-in. pots for smaller vases and baskets. As a winter decorative plant or for cutting it has special charms, and when associated with Arums and Eucharis it is very telling, its warm orange umbellate spikes of flower being much appreciated at this dull season. When well grown in a large mass there is scarcely a plant in cultivation which produces such a gorgeous effect. It is, moreover, one of those good-natured plants that will endure any amount of hard treatment.—*Scribo.*

Begonia hybrida floribunda.—I do not remember to have seen a note in your columns respecting this Begonia, which is certainly worth growing for its flowers only, though there are many things grown for their foliage alone that are not the equal of it. The leaves are of a dark bronzy hue, so that a plant which has ornamental foliage, and good flowers as well, is well worth having. It may be urged that the flowers are not adapted for cutting purposes, owing to the short time they last; never mind, there will soon be more to cut from. Moreover, it can be had all the year round, and perhaps that is the reason why it is not thought worth writing about, as I know full well it is to be found in most gardens in large or small quantities. For autumn flowering I have had good results from cuttings put in about March, and for winter and spring use I put them in about May or June in single thumb pots in any hothouse, but not in a propagating frame or under bell-glasses, and after striking and filling the pots with roots, I put them into 4-in. or 5-in. pots, the sizes in which they are most useful to me. During the summer I grow them in a heated pit sufficiently near the glass to keep them dwarf, and under these conditions they form nice bushy plants. The blush-coloured flowers intermixed and protruding beyond the foliage have a very pleasing effect either for arranging with other plants in groups, or for standing about singly in rooms, more particularly in close proximity to old-fashioned things. By not allowing the plants to remain more than a week at a time in the house they will, when returned to the plant-houses, develop any trusses of flowers that may be in a bud state, and soon regain their fresh appearance, when they may again be used. A cool stove or intermediate-house is perhaps as good a place as any for growing them in during winter, but where houses are set apart for forcing plants or cut flowers, one not too heavily charged with moisture would suit them best. For use during summer I pot on the best of those that have flowered during the winter, discarding any leggy ones after taking their cuttings for producing future plants.—*E. Dumper, The Gardens, Summerville, Limerick.*—[Mr. Dumper has sent us some flowers and foliage of this really useful plant. It deserves all the praise bestowed upon it.—*Ed.*]

The Propagator.—There are some plants which do not strike root readily when severed from the parent plant, so that other means than cuttings have to be adopted with them. Among these I may mention Aralias, Cordylines, Cyanophyllum magnificum, and Sphærogyne latifolia. The simplest and safest method of propagating these that I know of is to split a flower-pot in half, say for the Aralias one of the 3½-ins. size; there will be some waste in getting the pots to split properly, but I do not know that that can be avoided. After a suitable number of pots have been split, some soil suitable to the requirements of the plant should be mixed, and a stoutish stick or two, of sufficient length and strength to hold the pot of soil at the height at which it is necessary to operate on the plant, the point of the stem at which the wood is neither too soft nor too hard. Remove the two leaves on either side at that point, and with a sharp knife slit the wood for an inch or two in an upward direction immediately under one of the joints, and a little below the same, the small portion below the joint can afterwards be removed, and a piece of stick or crock placed in the cut to keep it open, or probably it will partly unite instead of forming roots. At this juncture care must be taken that the head does not break off when cut. Place the two halves of the pot one on each side, and put a little rough compost in the bottom to keep the soil from running out, then fill in with the compost already prepared, taking care that some of the finest and sandiest of the compost is placed around and well into the wound. From the descrip-

tion it will be obvious that such a task requires more than one pair of hands, so that one should be holding the pot together while another places the sticks and secures the same quite firm by binding some string around the pot and the sticks. These elevated pots, which are not very elegant, I must admit, should be well attended to as water, and the plants be encouraged in every way to form roots. Probably, it would be well to stint the supplies at the roots of plants thus treated, as the danger is that having the old roots to support them, they are apt to make more growth than they can uphold, when roots have formed and they are severed from the parent plant. For the Cyanophyllum and Sphærogyne larger pots will be necessary than those recommended for Aralias, but the method of procedure and treatment are the same. I have known plump eyes of the two latter put in and treated in the same way as vines' eyes (described in your last number) succeed in making roots and growing.—*W. C. P.*

Digitalis obscura.—Although this interesting species of Foxglove has been offered for several years past, no special reference has hitherto been made to it. Now that experience has shown its thorough distinctness from the species commonly cultivated, the writer thinks that he will confer a benefit on the amateur of good things by bringing it under his notice. It has but one drawback, it is rather tender, and is indeed classed in some popular botanical dictionaries as a greenhouse plant. It is, however, fairly hardy in light, well-drained soils, as well as upon rockwork, in proof of which it may be stated that it has borne uninjured full exposure the last three winters in a sandy border. It grows about 3 ft. high, having a shrubby base, furnished with somewhat fleshy, ovate, acute, entire, dark green foliage, and stems terminated by a long raceme of most effective flowers. These are smaller than in the common Foxglove, but of similar form, and are remarkable for their clear golden-yellow ground, shaded and veined with brown. It is in this curious combination of tint that the attraction of the plant mainly consists, but even its foliage, so entirely free from the coarseness which characterizes the better known species, is not without its influence on the total result. In raising this species from seed, care should be taken to sow very thinly, and to water carefully, the pot being placed on a greenhouse shelf close to the glass. The young plants should not be exposed in the open ground till the second year, when they may be planted where they are to bloom. A native of the Sierra Nevada in Spain, and is synonymous with the D. nevadensis of gardens.—*W. Thompson, Ipswich.*

Dentaria polyphylla.—This beautiful species which is one of the most elegant of early spring-flowering plants, is admirably suited for the rock garden. The habit is dwarf; the leaves pinnatisect, with linear-lanceolate toothed segments; and the flowers, which are an inch long, and arranged in a gracefully drooping corymb, are white or pale straw-coloured, making a pretty contrast with the bright green leaves. The rootstock is covered with numerous irregular tubercles, giving it a remarkable appearance, and grows from 6 ins. to 10 ins. long, by nearly ¾ in. in diameter. It is figured in the January number of *The Botanical Magazine*, from a plant sent by Messrs. Froebel, of Zurich, to Kew, and which flowered in February and March of last year. It is a subalpine plant of somewhat restricted range, occurring in wooded mountains from Central Switzerland to Carniola and Croatia, and southward to Etruria, in Italy; hence it will be likely to succeed best when planted in a cool and somewhat shady position on the open rockwork.

Psychotria cyanococa.—A small Rubiaceous plant under this name may now be seen in the stove at Kew, which is by no means devoid of interest. It is a small bush, 1 ft. high, with narrowly elliptical leaves with crisped-undulate margins, and small dense panicles of deep indigo-blue berries, rather smaller than Peas. It is this rather uncommon colour of the fruit which attracts attention, a colour which, by the way, may be seen in the fruits of some Commelynaceous plants.

VEGETABLES.

The Kitchen Gardener's Calendar.—Onions, as a rule, follow Celery. Where this is the case the latter should be taken up and laid in the same depth in the ground as before in a north border, and the ground be dug, so that the seed may be sown as soon as the surface soil is sufficiently dry to admit of the work being done without its adhering to the feet. The ground, assuming it to be light and pulverized, should then be trodden, raked, and made level, giving it a good surface dressing of fresh soot before drawing the drills, about 1 in. deep and 1 ft. asunder, after which the seed should be sown thinly and evenly in the drills. The soil should then be closed in over the seed with the feet, again be trodden down over each individual drill, and afterwards be finely raked over in the same direction as the drills, so that the bed, when finished, may present a fine, firm, and even surface. For general use and good keeping qualities Danver's Yellow, Nuneham Park, and James's Keeping may be relied on, and a few rows of White Naples should also be sown on a warm border for drawing young, as also should a few beds of the Silver Skin variety for picklers. The latter should be sown broadcast and rather thickly in a poor, dry, and shallow soil, so as to prevent their growing too large.

Forcing Department.—Young plants of Cauliflower, Cabbage, Brussels Sprouts, and Lettuce, resulting from seeds sown on hot-beds, as advised at p. 263, will now be ready for pricking out in a frame placed on old hot-beds or under a few lights in a warm corner, about 4 ins. apart. They should then be watered and kept close for a week or ten days until the roots have pushed well into the soil, after which they should be gradually hardened off prior to being finally transplanted to the open. Young Cucumber plants, raised in the manner recommended at the page referred to above, will now be large enough for planting in frames placed on hot-beds. Put a barrowful of compost, consisting of three parts of light loam and one of short dung and leaf-mould, into the centre of each light, and after it has been there twenty-four hours, set the plants thereon (one on each mound), planting them and subsequently treating them as advised for "Melons in Hot-beds," under the heading of "Fruit Culture under Glass." Make up the linings around and up to within 2 ins. of the top of the frame with fermenting material, as much with the view of excluding the cold therefrom as to impart a little heat to the interior of the bed and frame. And with this object in view cover the latter at night with mats and fern or long dry litter. —*H. W. Ward, Longford Castle.*

Mushrooms.—We have been favoured with an inspection of some remarkable clumps of Mushrooms, grown by Mr. Breese, gardener to Lord Leconfield, at Petworth Park, Sussex, from spawn supplied by Messrs. Veitch & Sons. The prolific character of the spawn may be gleaned from the fact that some of the clumps have contained as many as seventy-five Mushrooms, ranging from 1 in. to 4 ins. in diameter, with hundreds of young ones to follow. The spawn must be good and the cultivation too to produce such results as this.

The New American Peas.—I was very much interested in "R. D.'s" remarks upon these new Peas in your last issue. We grow some fourteen varieties here, both old and new, every year, Peas being the favourite vegetable of my employer, so much so, indeed, that when we begin to gather them other vegetables have to go to the wall. I can say nothing yet as regards the American Wonder and Bliss's Everbearing, but am getting packets of them, along with others, for trial. Paying a visit to Mr. Charles Kershaw's, Slead Syke Nurseries, Brighouse, last summer, I had the pleasure of being shown a row of Abundance Pea some 30 yds. long, and such a row of dwarf Peas it had not before been my lot to see since the introduction of Maclean's Little Gem. The description of it given by "R. D." is most accurate. Mr. John Kershaw could grasp with his hand twenty-wo beautiful well-filled pods within the radius of a span. Mr. Kershaw knew I was sceptical as to the cropping qualities of dwarf Peas, but the spell was broken, out came my pocket-book, and it was put down for trial this year. I consider it A 1 for market purposes, as well as for cultivation by cottagers and where Pea-rods are scarce. It justly deserves the First-Class Certificate conferred upon it by the Royal Horticultural Society.—*Benj. Lockwood, The Gardens, Low Hills, Lindley, Huddersfield.*

Sulham Prize Pink Celery.—Although not a new variety, this is one of the best and hardiest I am acquainted with—of medium growth, solid, crisp, and of fine flavour. It has the advantage of withstanding sharp frosts without covering, to a degree that I have not found in any other variety. My first acquaintance with it was a few years since, after a very severe winter when visiting an amateur friend, who I found had good Celery on his table, my own having become rotten in the centre and unfit for use through the effects of the cold weather. I found my friend's variety was the above-named, and decided to give it a trial the following season. I was so well satisfied with it that I now grow no other, the one variety answering admirably either for an early or late supply. —*C. H.*

Tomato, King Humbert.—This Tomato was sent out as a novelty last year, and from several catalogues which I have received I see that it is still being offered as such. Having grown it last summer in a cool greenhouse in 12-in. pots I was well satisfied with its fruiting qualities and also its habit of growth. It is well suited for growing on a trellis. The fruits which are borne in large clusters, are of medium size, full of flesh, and mild in flavour.—*D. Wilkie, Sundrum, Ayr.*

Early Cabbages.—At the meeting of the Fruit Committee on Tuesday, Mr. Gilbert, of Burghley, exhibited some examples of his Selected Imperial Cabbage side by side with some of Ellam's Dwarf variety, which has been considered by many to be the earliest sort grown. The Selected Imperial is of the Little Pixie type, a nice, compact, well-hearted little Cabbage now, while the heads shown of Ellam's Dwarf were only commencing to heart. As shown it was generally considered that Mr. Gilbert had got a good thing—probably the best early Cabbage grown, but later in the day this opinion was somewhat modified by the arrival of some excellent samples of four varieties grown and sent for exhibition by Mr. Inglis, gardener to Earl Grey, at Howick, Lesbury, Northumberland. The sorts sent were Cook's Early, Sutton's Reading All Heart, Early Rainham, and Carter's Heartwell Marrow, all undoubtedly good early sorts, but the earliest and best hearted of all was the Reading All Heart, a solid, compact little Cabbage, that much took the fancy of some who had not seen it before.

Midsummer Kidney Potato.—Amateur and professional gardeners will find in the above-named Potato, a very valuable addition to the early Ashleaf varieties—equalling in earliness the old Ashleaf—and all the so-called improved forms. The most valuable points, however, I wish to particularize are:—the handsome shape, appearance and even size of the tubers, and the quality and cropping properties which are all that can be desired. As an early variety for exhibition it has no equal, and from the small amount of haulm, is admirably adapted for frame work. The variety was, I believe, raised at Bedfont and sent out by Mr. R. Dean.—*C. H.*

Bibby's Defiance Solid White Celery.—Judging from samples exhibited at the Fruit Committee's meeting on Tuesday, Mr. Bibby, of North Street, Colchester, has, in the Celery above-named, a variety of unusual excellence. The "sticks" shown were as large as a good sample of Leicester Red, remarkably solid and crisp, and mild in flavour. A white Celery of this size and character, which will keep solid and good till this time and later, is worth looking after.

THE

Orchid Growers' Calendar.

Light, and its effects upon various Orchids.—The past favourable autumn seems to have had a marvellous effect upon the growths and bulbs of Orchids that are known to like more shade than others, for instance Odontoglossum Alexandræ and O. Pascatorei are showing more flower-buds this year than did larger bulbs made in previous years. O. Phalænopsis has three flowers upon one spike. Cymbidium eburneum, with growths no stronger than those of the previous year, are producing two flowers in place of one. Lælia albida, grown in the same house as the Odontoglossums, has eleven flowers upon one spike! this is produced from a medium-sized bulb.

Cœlogyne cristata, grown in the Cattleya-house, is another instance of what sun, light and air will do in thoroughly maturing growth. These plants are bristling with flower-spikes. Apart from the rarer C. c. alba and C. Lemoniana there are two or three distinct varieties of this. The Chatsworth form may be mentioned as being the best because it will give six, seven or eight flowers upon a spike, and of good substance too. The commoner form with shorter and rounder bulbs will not, under the best cultivation, give an average of more than four flowers upon a spike. I have proved this beyond any doubt. Still specimens even of this variety with fifty or more spikes of flower upon them are not to be despised, being very chaste and beautiful. There is also what is known as the "Trentham" variety, which flowers much later than the preceding. I have seen it in flower as late as the month of May. The bulbs of this variety are much longer and thinner than the others.

Now a word or two about Dendrobiums. D. Wardianium has one bulb bearing thirty-four very fine flowers, and upon the same plant is a smaller bulb, with green leaves still upon it, carrying fourteen flowers, this was an after-growth, perfectly green and soft in October last. I have never seen or heard of this Dendrobium flowering in such a way before. The finest, I may say, without exception, the best grown Dendrobiums, I have seen, are to be met with in Mr. James Cypher's Nursery, Cheltenham. I mean the whole family of Dendrobes, not isolated specimens that may be met with here and there. I will name a few of the more reputed "difficult doers." D. bigibbum, D. superbiens, D. Deareii, D. formosum, and D. Bensoniæ, the latter marvels of culture, having new growths upon them fat and well ripened, from 12 ins. to 18 ins. in length! Mr. Cypher's houses are built in such a manner as to give to the inmates the greatest amount of light possible. His newly-erected structures have the rafters about 7 ft. apart, with substantial sash bars intervening, grooved to take away all drip from the roof. No boxes are used at the top of the houses to protect the blinds in the winter, which tend to obstruct the light, and everything in the way of shading is cleared away for the winter season.

When you enter the span-roofed houses, it appears as light within as without. Any gentleman about to build glass houses of any description would do well to visit this nursery before doing so. I have been a constant visitor there for the past seven years, and have not failed to notice structural improvements in every way. I always enjoy a chat with Mr. John Cypher, the nephew, who is a great enthusiast in Orchid culture, and is always pleased to give hints as well as to receive them. I may add that anyone interested in the culture of plants in general would be most courteously received at the Queen's Road Nursery.—*T. Simcoe, The Gardens, Lake House, Cheltenham.*

Lælia anceps Sanderiana.—There was a strong muster of Orchid buyers at Protheroe & Morris's Rooms on Tuesday week, the event of the day being the sale of an entire importation of the new white variety of Lælia anceps, collected and sent home from Mexico to Messrs. F. Sander & Co., by Mr. Arnold. Professor Reichenbach describes the plant as being of the Lælia anceps Dawsoni type, but distinct from that variety in its white lip and two purple eye-blotches in the place of the transverse purple zone in the lip of Dawsoni. One hundred and sixty-seven lots were put up, and nearly all were sold. The largest piece, a mass some 11 ft. in circumference, with hundreds of bulbs, was withdrawn, but another immense green-leaved mass, containing one hundred and fifty bulbs, fell to a bid of 48 gs. The next highest prices realized were 38 gs., 36 gs., and 25 gs. respectively.

Lælia albida.—This pretty Mexican Orchid seems to have been rather slighted of late years, for what reason I know not, for as a pretty and durable winter flower it is by no means a bad or even an indifferent thing, and at the same time it will bring its pretty flowers to perfection in any ordinary greenhouse or cool conservatory. For a long time past Messrs. Fred. Horsman & Co., of Colchester, have had a charming display of it in bloom, many interesting and lovely varieties having appeared among the imported plants, among them being L. albida, the old type with white flowers and yellow blotch on the labellum; L. albida Marianæ, a variety first flowered by R. Warner, Esq., at Broomfield, with white sepals and petals, and rose lip with yellow lines; L. albida sulphurea, with pale yellow petals; L. albida bella, like L. a. Marianæ, but having the sepals and petals heavily tipped with rose; and L. albida Stobartiana, a variety with well-formed rose-tinted flowers. So great is the beauty and fragrance of the handsome varieties of this plant, that one may safely predict a better future for them.—*J.*

Orchids at South Kensington.—At the meeting of the Floral Committee on Tuesday last, Orchids again formed a very prominent feature. Sir Trevor Lawrence, Bart., M.P. (who at the annual general meeting held in the afternoon was unanimously elected President of the Society), exhibited a splendid mass, on a raft, of the beautiful Lælia anceps Hilliana, and which was awarded a First-Class Certificate. The specimen bore quite a profusion of flowers, of which the sepals and petals are white, the lip a delicate shade of rose with a yellow crest, and the throat veined with purple. Another First-Class Certificate was also voted to Sir Trevor for Dendrobium heterocarpum album, a white variety with a yellow blotch, and brown markings on the lip only. From W. Lee, Esq., Downside, Leatherhead, also came some interesting species, three of which were awarded Certificates of the First-Class. These were Saccalobium bellinum, a pretty, small-growing species, with a short spike of four flowers of a greenish-yellow ground colour, dotted with round and oval-shaped dark purple brown spots, and the cup-shaped lip white, with a broad apron-like fringe, with a lemon-coloured blotch in the centre; Odontoglossum Hrubyanum, which might be taken for a white O. cirrhosum, though its sepals and petals are a little broader, and the lip yellow pencilled with purple; and Acineta chrysantha, a strong growing species with a fine spike of rich lemon-yellow flowers spotted with brown. Mr. B. S. Williams also received a First-Class Certificate for Odontoglossum hystrix magnificum, a grand variety with flowers of a rich deep purple-brown overlaying the yellow ground. G. N. Wyatt, Esq., Lake House, Cheltenham (Mr. Simcoe, gardener), sent a specimen with five flowers of the lovely Cattleya chocoensis, whose fine shaped white sepals and petals, and orange blotched, purplish-crimson lip, was much admired. From the same collection also came a specimen with two fine spikes of the rare, curious, and pretty Odontoglossum ramossissimum. The sepals, petals, and lip, are long and narrow, white, spotted with purple. From F. A. Philbrick, Esq., Q.C., Oldfield Bickley (Mr. Heims, gardener), came the pretty Odontoglossum blandum, and a major form of the white O. Œrstedtii. Odontoglossum membranaceum, with a fine spike of nine flowers, came from A. H. Smee, Esq., The Grange, Wallingford (Mr. Cummings, gardener), and it was awarded a Cultural Commendation. This is one of the plants which Mr. Smee kept out-of-doors last summer for three months, and it says much for the good done to the plants, that the bulb now flowering was made in the open-air. Mr. Smee also had Oncidium concolor giganteum, a variety with a very large lip. In a new collection of plants, Mr. William Bull also exhibited some choice Orchids, notably several distinct varieties of Cattleya Trianæ; Odontoglossum Halli leucoglossum, a pure white O. Alexandræ, &c.

Cypripedium Argus. — This Cypripedium, although perhaps not one of the gems of the genus, is certainly worth a place in every collection. The intermediate-house suits it admirably, and if potted in peat and sphagnum, and liberally supplied with water during the growing season, it grows freely and produces its flowers early in spring; the petals are prettily spotted with dark purple. As with most of the Cypripediums, it is ornamental when out of flower, its leaves being handsomely tesselated with grey.—*J. S. B.*

HORTICULTURAL SOCIETIES.

Royal Horticultural, *February 10th.*—Probably, in anticipation of a large number of Fellows being present for the annual general meeting, a very pretty little show was got together to-day, made up principally of Cyclamens, Primulas, and Orchids, but we regret to say that very few were present to appreciate the good things exhibited. The display of Cyclamens in itself was worth going miles to see, the number shown being large and the quality superb. The growers represented were, Mr. Clarke, of Twickenham, Mr. H. B. Smith, Ealing Dean, Messrs. Veitch & Sons, Messrs. Cannell & Sons, and W. Clay, Esq., Kingston (Mr. Wiggins, gardener), all of whom had large collections. The Orchids we have alluded to in another column, so that the Primulas must have a word next. These, in bulk, came from Messrs. Cannell & Son, and the high state of cultivation exhibited by the plants came in for universal commendation. The group consisted of some two dozen plants in 48's of the pretty Swanley Blue, a good porcelain blue as seen in the bright light, with immense trusses of flowers thrown well about the stout, robust foliage; and a dozen plants in 32's, the very best we have seen, of the old double white variety. The plants measured from 16 ins. to 18 ins. through, perfect in foliage and magnificently bloomed. The Messrs. Cannell also obtained a First-Class Certificate for one of the finest white Primulas that has ever come under our notice. The plant is a strong grower, fern-leaved with red stalks, and the flowers white, of great size and substance, very pure, and fimbriated. It is well-named White Perfection. Mr. J. King, of Rousham, near Aylesbury, showed several high-coloured seedling Primulas, one of them, The King of Primulas, making a decided step in advance. This was awarded a First-Class Certificate, and deserved it for its fine crimson-scarlet colour, great substance, and neat habit. Mr. King, who is an adept at hybridization, should soon show us something novel from this break.

Messrs. James Veitch & Sons sent several new plants of note, most conspicuous among which was a strikingly fine and very interesting new Pitcher-plant named Nepenthes cincta, and which was raised from seeds imported among seeds of the new Nephenthes Northiana, and believed to be a natural hybrid between that species and N. albo-marginata, which were found growing together in Borneo. It is a strong robust-growing plant, with handsome pitchers, some 10 ins. long, of a dull reddish-crimson colour, with rich crimson markings. It was awarded a First-Class Certificate, as was also a very fine new hybrid green-house Rhododendron named Militare, having a grand truss of some twenty pure scarlet blossoms. From the same firm also came a large and brilliantly-coloured spathe and spadix of the new Anthurium Ferierense, and which was awarded a Cultural Commendation. Mr. H. B. Smith, Ealing Dean, received a First-Class Certificate for Cyclamen persicum giganteum album, a remarkably fine pure white variety, the petals of which measured over an inch across and were of great substance.

Mr. Bull, amongst other new plants, showed a fine specimen of Vriesia Janeirense variegata, a noble-looking plant, with the broad, stiff, arching, green

leaves, boldly variegated with longitudinal bands of white. It is a very handsome foliage plant, and received a First-Class Certificate. Mr. W. M. Crowe, Upton, Essex, sent Begonia semperflorens gigantea rosea, a fine free growing and free flowering variety raised by Mr. Lemoine.

At the Fruit Committee's meeting, besides the Cabbages and the Duchesse de Bordeaux Pear alluded to in other columns, the members had to deal with large collections of Apples from Messrs. Bunyard & Co., Maidstone, and Messrs. H. Lane & Son, Berkhamstead, and a large and very fine collection of home-grown Oranges from Messrs. T. Rivers & Son, Sawbridgeworth. The Messrs. Lane's collection of Apples included fifty-three dishes, and the Messrs. Bunyard's fifty-one dishes, and the samples were all of good size and colour, and in a particularly good state of preservation. The collection of Oranges, Citrons, and Lemons from Sawbridgeworth was composed of twenty-three distinct sorts, each shown with leaves attached, and all having a very pleasing soft shade of colour. One of the Oranges was so good in flavour, and so thin in the skin and delicate in texture, that the Committee awarded it a First-Class Certificate. We understand that it was received from St. Michael's same years ago under the name of Sustain, and that it is there grown as a choice fruit, but not for general exportation.

The Annual General Meeting.—In the afternoon, what proved to be one of the poorest attended and quietest annual meetings the Society has probably ever had, was held in the Gallery above the Conservatory, Sir Trevor Lawrence, Bart., M.P., presiding. The minutes of the previous meeting having been read and confirmed, twenty-three candidates were elected to fellowship. The Chairman, in moving the adoption of the report and balance-sheet, said his first duty was to express on behalf of the Council and the Fellows their deep sense of the loss the Society had sustained by the resignation of Lord Aberdare, who had been their President for the last ten years. They would all recognize to the fullest extent the services which Lord Aberdare had rendered to the Society. He accepted the office of President at a time when the Society was torn with dissension, and was altogether in low estate, and it was with much regret that they became aware that his other engagements no longer permitted him to retain the Presidentship. On behalf of the Council he would propose a resolution to the effect that the Society expressed its grateful acknowledgments of the eminent services rendered by Lord Aberdare, who had so largely contributed to the extrication of the Society from difficulty. The Society had also to regret the death of the late Mr. Mangles, whose abilities had been unceasingly displayed in its service, and the Council had been deprived of a colleague whose energetic assistance they highly valued. The report for the past year presented no very remarkable features. Allusion was made to the Report of the Apple Congress, which had been ably compiled by Mr. Barron, and presented features of great interest and importance to fruit growers. Its publication had met with much favour, and the Council had under consideration the question of issuing a new edition. The Daffodil Conference had also proved most interesting, and the discussion would doubtless result in practical steps being taken to effect a needed revision in the nomenclature of the genus.

During the coming season the Council had arranged a similar conference on Orchids, which would no doubt result in bringing together a very remarkable collection of those beautiful plants, though the date selected was somewhat late, owing to their having to avoid the risk of injury to the plants from spring frosts. He regretted that the balance-sheet did not present a more favourable aspect, the balance carried forward being very small as compared with that of the previous year. It was also to be regretted that the fellows' subscriptions had fallen off to a considerable extent. The Council desired to express their thanks to Sir Philip Cunliffe Owen for the able assistance he had rendered to the negotiations with the Council of the Health Exhibition. In conclusion, he desired to say that the Council would endeavour to maintain the efficiency of the practical work carried on at the gardens at Chiswick, and their only ambition was to promote by every means the interests of horticulture.—The resolution relating to Lord Aberdare was carried with acclamation, an amendment by Mr. Guedalla falling through for lack of a seconder.—The report and balance-sheet, after brief remarks by Mr. Shirley Hibberd, Mr. Liggins, Mr. E. R. Johnson, and other fellows, was unanimously adopted. The meeting closed with a vote of thanks to the President on the motion of Mr. Haughton.

Manchester Horticultural Improvement.—*January 29th.*—At this meeting, which was held as usual in the old Town Hall, Mr. Bruce Findlay in the chair, Mr. E. Griffiths read a paper on "Insecticides." Before calling upon Mr. Hughes, the President, said that one of the greatest misfortunes which could happen to a gardener or a farmer was to have his crops assailed by insects. One of the greatest judgments that befell the ancients was the sending of divers sorts of flies among them, and we read that "their increase was given to the caterpillar and their labour unto the locust"—and poor Spain—which had been literally turned upside down through terrible earthquakes, had during the past year lost something like £400,000 through the ravages made amongst their vines of that terrible scourge, the Phylloxera vastatrix. Whether an infallible agent had yet been discovered for the destruction of plant pests, it was impossible to say; unfortunately, in some cases the means employed not only destroyed the insect, but the plant also. We all know that very active measures are essential in order to keep down the noxious insect.

Mr. Hughes commenced his paper by remarking that all genuine insecticides ought to be so effective as to dispel any idea of failure when such preparations are applied in a proper manner. From his own personal observation he was led to believe that failure in the use of insecticides for the cleaning of plants, and thus getting rid of insects and blight, is more due to the want of knowledge in the preparation of washes, than should be attributed to the insecticides itself, and also to the absence of experience on the part of the operator in its application, so as to secure the results obtainable when such is used by practised hands. When carrying out his experiments in the production of Fir-tree oil, he made the Manchester water the standard of the quality of water suitable for the preparation of washes to be used for cleaning plants, and, therefore, prepared the insecticide accordingly. And it is pretty well known that all preparations which are suitable for cleaning the foliage of plants should have an alkaline re-action just in a sufficient quantity as not to injure the foliage or the colour of the petals of flowers. He succeeded admirably so far, and completed his preparation in every particular so as to produce an insecticide which should answer every purpose required, and be a boon to the horticulturist. But when he sent it out as a perfect article he soon found that the water used in different parts of the country varied so considerably that when mixed with the insecticide it quite altered its character and usefulness, and thereby brought about differences of opinion as to its real value. It was important that this should be well understood, for so long as water which is hard, and contains lime and other salts, is used in the preparation of washes having an alkaline re-action, so long will the operator be subject to failure in the cleaning of his plants, and also run a great risk of having the foliage spotted or otherwise damaged. It is not generally known that spring water is not quite so good for general horticultural purposes before it is boiled as it is afterwards, but such is the case, as for purposes of cleaning and mixing with insecticides there exists a very wide and important difference between the two; and he would recommend that all the water used for such purposes be taken from the boiler or hot-water pipes, or otherwise boiled, and be used when cool. Uniform results might then be expected. Turning now to the means of destroying insects which infest both hard and soft-wooded plants, he said that a vine-house cannot be cleared of the mealy-bug unless persistent attention be given to it, and the vine itself, while dormant, subjected to an application of insecticide made nearly double the strength of that used when it is in full leaf. In houses other than those for vines the same persistent treatment should be followed, and the greasy exudations of the bug which are deposited upon the foliage and stems of growing plants should be removed by insecticides applied with a small brush. For soft-wooded and quick-growing plants a comparatively weak solution only is required, provided the application be made in the evening after the sunset, or in the very early morning. The shading of plants under glass from the direct action of the sun's rays will assist very materially in keeping down insects. After observing that petroleum oil when made soluble in water does not, in his opinion, possess any property which can make it valuable as an insecticide, he said that in tobacco and many of its preparations will be found a very useful and efficient insect destroyer when applied in the form of smoke. For destroying caterpillars on Gooseberry and Currant bushes there is no better or cheaper remedy than the powder of white hellebore. In conclusion, he said that as to vermin in glass houses, the frequent disturbance of the nests and breeding haunts is the most effectual method of dealing with them, for however many of the stray ones may be killed by the aid of the most improved appliances, their total extinction will only be attained by doing away with that for which they live, viz., the facility for propagating their species.

Letters to the Editor.

AN ELECTION OF VEGETABLES.

The useful lists of Roses which have year after year been made by Mr. Hinton have suggested to me the idea that a similar list of our best vegetables might easily be made if a score or so of our principal vegetable-growers would send in lists to the editor of the kinds which have afforded them most satisfaction. Such lists would prove of great value to amateurs, and even professional gardeners might benefit by them. If the suggestion meets with approval, I will at once send for publication the form in which the lists should be sent in to the Editor.—*Amateur.*—[An excellent suggestion which has our hearty approval. We shall be glad to hear further on the subject from "Amateur."—*Ed.*]

SUMMER LETTUCES.

In reply to "Constant Reader's" request for information on this subject at p. 350, I beg to say that the following varieties are the least liable to "bolt" that I am acquainted with, as well as being the best all-round sorts to grow, viz.:—Cabbage: All the Year Round, Grand Admiral, and Victoria; Cos: Paris White, Paris Green, and Kingsholme. As cultivation has a good deal to do with the "bolting" or "non-bolting" of Lettuces, it may not be out of place to inform "Constant Reader" that if the young plants are pricked out 4 ins. apart in nursery-beds, as soon as they are large enough to handle, that is, before they become crowded and consequently drawn in the seed-beds, and are subsequently planted out in rows 1 ft. apart and the same distance from plant to plant in the rows, and afterwards attended to in the way of watering when necessary to ensure crispness, the varieties above named will not "bolt" for a couple of weeks after the plants have attained to their largest appreciable dimensions. But should the treatment of the plants be the reverse of that indicated, the result will be most unsatisfactory, loose attenuated heads, wanting in crispness and size, and which will run before they are half grown.—*H. W. W.*

POTATOS FOR AN AMATEUR.

I have read with much interest the correspondence in reply to "A Sussex Amateur's" request for information respecting Potatos suitable for exhibition and good for the table. I agree in the main with Mr. Kerr, and consider that to plant Potatos, as "D." suggests, in drills 3 ft. and 3 ft. 6 ins. apart, would be a pure waste of ground, as Potatos grown in drills 2 ft. and 2 ft. 6 ins. apart will come to as great perfection. The soil on which I grow Potatos is a light loam, and I dig it 18 ins. deep in the autumn, giving a liberal dressing of cow manure, as I consider horse dung too hot for the Potato. After the ground is dug, rock salt is freely sprinkled over the top to destroy wire worm and other insect enemies, and then turf cut one year previously is wheeled on to the Potato ground and put in ridges, where it is benefited by the action

of frost. In spring this turf is cut into small pieces, scattered over the ground, and forked into it, before the Potatos are planted and treated in the manner advised by Mr. Kerr. I would recommend the following kinds as being, according to my experience, the best that "A Sussex Amateur" can grow:—Fillbasket, Schoolmaster, Alpha, Blacksmith, Rector of Woodstock, Radstock Beauty, Sutton's Early Regent, Grampion, Reading Russet, Snowflake, Prizetaker, and Sutton's Favourite.—*A. Bogie, The Gardens, Auchans, Kilmarnock, N.B.*—[We are afraid but few of our readers can get sufficient turf to use in the manner described by Mr. Bogie.—*Ed.*]

NOTES AND QUERIES.

Balsams and Cockscombs for an Autumn Show.—Having seen some of your replies to inquirers and correspondents, I hope you will allow me to solicit advice from some of your able and obliging contributors. I am anxious to exhibit Balsams and Cockscombs at a local show this autumn—September—and shall be glad of any particulars as to management from seedling to show-table; also any "wrinkles" that may be worth knowing on that subject.—*A Keen Competitor.*

Leeks and Onions for Exhibition.—Could any of your correspondents instruct an "Anxious One" as to the proper culture of Leeks and Onions for exhibition? I have grown and shown what I considered to be first-class Onions and Leeks, but hitherto have failed in catching the "judge's eye" at the shows. There must be secrets in "Leek and Onion growing for exhibition" that I am not acquainted with. Any old exhibitor who will give me the desired information will greatly oblige.

Improving a Lawn.—Will you kindly advise me through the medium of your column for information (as I see you offer advice gratis) how I must proceed to improve a very bare and patchy piece of lawn in my front garden; also state best kinds of grass seeds to sow now. An early answer will oblige *A New Subscriber to "The Gardening World."*

Cherry-Pie.—I want a specimen plant of Heliotrope for exhibition at a Show next autumn; the prize is offered for the "best plant in bloom combining scent and quantity and quality of flowers" from an amateur's greenhouse. I have some old plants that were cut back last November and are now bare and dry. How shall I proceed with them?—"*Heliotrope.*"

ANSWERS TO CORRESPONDENTS.

Brussels Sprouts.—*J. C.*—Scrymger's Giant was raised by Mr. G. Scrymger, of Sonning, near Reading, certainly more than twenty years ago, though we do not remember the exact date.

Water Cress.—*J. Williams.*—M. Chatin's little book is published by Balière, of Paris.

Luculias.—*T. Smith.*—L. Pinciana has white, and L. gratissima rose coloured flowers. We have not seen the former for a long time, and presume it is passing out of cultivation.

Composts.—*E. C.*—The nearest approach to the sort of book you inquire about, is a little manual published at a cheap rate by D. Hall & Son, Shifnal, Salop.

Flower Gum.—*Nurseryman.*—Pound some white shellac very fine, put it in a stone jar, and add methyllated spirit until you have got it of the proper consistency. You must shake it up for half an hour and put the bottle by a fire to keep it warm for about a day, occasionally giving it a shake up.

Names of Plants.—*J. McP.*—1. Either Cupressus macrocarpa or Goveniana. 2. Looks like Alnus cordata. Could you send us a fresh piece of the latter?—*J. H. B.*—1. Crocus Sieberi. 2. Lachenalia quadricolor. 3. Lachenalia pendula. 4. Helleborus Olympicus.

Communications Received.—H. J. F.—J. A.—W. B. G.—C. H.—M. Y.—G. F.—D. W.—T. W.—H. J. Van Hulle—J. W.—L. C.—J. J.—W. P. R.—Sir Trevor Lawrence—W. L.—W. Davis—J. M.

Trade Catalogues Received.

Biddles & Co., Loughborough.—Illustrated Seed Catalogue for 1885.

S. Dixon & Co., 34, Moorgate Street, E.C.—Flower and Vegetable Seeds.

R. B. Laird & Sons, Royal Winter Gardens, Edinburgh.—Special Trade List of New Florists' Flowers.

Robert Owen, Boyne Hill, Maidenhead.—New and Select Chrysanthemums.

John Jardine, Jr., 11, Robertson Place, Kilmarnock.—Florists' Flowers.

LONDON SEED TRADE.

February 11th, 1885.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady demand for Clovers, without change in the values of Red, White, and Alsyke. Supplies of these varieties continue large. Trefoil is dearer, and Konisberg Tares sell freely at an advance. Bird Seeds sell slowly at last month's rates.

COVENT GARDEN MARKET.

February 12th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 5 0	Kent Filberts and Cobbs, per 100 lb.	55 0-
— Nova Scotiau, per barrel	10 0-15 0	Pine-apples, Eng., lb.	1 0- 2 0
— Extra samples	18 0-21 0	Pears, French, p. doz.	6 0- 9 0
Grapes, per lb.	3 0- 6 0	St. Michaels	3 0- 8 0

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	- 1 0	Horse Radish, bundle	3 0- 5 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	2 0-
Brussels Sprouts, p. lb.	0 4-	— Cos, each	0 2-
Cabbages, per dozen	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	2 6- 3 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 9- 1 3	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	0 9- 1 6
		Turnips, per bunch	0 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Narciss, Paper White	2 0- 3 0
Azalea, 12 sprays	1 0- 1 6	Pelargoniums, per 12 sprays	1 0- 2 0
Bourvardias, per bun.	1 0- 1 6	—scarlet, per 12 sprays	0 9- 1 0
Camellias, 12 blooms	2 0- 4 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 6- 3 0	Poinsettia, doz. heads	3 0- 9 0
Chrysanthemums, 12 bunches	-	Primula, double bun.	1 0- 1 6
— large, 12 blooms	-	Primulas, Chinese, bun	4 0- 6 0
Cyclamen, doz. blooms	0 3- 0 9	Pyrethrum, 12 bun.	-
Cineraria, per bunch	0 9- 1 6	Roses, outdoor, 12 bunches	-
Epiphyllums, 12 blms.	0 4- 0 6	Roses, indoors, p. doz.	2 0- 6 0
Eucharis, per dozen	3 0- 6 0	Roses (French), per doz.	1 6- 3 0
Gardenias, 12 blms.	18 0-30 0	Stephanotis, 12 spr.	-
Heliotropes, 12 sprays	0 6- 1 0	Tuberoses, per dozen	2 0- 4 0
Hyacinths, Roman, doz. sprays	1 0- 1 6	Tulips, per doz.	1 0- 1 6
Lapageria, white, 12 blooms	2 0- 3 0	Violets, doz. bun.	1 0- 1 6
Lapageria, red, 12 blms.	1 0- 2 0	— French, doz. bun.	1 6- 2 0
Lily of the Valley, doz. sprays	1 0- 2 0	— Parma, doz. bun.	4 0- 5 0
Marguerites, 12 bun.	4 0 -9 0	White Jasmine, bun.	0 6- 1 0

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ferns, in var., dozen	4 0-18 0
Azalea, per doz.	18 0-42 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Genista, per dozen	15 0-24 0
Chrysanth., dozen	-	Hyacinths, doz.	8 0-10 0
Cineraria, per dozen	9 0-15 0	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargoniums, scarlet per dozen	4 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	18 0-24 0	Solanums, dozen	9 0-15 0
Evergreens, in var., per dozen	6 0-24 0		

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Death.

On the 5th instant, at Denham Road Nursery, Uxbridge, the residence of his son-in-law, ANDREW DICK, aged 76, after many years of patient suffering. Deeply regretted by his family and friends.

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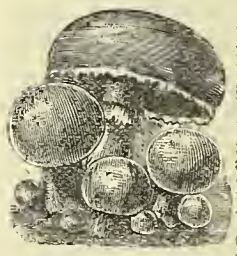

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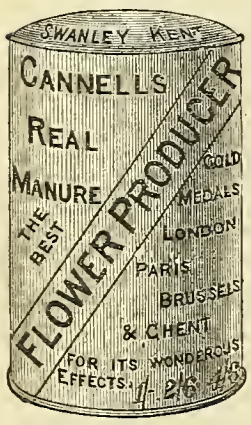

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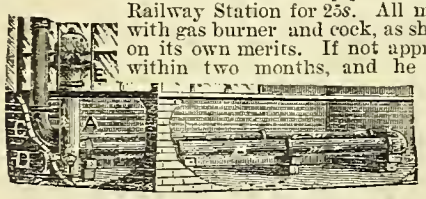

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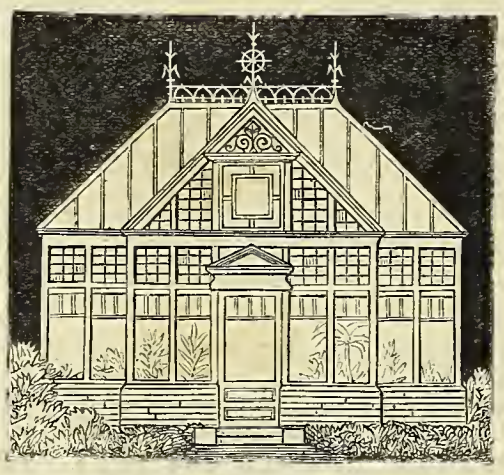

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Cattleya Trianæ, 70 plants, including many fine showy specimens
Cœlogyne cristata, true Chatsworth variety; several plants
Odontoglossum Alexandræ, many fine varieties
Lycaste Skinneri alba, with seven bulbs and five flowers
Lælia anceps varieties
Dendrobium Ainsworthi
Odontoglossum species.

On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.
Lilium auratum, Roses, Plants, &c.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on WEDNESDAY next, February 25th, at half-past twelve o'clock precisely, 6,000 very fine and sound bulbs of LILIUM AURATUM, just received from Japan; 2,000 double AFRICAN TUBEROSES; 1,100 Standard, Half-Standard, and Dwarf ROSES from English Nurseries; AZALEA MOLLIS, AZALEA INDICA, FERNS, and PALMS, from Belgium; a consignment of PANCRATIUMS and AMARYLLIS, received direct from the West Indies; an assortment of hardy English-grown LILIES, CARNATIONS, GLADIOLI, DAHLIAS, BEGONIAS, GLOXINIAS, and a variety of hardy Plants and Bulbs.

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THURSDAY.—Imported ORCHIDS, from Messrs. SHUTTLEWORTH & Co., FERNS from New Zealand, and 5,000 LILIUM AURATUM.

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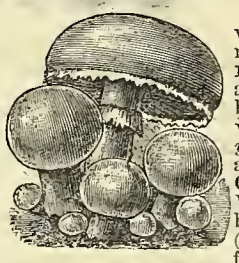

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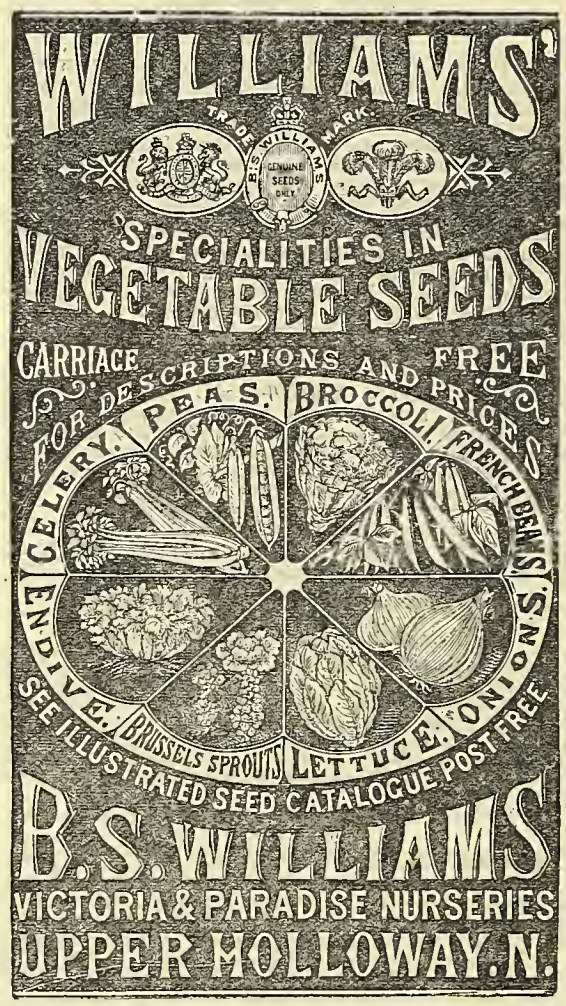

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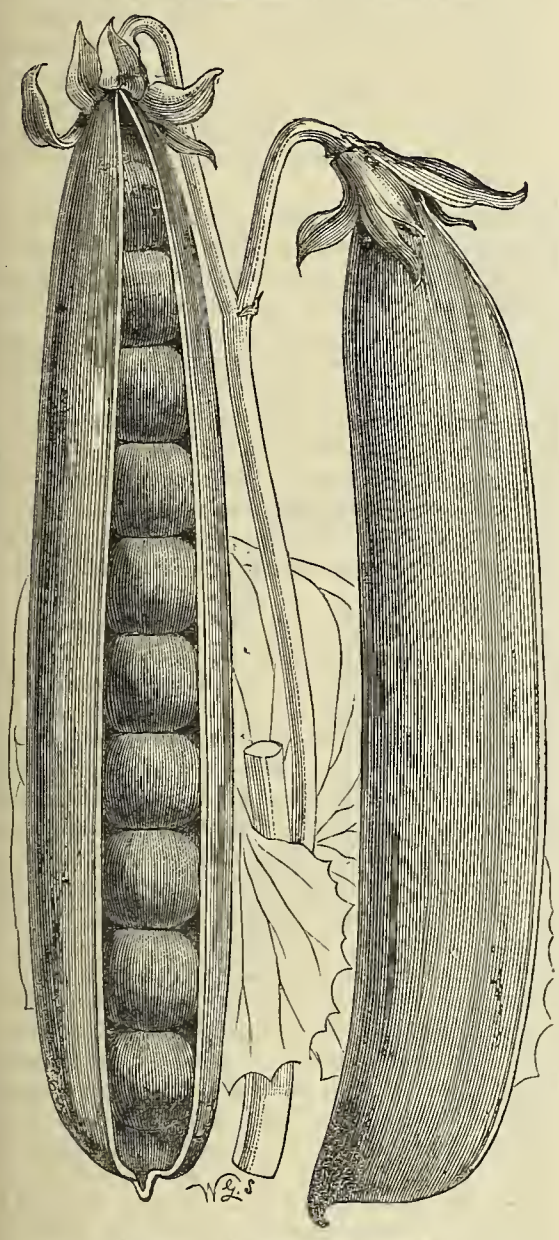

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The Gardening World.

SATURDAY, FEBRUARY 21st, 1885.

Garden Allotments.—We fear discussion relating to the land and the people is a matter that will ring in our ears for many a long day. As a subject for political strife and contention, we have nothing to do with it; there is no space in these columns for topics which breed strife and anger. We have to deal with the land and its attributes solely, as it is concerned with gardening, and that connection is after all a wide one. Land is the first element of gardening, of course, for we cannot plant and cultivate the air, the sea, nor the bowels of the earth. We have its surface only on which to sow and to plant, and that surface remains about the same in extent now that it was one thousand years ago. Man, however is an expansive element in creation, and increases almost as the sand on the seashore, so that to one being in existence a thousand years since we now have myriads, for population has increased so vastly as to be almost beyond computation.

With the increase of humanity there has also come increase in civilizing influences, and with these have grown the wants of man to an illimitable extent. Certainly, individual man in these days does not need the same expanse of earth for his sustenance which his primeval projenitor did, or even his pastoral forefathers. The chase yielded scanty means of sustenance, and the greatest development of pastoral life in bygone days would have been wretchedly incapable of supporting that vast accumulation of humanity the earth now holds. If we have increased so enormously, so also have our wants, and equally have our means of satisfying them; indeed, just in proportion as we call human toil into operation, so do we satisfy the wants of humanity. Man has no more imperative want than food, and that the land alone can furnish, and in no form more fitting for the sustenance of life than as cereals, vegetables, and fruits. Cereals we leave to agriculture, because less needing in their production that high cultivation which fruits and vegetables demand; and cereals, if not raised at home in sufficient abundance, will come to us from all the points of the hemisphere, so bounteous is mother earth to her children.

With those other food products we have referred to, however, our chief reliance must always be placed upon the productive powers of the soil at home, and whatsoever plan or method may be in operation which enhances its productiveness, must commend itself to our notice and approval. Gardeners themselves are very familiar with the productive capacities of gardening, and how, through its instrumentality, an acre of land may be made to produce many times the quantity of vegetables it did when under ordinary farm cultivation. The basis of all present discussions on the land question is found in the need for such changes in its holding and cultivation as shall render it more productive and capable of administering to the wants of the public. It may be true that there are vast breadths of land not yet under cultivation, but the chief portion of that land is poor and sterile and may, perhaps, bring to the labourer more aching hearts than Cabbages and Potatos.

But we have vast breadths of land which now is only most imperfectly cultivated, is but miserably productive, and yet might be made fruitful and profitable were it to feel the full force of human labour. But the other day, a noble lord who is a large Buckinghamshire landowner, Lord Carrington, described the wonderful addition made to some 80 acres of land on his Wycombe estate, let out to 690 working-class tenants as allotments, and calculated that the increase of productiveness as compared with that under farm cultivation was six times. Now here is evidence that is unquestioned as to the productive powers of human cultivation when applied to the land in the shape of gardening, and it is easy to imagine not only how great a blessing must those 690 allotment gardens carry into hundreds of poor homes, but also how much the more must that beneficient landowner, Lord Carrington, be esteemed by his poorer neighbours.

It is to be deplored that working men, who will, as above shown, thus by their labour increase the productiveness of land six times, should be so largely deprived of the opportunity to put that labour to the best uses. Why cannot every landowner do what Lord Carrington has so well done, and thus bestow blessings wholesale upon myriads anxious to benefit themselves. Allotment gardens where practicable and cottage gardens of good dimensions should be within reach of all our rural working people, and also of a large portion of our urban population, and it seems strange that a proposition to enable local authorities to purchase convenient sites of land and let the same to working men as allotment gardens can be termed revolutionary. Some exception may be taken to the investing of these local authorities with compulsory powers, but it must not be forgotten the principle is so far admitted, that not only public bodies but private companies can take the land if they need it, in all directions, and do so constantly; therefore, the expansion of these powers to the taking of land for allotment purposes or even for the purpose of establishing peasant proprietors on the soil can hardly be deemed unpopular or offensive.

Our object is clear enough. We want to see a great expansion of gardening, not only because it is a delightful and intelligent recreation, but also because it is the most productive form of cultivation of the land with which humanity is acquainted. We believe wheresoever gardening is developed, there does it carry blessings and prosperity in its train. The earth hunger which the poor man displays is not of that form too often seen which consists solely in hugging it as a miser would his gold. He wants to employ it, to cultivate it, to lay out upon it his only capital—labour—and to reap the fruits of that labour in good time, not only for his own benefit, but also for the good of his family and his neighbours. We truly believe that one of the chief agents in solving a pressing social problem will be found in a wide expansion of allotment gardens and cottage holdings.

The National Chrysanthemum Society.—Now that this national venture has got fairly under weigh, it must be admitted that it is being worked with activity and zeal. That on such a wet evening as Monday last fully two-thirds of a large committee journeyed from different parts of London to the meeting at the Four Swans, Bishopsgate Street, proves the interest taken in the business of the Society. After the reading of the minutes of the last meeting, the

Hon. Secretary, Mr. W. Holmes, announced that the Trustees of the Veitch Memorial Fund had placed at the disposal of the Committee the Veitch Medal and a prize of £5, and it was decided to allot them as a first prize in a class for thirty-six incurved blooms, in eighteen distinct varieties; the Committee adding second and third prizes of 40*s*. and 20*s*. respectively. This should bring a good competition and some finely developed blooms. Mr. Holmes further reported that Mr. James Crute had offered the sum of £10 to be awarded as special prizes in two classes, three prizes in each of the classes as follows:—For twelve plants of Chrysanthemums, incurved varieties, grown for specimens, not less than two blooms on a plant; and twelve plants of Japanese Chrysanthemums, shown under the same conditions; all to be grown and exhibited in Crute's Patent Concave Flower Pot. The scheme for affiliating local and provincial Societies is highly successful, already the Bristol Chrysanthemum Society, the Yeovil Society, the Ancient Society of York Florists, the Chelmsford and Essex Horticultural Society, and the Canterbury Gardeners' Mutual Improvement Society have become affiliated, and other applications are promised. The Schedule of Prizes for the present year is now completed, and will be issued at the earliest possible moment. Should the season prove favourable to the development of the Chrysanthemum, an exhibition of great extent and high quality may be expected at the Royal Aquarium in November next.

The William Francis Bennett Rose.—It will doubtless be in the recollection of many of our readers that Mr. Henry Bennett of Shepperton, some time ago sold for a large sum a considerable portion of his stock of this fine hybrid Tea Rose to Mr. Charles F. Evans of Rowlandville, Philadelphia, U.S.A., and it may interest them to know now that Mr. Evans having grown and flowered the Rose this season, is so much pleased with it that when over here a few weeks ago, he acquired the whole of the stock in Mr. Bennett's hands, the price paid for the entire stock being £1,000. It is Mr. Evans's intention to put the Rose in commerce this spring, and with that end in view, he has appointed Messrs. William Paul & Son, Waltham Cross, as his agents for Europe. The W. F. Bennett Rose is, we have no hesitation in saying, the best dark-coloured winter blooming variety in cultivation, and must become a great favourite in the market when our growers get hold of it. It is a neat free grower, and the freest bloomer of any Rose we are acquainted with, as no sooner is one flower cut off than the bud below sends up another, while the colour, a rich deep crimson, is well in advance of any other Tea Rose of the same class, and it is of the same shape as Niphetos. We may also add that another of Mr. Bennett's hybrids—that grand light-coloured Rose—Her Majesty, has also passed into Mr. Evans's hands.

The Trustees of the Veitch Memorial Fund have decided to offer the following Medals and Prizes during the present year—namely, One Medal and Prize of £5 to the Botanical and Horticultural Society of Durham, Northumberland, and Newcastle-on-Tyne; One Medal and Prize to the National Rose Society; and One Medal and Prize to the National Chrysanthemum Society. The Medals and Prizes are to be offered for subjects to be selected by the Committees of the respective Societies. The Trustees have also determined to place Three Medals and £5 Prizes at the disposal of the Committee which is to have charge of the Orchid Conference to take place at South Kensington in May next. In all cases the awards are to be made in favour of *bonâ fide* Gentlemen's Gardeners and Amateurs only.

Gardening Miscellany.

A special general meeting of the subscribers to the Gardeners' Royal Benevolent Institution will be held at the Bedford Hotel, Covent Garden, on March 13th, at 5 p.m., to consider the recommendations of the committee as to certain modifications of the rules of the Institution, but more particularly to obtain the sanction of the subscribers to the alteration of rule 8, in order to increase the pensions.

We understand that the anonymous donor of £500 has paid that amount to the credit of the Institution, and that the reserve fund now amounts to £21,000. The augmentation fund will be finally closed on the 28th inst.

Messrs. H. Cannell & Sons have within the last few days received two large consignments of Chrysanthemums direct from Japan. The importation consists of some two hundred of the best varieties grown in Japan, selected by an English gardener.

Mr. F. Jennings, foreman to Mr. Rust, at Eridge Castle, Tunbridge Wells, has been appointed gardener to James Cox, Esq., at Thirlestan Hall, Cheltenham.

Mr. Leech's collection of Orchids grown at Oakley, Fallowfield, near Manchester, having been sold, his clever Orchid grower, Mr. William Swan, is seeking another engagement. Such a painstaking and successful grower should not be long in getting among his favourites again.

In connection with the meeting of the Essex Agricultural Society at Waltham Abbey on June 4th next, a Horticultural Exhibition will be held, of which Mr. Geo. Paul, of Cheshunt, is the secretary.

Mr. Charles Bates, florist, Rose Lane Nursery, Oxford, died on January 25th, aged sixty-tree years.

During Sunday and Monday last snow fell heavily in the North of Scotland. Keen frost prevailed, and all outdoor work was suspended.

We owe Mr. James Wells, of Lyndhurst, an apology for the grave error we made last week in announcing his death, instead of that of another pensioner of the Gardeners' Royal Benevolent Institution, Mr. George Wells. Mr. James Wells, we are glad to hear, is still hale and hearty.

Mr. Borrison has submitted for our inspection a number of beautiful dried ferns, samples of some sixty species and varieties collected in and lately brought home from New Zealand, and which are admirably suited for making screens or fern albums. The fronds have been carefully dried and the colours well preserved. Mr. Borrison's address is 147, George Street, Blackfriars Road, S.E.

On the occasion of the marriage between Viscount Lymington, M.P., and Miss Beatrice M. Pease, the decorations at Sir Joseph Pease's town mansion, Kensington Palace Gardens, were entrusted to Mr. J. McIndoe, Sir Joseph Pease's gardener at Hutton Hall, the whole being carried out with plants and flowers from that establishment. The principal flowering plants used were:—Azaleas, Bouvardias, Callas, Cyclamens, Deutzias, Dendrobiums, Double White Primulas, Tree Pœonias, Pimelea spectabilis, Spiræas, Hyacinths, Narcissus, Tulips, Crocuses, and these judiciously intermixed with Ferns, Palms, Crotons, Dracænas, Lycopodiums, &c., made a very effective display. In the decoration of the breakfast table, Lily of the Valley, Narcissus poeticus ornatus, and Cœlogynes were the flowers used. A number of small silver cups were filled with white Cyclamens and Cocos Weddelliana.

New Plants Certificated.—At the last meeting of the Chambre Syndicale des Horticulteurs at Ghent, Certificates of Merit were awarded to the Compagnie Continentale d'Horticulture for Brunsvigia magnifica, Hæmanthus Kalbreyeri maximus, and Cypripedium Haynaldianum roseum; to MM. Vervaet & Co. for Odontoglossum guttatum; to M. Peeters, for Imantophyllum miniatum var. President C. Bernard; and to MM. Desbois & Co., for a new hybrid Begonia. Cultural Certificates were voted to M. James Bray, for Cœlogyne cristata, and Lycaste Skinneri; to M. Ed. Pynaert for Anœctochilus Dawsonianus; to Messieurs Ed. Vervaet & Co. for Cypripedium villosum; and to MM. Vervaet & Co. for Hemitelia Cunninghami.

THE FERN NURSERY, SALE.

As the name would indicate, the Messrs. W. and J. Birkenhead's establishment at Sale, near Manchester, is devoted almost exclusively to the growth of Ferns and Lycopodiums, and to the lover of this beautiful and ever attractive class of plants there are few nurseries that can vie with this in the number and variety of sorts that are to be found in it. Every old acquaintance is here increased at a surprising rate; of some species scores, or even hundreds, can easily be obtained, ranging from healthy fair-sized plants, useful now for planting in a permanent position in a fernery, to those of a larger size ready for potting and growing on into specimens, in which state many are exceedingly useful for house decoration or for the purpose of providing fronds for cutting, to embellish and set off the quantities of flowers now used for vases, epergnes, and dinner-table decorations. Of the newer kinds the same may, in a measure, be said, for if they prove to possess any merit the stock is quickly worked up. At the present time over 1,200 species and varieties are grown, some exceedingly rare and several quite new.

The thorough cleanliness of everything about the plants is very noticeable, and that the occupants of the different divisions may have all the light it is possible to give them the outside as well as the inside of the glass roofs are continually washed, so that there shall be no obstruction to this most important element. This is a matter concerning which the Messrs. Birkenhead are very particular, considering, as they do, that clear and direct light is just as essential to these plants as to those to which we almost naturally give the best places in our houses. I had an opportunity a few days ago of again inspecting the stock, and must express the intense pleasure and gratification I experienced.

One of the most noticeable features here, is the number and variety of sorts grown on cork blocks or in cork baskets. For this purpose the Davallias are largely used, and they are far more picturesque and natural, besides growing more freely, than when grown in wire baskets or pans. The creeping rhizomes cling to the cork and in time throw up their beautiful fronds, and being near the light are of a closer and more enduring texture than when grown in too dense a shade. I observed the following among others grown in this manner, Davallia dissecta, in three distinct varieties, polyantha, solida, Fijienses, Fijiensis major and plumosa, and parvula; Oleandra nodosa, and articulata; Goniophlebium vacciniifolium, G. Catharinæ, Davallia pentaphylla, Anapeltis nitida, Goniophlebium glaucum, Lopholepis piloselloides; the beautiful small neat-growing Drymoglossum piloselloides, &c. The Platyceriums are also grown in this manner and well they look. P. Willinckii, P. grande, P. Stemaria, P. Hillii, and P. biforme are represented by numerous strong pieces, while of P. alcicorne, a major variety is grown, in which the fronds instead of being pendulous, as in the type, are here erect and very stout. Nephrolepis angustata, and Davallia elegans polydactyla are also grown in this interesting manner.

The stock of Adiantums is very large, and such sorts as Victoriæ, intermedium, lunulatum, aneitense (*see* p. 389), bellum, tetraphyllum gracile, dolabriforme, a very useful sort for suspending in little pans and baskets, are to be met with in company with other older sorts, which are equally useful and pleasing. A new form, Adiantum Neo-Caledoniæ, is being propagated largely, and, as it becomes better known and distributed, will prove to be a most desirable acquisition to the stronger growing sorts. This species should not be grown very hot, a comparatively cool division suiting it better than the warm one in which it was at first tried. Among the Nephrolepis, mention must be made of davallioides furcans, ensifolia, Zolliugeriaua, and pluma. The latter form is deciduous, and at present is bare of fronds. The little roots, however, are there in the soil, and in the early spring it will throw up numerous plume-like fronds reaching to 3 ft. and 4 ft. in length. When established in a basket, this species during the summer is very noticeable, and should be in every collection. So also is the distinct and pretty crested variety of Osmunda japonica, which has light green fronds (*see* p. 396), Lastrea Richardsii multifida, a very desirable

greenhouse form, free-growing and beautifully crested, will doubtless soon be seen on exhibition stages.

Of Onychium auratum (true) there is an immense quantity. This for a long time has been very difficult to get, but now there need be no difficulty at all, as a most successful batch has been raised which are now potted off and coming away nicely. Lastrea hispida and the beautiful violet scented fragrans are also numerous. Nephrodium molle Sangwellii is an entirely new and distinct form recently introduced from Australia, which will be found very desirable either for the fernery or for house decoration.

Of climbing ferns, the following are to be seen—Lygodium microphyllum, volubile, dichotomum japonicum, scandens and palmatum. These are very pretty trained up wires or pillars, or if allowed to twine around a piece of stout string, they may then be placed in the summer over places which otherwise must be left somewhat bare. Elaphoglossum Herminierii, Meniscium oligophyllum, Niphopsis angustatus, Niphobolus Heteractis, and Cyrtomium caryotidium attenuatum, a very distinct form are here in healthy specimens. I was exceedingly well pleased to meet with a rare and old favourite in Goniophlebium sepultum, and also in the singular fruiting form of Anemia villosa. The beautiful Cheilanthes, Nothochlænas, Gymnogrammas and Pellæas, are numerous and good, whilst the many distinct forms of Selaginellas cannot fail to excite feelings of surprise and admiration. Of these latter alba spicata, canaliculata, grandis, Victoriæ, Oregana, and perelegans, are distinct and beautiful.

The large stock of filmy ferns deserves mention, as the specimen plants are grown in a north house in which no fire-heat has been used for the past three or four years, no fear being at all experienced even if the thermometer indicates several degrees of frost. The smaller plants of Todeas are grown in unheated frames outside, the only protection they get on severe nights being a mat thrown on the glass. These all look wonderfully healthy and are of a splendid colour; cool and moisture would appear to be the conditions essential to thorough success, and under this treatment they grow and retain their fronds much better than when during the winter time a dry atmosphere is sometimes inflicted upon them through the fear of their getting too cold during the night time. The lovely Trichomanes reniforme under this cool treatment is doing splendidly, the perfect form of the fronds proving that the treatment it is receiving is the correct one for this interesting species. I have many other notes before me, but fear to trespass too much on your space. Perhaps on some future occasion I may again refresh my memory, enchant my vision, and, if possible, interest your numerous readers, many of whom I know now look for the paper every week to instruct and interest them in the many branches pertaining to the gardening profession. My thanks are also due to the Messrs. Birkenhead for their kindness and willingness to impart information likely to be of service to growers of these beautiful plants.—*W. Swan, Fallowfield.*

ADIANTUM ANEITENSE.

THE FORMS OF LEAVES.

On the 13th inst. Sir John Lubbock, M.P., delivered a lecture on the above subject to a large audience in the theatre at the Royal Institution. The lecturer said that, greatly as we all appreciated the exquisite loveliness of flowers, it must be admitted that the beauty of our woods and fields was even more due to the marvellous grace and infinite variety of foliage. How, he asked, was this inexhaustible richness of forms to be accounted for? Did it result from an innate tendency of the leaves in each species to assume some particular shape? Had it been intentionally designed to delight the eyes of man? or had it reference to the structure and organization, the wants and requirements of the plant itself? If we considered, first, the size of the leaf, we should find that it was regulated mainly with regard to the thickness of the stem, and that, when strict proportion was departed from, the difference could generally be accounted for. This was shown by a table giving the leaf-area and the diameter of stem of the Hornbeam, Beech, Elm, Lime, Spanish Chestnut, Ash, Walnut, and Horse Chestnut. The size, once determined, exercised much influence on the form. For instance, in the Beech the leaf had an area of about three square inches. The distance between the buds was about one and a quarter inch, and the leaves lay in the general plane of the branch, which bent slightly at each internode. The basal half of the leaf fitted the swell of the twig, while the upper half followed the edge of the leaf above, and the form of the inner edge, being thus determined, decided that of the outer one also.

In the Lime the internodes were longer and the leaf consequently broader. In the Spanish Chestnut the stem was nearly three times as stout as that of the Beech, and consequently could carry a larger leaf surface. But the distances between the buds were often little greater than those in the Beech. This determined the width, and by compelling the leaf to lengthen itself led to the peculiar form which it assumed. Moreover, not only did the leaves on a single twig admirably fit one another, but they were also adapted to the ramification of the twigs, and thus availed themselves of the light and air, as we could see by the shade they cast without large interspaces or much overlapping. In the Sycamores, Maples, and Horse Chestnuts the arrangement was altogether different. The shoots were stiff and upright, with leaves placed at right angles to the plane of the branch, instead of being parallel to it. The leaves were in pairs and decussate with one another, while the lower ones had long petioles which brought them almost to the level of the upper pairs, the whole thus forming a beautiful dome. For leaves arranged, as in the Beech, the gentle swell at the base was admirably suited, but in a crown of leaves such as those of the Sycamore, space would be thereby wasted, and it was better that they should expand at once, as soon as their stalks had carried them free from the upper and inner leaves. Hence we saw how

beautifully the whole form of these leaves was adapted to the mode of growth and arrangement of the buds in the plants themselves. In the Black Poplar the arrangement of the leaves was again quite different. The leaf-stalk was flattened, so that the leaves hung vertically. It would be observed that, while in most leaves the upper and under surfaces were quite unlike, in the Black Poplar, on the contrary, they were very similar. The stomata, or breathing-holes, moreover, which in the leaves of most trees were confined to the under surface, were in this species nearly equally numerous on both.

The Compass plant of the American prairies, a yellow composite not unlike a small Sunflower, was another plant with upright leaves, which, growing in the wide open prairies, tended to point north and south, thus exposing both surfaces equally to the light and heat. It was shown by diagrams that this position also affected the internal structure of the leaf. In the Yew the leaves were inserted close to one another, and were long and linear, while in the Box they were further apart and broader. In the Scotch Fir the leaves were linear, and 1½ ins. long; while in other Pines, the Weymouth, for instance, the stem was thicker and the leaves longer. In the plants hitherto mentioned one main consideration appeared to be the securing of as much light as possible; but in tropical countries the sun was often too powerful, and the leaves, far from courting, avoided the light. The typical Acacias had pinnate leaves, but in most Australian species the true leaves were replaced by a vertically flattened leaf-stalk. It would be found, however, that the seedlings had leaves of the form typical in the genus. Gradually, however, the leaf became smaller and smaller, until nothing was left but the flattened leaf-stalk or phyllode. In one species the plant throughout life produced both leaves and phyllodes, which gave it a very curious and interesting appearance. In Eucalyptus, again, the young plant had horizontal leaves, which in older ones were replaced by scimetar-shaped phyllodes. Hence the different appearance of the young and old trees which must have struck every visitor to Algiers or the Riviera.

So much for deciduous trees. In evergreens the conditions were in many respects different. It was generally said that leaves dropped off in the autumn because they died. This, however, was not strictly correct. The fall of the leaf was a vital process, connected with a change in the cellular tissue at the base of the leaf-stalk. If the leaves were killed too soon they did not drop off. The lecturer illustrated this by some twigs which he had purposely broken in the summer; below the fracture the leaves had been thrown off, above they still adhered, and so tightly that they could support a considerable weight. In evergreen trees the conditions were in many respects very different. It was generally supposed that the leaves lasted one complete year. Many of them, however, attained a much greater age; in the Scotch Fir three or four years; in the Spruce or Silver, six or seven; in the Yew, even longer. It followed from this that they required a tougher and more leathery texture.

When we had an early fall of snow our deciduous trees were often much broken down; glossy leaves had a tendency to throw it off and thus escape; hence evergreen leaves were very generally smooth and glossy. Again, evergreen leaves often had special protection, either in an astringent or aromatic taste, which rendered them more or less inedible, or by thorns and spines. Of this the Holly was a familiar illustration, and it was pointed out that in old plants, above the range of browsing quadrupeds, the leaves tended to lose their spines and become unarmed. The hair on leaves were another protection. On herbs the presence of hairs was often associated with that of honey, as they protected the plants from the visits of creeping insects. Hence, perhaps, the tendency of water species to become glabrous, Polygonum amphibium being a very interesting case, since it was hairy when growing on land, and smooth when in water.

The lecturer then dealt with cases in which one species might be said to mimic another, and he exhibited a striking photograph of a group of Stinging Nettles and Dead Nettles, which were so much alike as to be hardly distinguishable. No one could doubt that the Stinging Nettle was protected by its poisonous hairs, and it was equally clear that the innocuous Dead Nettle must profit by its similarity to its dangerous neighbour. Other similar cases were cited. Reference was next made to aquatic plants, many of which had two kinds of leaves, one more or less rounded which floated on the surface, and others cut up into narrow filaments, which remained below. The latter thus presented a greater extent of surface. In air, however, such leaves would be unable to support even their own weight, much less to resist any force such as that of the wind. But in perfectly still air, for the same reason, finely divided leaves might be an advantage, while in comparatively exposed situations more compact leaves might be more suitable. It was pointed out that finely-cut leaves were common among low herbs, and that some families which among the low and herb-like species had such leaves, in shrubbery or ligneous ones had leaves more or less like those of the Laurel or Beech.

An interesting part of the subject was connected with the light thrown by the leaves of seedlings. Thus the Furze had at first trifoliate leaves, which gradually passed into spines. This showed that the Furze was descended from ancestors which had trifoliate leaves as so many of its congeners had now. Similarly, in some species, which, when mature, had palmate leaves, those of the seedling were heart-shaped. Perhaps, in all cases the palmate form was derived from the heart-shaped, and when in any genus we found heart-shaped and lobed-leaves, the former might represent the earlier or ancestral condition.

If there was some definite form told off for each species, then surely a similar rule ought to hold good for each genus. The species of a genus might well differ more from one another than the varieties of any particular species; the generic type might be, so to say, less closely limited; but still there ought to be some type characteristic of the genus. One genus was that of Senecio (the Groundsel). In addition to Senecios more or less resembling the common Groundsel, there were species with leaves like the Daisy, bushy species with leaves like the Privet and the Box, small trees with leaves like the Laurel and the Poplar, climbing species like the Bryony. In fact, the list was a very long one, and showed that there was no definite type of leaf, but that the form in the various species depended on the condition of the species.

From these and other considerations, the lecturer concluded that the forms of leaves did not depend on any inherent tendency, but to the structure and organization, the habits and requirements of the plant. Of course, it might be that the present form had reference to former, and not to present, conditions, This rendered the problem all the more complex and difficult. The subject presented a very wide and interesting field of study, for if he were correct in his contention, every one of the almost infinite forms of leaves must have some cause and explanation.

A NEW RAFFLESIA.

Under the name of Rafflesia Schadenbergiana, a new species is figured in the January number of the *Gartenflora*. It was found growing in Mindanao, an island of the Philippine group. The flower measures 6 ins. to 8 ins. in diameter, and the colour is a warm brown, with numerous yellow markings. This makes the fifth known species of this remarkable genus, all of which grow parasitically on the roots and lower portions of the stems of certain vines, without the slightest apology for a leaf. The most remarkable species, R. Arnoldii, has a flower from 2 ft. 6 in. to 3 ft. in diameter, a size perhaps unrivalled in the whole vegetable kingdom. R. Patma, from a small island on the coast of Java, measures 1 ft. 6 in. to 2 ft; R. Rochussenii, from Java, is 6 ins. in diameter; and R. Cumingii, another Philippine species, is of the same size.

The original species, R. Arnoldii, was discovered in forests in the interior of Sumatra, by Sir Stamford Raffles and Mr. Arnold, and specimens were sent to England in 1818. Mr. Arnold observes that when on his travels, his native servant appeared with the words, "Come with me, sir, come! a flower, very large, beautiful, wonderful!" Mr. Arnold went and saw the flower, a yard in diameter, and weighing 12 lbs. to 15 lbs. He further remarks, "Had I been alone, and had there been no witnesses, I should, I think, have been fearful of mentioning the dimensions of this flower, so much does it exceed every flower I have ever seen or heard of." The cup of the flower is said to be capable of holding twelve pints of water. No doubt many of our readers have seen the wax model, life size, of this flower, in the Museum at Kew.

IMPROVING A LAWN.

It would have been much more easy to give a satisfactory reply to "A New Subscriber" (*see* p. 382) had he stated whether the lawn in question was located in town or country. In smoky districts lawns will become debilitated in a few years, and the best way of renovating them under such circumstances is to take up the old and replace it with new turf. If the grass has been worn off by over much playing on it, and the grass quite killed in places, the best plan is to take up those patches where the grass is quite dead, and replace it with some good turves from an old pasture. It may look rough for a time, but when cut in April when the grass begins to grow it will soon come round. The laying of the turf should be done at once, so that the roots of the grass may get a hold before dry weather sets in. If the grass is only thin in places, probably the best plan is to sow seeds, but this should never be done before the beginning of April, for though grass is hardy enough when established, the young blades as they break from the seed are very tender at first, and a sharp frost would check them for a length of time, if it did not even destroy them.

Probably the best way to proceed with a lawn where the grass is thin is to rake it hard with a sharp and rather long-toothed rake, so as to make a loose bed for the seed to lie upon, and this will not destroy the grass already there. A little fine soil may be added at the same time to make the lawn perfectly level. The seeds should be sown rather thickly if it is desirable to have the lawn covered soon; the rake should then be drawn over it so as to mix the seed and the soil a little, but not by any means to draw anything in front of the rake. All that is necessary then is to pass a garden-roller over it, but should the weather be very dry it must be watered, assuming that it is wanted green as early as possible; if the weather is showery it will not be necessary. If any part of the lawn is mossy, dress it with a mixture of very fine cinder ashes with a sprinkling of soot and slaked lime, say four parts of the former to one of the two latter. Grass seed such as is sold by respectable seedsmen as "Lawn Grass Seed" would suite "A New Subscriber's" purpose well. After the seed has come up sufficiently high for cutting it should be mown with the scythe for the first time or two and be rolled, after which the mowing machine is the best, as that both mows and rolls the grass at the same time.—*C. Warden.*

Your correspondent, "A New Subscriber," does not state what are the surroundings and drawbacks to his lawn, or whether it is much over-hung, hard-trodden, or simply bare from poverty of soil, subsoil, or want of proper attention. Presuming the latter, I would advise him to give it at once a good dressing of salt and soot, and in the meantime to make up a heap of compost consisting of two parts of fresh turfy soil and one part of very rotten manure. He must work this over and over till it is all quite fine and well broken up, and if not fine enough may run it through a ½-in. riddle. By about the end of March he should have ready a mixture of lawn grass seeds, which he can buy ready mixed at the seed warehouses; or he may mix them himself. If he prefers to mix them himself, he must ask for Festuca ovina (the meadow fescue), Festuca tenuifolia (fine-leaved fescue), and Poa pratensis (the smooth-stalked meadow grass). If at all shaded with trees he may use instead of the latter Poa nemoralis (the wood meadow grass). A mixed quart of these will sow a very large plot of lawn, only one bushel being generally used to an acre in renewing old pastures or lawns.

It will be advisable to go over the whole of the lawn with the seed, but to sow thickest where the lawn is most bare. Now spread over all the heap of compost, making a thickness of from one half to one

inch where the grass is barest; rake well in with a fine rake, and then roll firmly. The new grasses will bear cutting once or twice by midsummer, but must not be worked at too much with the lawn-mower the first year. Keep the roller going in preference.—*A Rustic.*

AN ELECTION OF VEGETABLES.

In accordance with the Editor's request, I now send my detailed proposal for an Election of Vegetables, and earnestly ask our best cultivators to send in lists of those they consider the very best for quality and crop. The object is to ascertain by a majority of votes what kind of Beans, Peas, &c., are regarded with most favour by amateur and professional gardeners in various parts of the country. No kind should be included which has not been grown for at least two years; and, to make the list as useful as possible, quality and crop should each count. The present election is intended to ascertain by the suffrages of the voters what varieties of the various vegetables named are considered the best for culinary purposes. On another occasion the best for exhibition may be dealt with. The kinds to be voted for are—

Beans—Broad, best early kind.
,, ,, best main crop.
,, Dwarf or French.
,, Kidney or Runner.
Beet.
Brussels Sprouts.
Borecole or Kale.
Broccoli for cutting from September to December.
,, for cutting in December and January.
,, for cutting from January to April.
,, for cutting from April to July.
Cabbage for early crop.
,, for general crop.
Carrots for forcing.
,, early out-of-door crop.
,, late crop.
Cauliflower for early crop.
,, for late crop.
Celery, best white.
,, best red.
Cucumber, best for frame culture.
,, best outdoor ridge variety.
Endive.
Leek.
Lettuce, best Cos.
,, best Cabbage.
,, best to stand the winter.
Onion, best for spring sowing.
,, best for autumn sowing.
,, best for pickling.
Parsnip.
Parsley, best for general purposes.
,, best for garnishing.
Peas, best early.
,, best second early.
,, best main crop.
,, best late kind.
Potatos, best early.
,, best main crop
Savoy and Chou de Milan, best dwarf kind.
,, ,, best large kind.
Spinach, best for summer.
,, best to stand the winter.
Tomato, best for indoor cultivation.
,, best for outdoor cultivation.
Turnip, best early.
,, best for summer.
,, best for main crop.

The returns should be made in the following form:—

	Quality.	*Crop.*
Beans—Broad		
Early—Mazagan . .	1	1
Main crop—Windsor . .	1	1

Here it will be seen it is assumed, for the purpose of illustration, that Mazagan is regarded as first in quality for an early crop, and also first in quantity for an early crop; and that the Windsor Broad Bean is first for quality and quantity for the main crop. Similar returns should be made for each of the other vegetables named. It is, however, not necessary that each elector should vote for every vegetable. The lists will be all the more valuable if no vote is recorded except for the kinds of which the voter has full knowledge in comparison with other well-known kinds grown side by side and under similar conditions with the selected varieties.

Each list must be signed by the name of the elector, and his address in full appended; and it must also be stated if the elector is a gardener or an amateur, as under.

Name _____

Address in full _____

_____

Gardener or Amateur _____

These lists should be sent in to the Editor of The Gardening World as early as possible.—*Amateur.*

THE SPRING GARDEN.

At no season of the year does the flower-garden create greater interest than it does at the present one, when the cold, cheerless winter months are past, and the early spring flowers begin to unfold and change the scene from dreariness to life and beauty. One of the first to make its appearance is the old favourite Helleborus niger, which, with its new and greatly improved varieties, makes a charming bed even at the commencement of the year. The position in which it seems most at home is on the rockery, where, if planted in large masses amongst the dwarf evergreen alpines, it has a very bright and pleasing effect. The soil in which it thrives best is three-fourths sandy peat and one-fourth turfy loam, with the addition of a little well decayed leaf-mould.

The partial absence of foliage during the period of blooming detracts somewhat from its effect; but if the bare soil underneath it be covered with nice fresh moss, the purity of the flowers is preserved from dirt in wet weather, and the pleasing contrast thus produced by the surrounding alpines with the moss and chaste white flowers is perfectly charming at mid-winter, and should be seen before it can be fully realized. The tiny golden or Winter Aconite (Eranthis hyemalis) is the next welcome visitor, and this is quickly succeeded by the old-fashioned, ever-modest, ever-graceful, and beautiful Snowdrop, which may be said to be the true herald of spring. In consequence of the unusually mild winter, not only those I have enumerated but the Crocus also as well as the Polyanthus, Early Primroses, Violas, and others are already in bloom in warm sheltered nooks; and if we may judge from present appearances the spring garden will this year be unusually early and particularly bright.

We must not, however, be too sanguine, lest the weather should even yet be such as to disappoint our hopes. Former experience should teach us to be fully prepared for every emergency, and in the event of severe weather occurring to well protect beforehand, for the simple reason that after such a lengthened spell of mild weather the plants become so tender, that it is often the first pinch that does the greatest mischief. Where expense is not a special object, the best method of protection, at least for the smaller beds as well as for the most delicate and beautiful plants, is woollen nets, supported on light wire hoops about a foot or 18 ins. above the plants.

These woollen protectors are much superior to garden mats, not only because they form better screens from the weather, but also because they are so light and convenient as to be fixed or removed with the greatest ease; and as the wind has not much effect upon them, the plants are not so liable to be broken as they are when heavy coverings are used.

For larger beds and for the protection of the more hardy plants, branches of evergreens may be stuck in the ground between them, at intervals of a few inches, taking care to let the tops of the branches lean from the direction of the prevailing winds. At this season of the year, when severe weather has set in, I have frequently preserved the beauty of the beds from complete destruction by these means. As the different kinds of bulbs, such as Narcissus, Tulips, and Hyacinths, will soon be pushing up their flower stems, it will be necessary to protect them either with leaf-mould, cocoa-nut fibre, or other similar materials, otherwise they frequently suffer severely during frosty weather; and as the stems continue to grow they should receive timely attention by being secured to small stakes, otherwise they will be much injured during wet or windy weather.

No labour or pains should now be spared in keeping every part of the garden neat, trim, and tidy in every respect; for while a well kept garden is always, even at mid-winter and in the absence of flowers, pleasant to look on, a badly kept or untidy one, although full of flowers, is at all times disappointing.—*Scribo.*

GRAFTING ROSES.

This is one of the simplest and easiest methods of perpetuating any kind of Rose that we may be short of, especially the Tea varieties, and such of the hybrid perpetuals as A. K. Williams, which has proved such a bad "doer" in so many places, when transplanted from nursery to garden. I am well aware that many practical men object to any other means of propagation than cuttings, but by means of a foster stock such as the seedling Briar or Manetti, one may get six times as many plants from the same number of shoots, every one of which will be better plants at the end of three months than the cuttings would be at the end of six or eight months.

Grafting is seldom practised except by nurserymen when introducing new varieties and for increasing the stocks of those that are scarce, but it is very interesting work, and I would recommend anyone who attempts to grow Roses to give the plan a trial, and there is little doubt but that they will be rewarded with success, for I know no kind of plant that effects a union under so simple a process as does the Rose on a suitable stock. I see in your advertisment columns the words "Bud your own Roses," and I would add here, graft some too. Before commencing to graft, it is necessary to have a suitable place to put them in; as that will add not a little to the success of the operation. The position ours occupy is a nicely tempered hotbed, that is, one which has been prepared by frequent turnings, and from which the rank steam has passed off.

The stocks, either Manetti or Briar cuttings, should be carefully dressed, removing all eyes from the stems below the points where they are to be grafted, but seedling Briars can be cut down to the root, below all the eyes. Shoots of the varieties of the Rose it is intended to increase should then be got, head the stock down to where there is a nice clean and smooth bark, then cut a slice off one side of the stock from half-an-inch to an inch in length, according to the size and strength of the scion. Next take one bud of the scion with the piece of wood attached between it and the next bud, holding the bud between the finger and thumb. Cut a long slice off the side of the scion on the opposite side to that of the bud, and, so as to correspond as near as possible with that of the stock. Fit it on the stock so that the heel and at least one edge of the stock and scion meet, bind it up with matting, but not too closely; four or five times round will be sufficient.

After the operation has been performed, pot them up and give a gentle watering, after which they should be laid on their sides on the hotbed before mentioned, with the bud facing upwards. It is a good plan to cover them over with a sheet or two of glass to help to keep them close, which is very necessary until a union is effected. When they commence to grow they should be gradually enured to more air and be stood up on their sides, and in a very short time they will be fit for the treatment usually given to any Roses in a growing state.—*W. C. C.*

Cultivating the Nettle.—A considerable impetus has been given in Germany to the artificial growth of the Nettle (*Urtica dioica*) by a German lady living at Langenschwalbach, who has been studying and systematically experimenting upon it, for the sake of the fibre, which ranks high for tenacity. Not content with cultivating it in the ordinary forest or waste land, she has persuaded several landowners to plant an acre of first-class Wheat land with Nettles, in order to see how far the qualities of the fibre would be improved.

The Amateurs' Garden.

THE GREENHOUSE.

Damp, the great enemy in the greenhouse during the winter, has now lost its power, for with the sun and nice weather it is dispelled rapidly, and if there is just a little air admitted on all favourable occasions there is no longer any risk of it injuring the flowers, instead of which a little moisture in the atmosphere will be beneficial to most of the plants. These will require careful watching to see that they do not suffer from want of water, but this should not be given till needed, as to get the balls of soil into a sodden state does irreparable mischief by destroying the roots. These remarks apply more particularly to hard-wooded subjects, as Cinerarias, Primulas, Pelargoniums, and such like take up more water on account of their leafage, especially at this season, and to let them get dry causes a great check to the blossoms.

For all soft-wooded plants liquid manure will now be a great help, or a more easy way of applying stimulants is to get a tin of some of the artificial compounds, such as Clay's Fertilizer, and sprinkle a little on the surface of the soil, when it will be gradually washed in and produce a good effect on the flowers and foliage. To keep a greenhouse gay few things are of so much value as the early blooming Rhododendrons and hardy Azaleas, as without artificial heat they are in at or soon after this season, and make a magnificent show. Among the Rhododendrons the different varieties of R. Nobleanum should be chosen, and R. altaclarense, R. Cunninghami, R. Broughtonianum, and R. Brayanum are good.

The best of the Azaleas are the varieties of A. mollis, which are of dwarf habit, and produce freely very fine trusses of flowers, and good-sized seedlings ready for immediate potting may be had for about 20*s*. to 30*s*. per dozen, and nice plants of Rhododendrons for a few shillings more. As soon as received they should be potted firm in good fibry peat, with a dash of sharp sand mixed, and if then stood in the house they will soon be in bloom. Weigela rosea, Viburnum plicatum, Sweet Briar, and Lilac Charles X. are all useful plants that amateurs should have, as when their beauty is over they may be plunged or stood out, and if taken care of in watering during the summer, they will do duty for years.

Roses, too, in pots are invaluable, especially the Tea scented kinds, as they are nearly always in flower and do well under glass without any forcing. If room on the rafters or under the roof of the greenhouse can be spared a Maréchal Niel or Gloire de Dijon should be planted, as when either of these varieties become established they yield a great number of blooms. To give them a fair start it is necessary to make a fresh border for them by putting in a barrowload or two of good loam, or, better still perhaps, plant them outside and run the stems through a hole in the wall, as then the roots are in a more favourable position and not so likely to suffer through being dry or wet as they are under the stage. Those who are so fortunate as to have either of these two Roses should not prune them, but simply thin out the shoots where they are too thick and crowded, as every bud up their entire length, if the wood is well ripened, will flower.

It may seem early to be thinking of providing for the autumn, but it is high time that Chrysanthemums were propagated and cuttings of perpetual Carnations put in, the first of which strike readily if inserted in sandy soil in small pots, and stood on a damp bottom, where they can be kept close under a hand-glass. The Carnations do best where they can have a little heat, and it is a good plan with these to put the hand-light on the lining of a dung-bed, and, having placed in it 3 ins. or 4 ins. of sharp soil, the cuttings may then be dibbled in, and, if watered, they will very soon root.

PITS AND FRAMES.

These ought now to be in full use, as there is so much they are capable of, for what with forcing, bringing on plants for the greenhouse, receiving those fresh potted for bedding, and being utilized for propagating and raising further stock their capabilities will soon be tried to the uttermost. For propagating and seed raising, except where the requirements are large, a one-light box is sufficient and the most handy, as nothing needs to be in long, for seeds soon germinate and come up, and cuttings, where the conditions are favourable, strike quickly, and both need removal then to a position where they can get more sun and air. A second or nursery frame should, therefore, be kept where the young seedlings and fresh-rooted cuttings can be placed in gentle heat and nursed on after they are potted or pricked out, following on which they may be transferred to another pit or frame to make room for a fresh batch and be hardened off ready for turning out in the open.

The most difficult seeds to manage are those that are very small, among which may be mentioned Gloxinia and Begonia, and these require special preparation and care. The way to manage them and others of like nature is to fill the pots or pans intended for them with fine soil, which should be made quite level and smooth on the top, and then sprinkled with water, an hour or so after which all will be ready for sowing the seed. This should then be scattered regularly, but not covered beyond having the slightest dust of fine sand, when the next thing to do is to lay a pane of glass over and darken it by placing a piece of paper on that. The pans or pots should then be stood in moist heat, and directly the seed begins to germinate, which it will in a few days, the paper must be removed to admit light, and the soil kept just damp by sprinkling it with water through a very fine rose, but as the plants are so minute much care is necessary or they become displaced or washed out and lost.

FRUIT AND VEGETABLE GARDEN.

As we may yet get sharp frosts, vine borders should be covered with a few inches of short stable manure, to keep the roots active, or the buds that are now fast swelling will suffer a check. Many dig their vine borders, and even crop them, but the disturbance is bad, as it prevents the formation of surface feeders, and destroys others, making the roots take a downward course, and driving them into the dead bad soil below, and when they get there, Grapes fail to colour and shank, and the vines soon lose their vigour and health. Those who have houses they wish to plant will find this a good time for doing it, and should get nice young healthy plants with well-ripened rods. These should be shaken from the soil they are in, and have their roots carefully spread out and laid regularly in the border, instructions for making which were given a short time ago.

Gooseberry and Currant bushes, as well as Plum trees, will require close watching to keep off sparrows and finches, which are very destructive to the buds, and as these are fast swelling, all pruning and nailing ought to be brought to a close. In the vegetable department preparation should be made for a sowing of Onions, Parsnips, Spinach, Milan Turnips, Parsley, Broad Beans, and Peas, which ought to be got in as soon as the land is favourable, and a row of Broad Beans and Peas sown or planted fortnightly after this till the middle of June will keep up a regular supply till the autumn.

BEDS AND BORDERS.

Evergreens that have outgrown their allotted space or are becoming too large, may now be pruned, but it is not a good time for transplanting, as the March winds are often very cutting, and it is better to wait till they are past, and the genial showers and soft air of April set in, as then the plants start off to grow at once, and soon become re-established. In the pruning of Roses, much diversity of opinion exists among growers as to the proper season to carry out the operation, but to let the plants grow and make young shoots, and then cut them away, is clearly a waste of force, and it is impossible for them to break so strong again after. This being so, the pruning should be done at once, but in carrying it out much discrimination is required, as Teas must not be cut in hard, and the climbers, as already observed, in touching on those in the greenhouse, only need thinning, while perpetuals may be cut back to the last two or three buds.

If these are grown as standards, it is a good plan to give the stems a scrub with a stiff brush, which will clean the bark and add greatly to the health of the plants. As soon as this is done, all will be in readiness for manuring, and the way to do this, in the case of the standards, is to open round them by withdrawing the surface soil down to a depth of 3 ins. or so, and after placing the dung it should be returned so as to cover it, and leave all neat and tidy. In beds, it is better to use very short manure, and let it remain as a mulching for the rains to carry the pieces down, but if its appearance proves objectionable, it may be worked in by pointing over the ground with a fork, taking care not to go deep enough to damage the roots.

Herbaceous borders may be treated in like manner, and it is a good time now to divide any plants that are getting too large, as they may be cut through with safety, or moved and replanted on any fresh sites. The positions of all bulbs ought to be marked, as otherwise in disturbing the soil they are almost sure to be dug into, and soon become lost. Among the very finest things for borders are the Gladiolus, a few of which should be planted at once, and others later on for succession.

VINTERS' PARK.

Situated in the parish of Boxley, and about one mile east of the ancient borough of Maidstone, and in the centre of a district long famous for the cultivation of Hops and Apples, or, as men of Kent claim, for its Hops, Cherries, and pretty women, is Vinters' Park, the property and residence of J. Whatman, Esq., a descendant of an ancient family belonging to the Weald of Kent, and to whose grandfather the country is indebted for great improvements in the art of paper-making, which important industry is still carried on at the famous Turkey Mills, on the outskirts of Vinters' Park, by J. Hollingworth, Esq., a famous rosarian. Some 500 years ago Vinters' was the ancient residence of a family of that name, the mansion having been built in 1343. In 1408 the estate passed out of the possession of the Vinters' family, and between that time and 1783, when it was purchased by the grandfather of the present proprietor, it changed hands several times. The mansion was rebuilt by the first Mr. Whatman who owned it, and again greatly enlarged and for the most part rebuilt in 1850 by its present owner.

The Park of Vinters is about 250 acres in extent, beautifully undulated, and well timbered, the principal tree being the Elm, of which there are numbers of very fine old specimens as well as some good Oaks, which seem to thrive well in the good sound loam of widely varying depth, which overlays the Kentish Rag. Besides the trees we have named, which may be considered natives, the park has also been extensively dotted at prominent points with groups and single specimens of the Wellingtonia gigantea, Sequoia sempervirens, the deciduous Cypress, Yews and other coniferous trees, Maples, American Hickory and flowering thorns, with the object of improving views in different directions. In this respect — the number and variety of the views which it contains—Vinters' Park is not surpassed by any park we have seen of a similar area, containing within its own borders as it does, hills, dales, rocks and water, individually and collectively of interest and beauty, and beyond them distant views of a charming landscape, ranging to the Boxley Hills on the one side and over Penenden Heath and well into the weald of Sussex on the other.

The mansion, the west front of which forms the subject of our illustration, is well placed on one of the highest points in the park, with terrace gardens on the south and west fronts, and pleasure ground and kitchen garden on the other sides. In the grounds about the mansion are some handsome young Deodars, a good specimen of the Maiden-hair tree, &c., and growing in but a few inches of soil on the top of a rock is a specimen of the Clanbrasilian Fir about 8 ft. high and 6 ft. in diameter. On the walls of the south front there is a noble example of the Exmouth variety of Magnolia grandiflora; and a noteworthy specimen of Bignonia radicans — a wonderful old plant it may well be called, and which is regularly pruned like a vine, and the young shoots neatly tied in, when they have attained

the length of about 18 ins. after which it comes into flower with the utmost freedom.

On the west side between the terrace and the arm of the lake seen in the illustration, is a very pretty natural rock-garden formed out of the quarry from which the stone was obtained to build the mansion, and which is kept in that semi-wild state which so well befits the situation. The steeper rocks are draped with Ivy, and those near the ground level are covered with Cotoneaster microphylla, Ayrshire Roses, Rock Roses (Cistus), and the dwarf Broom; while on prominent positions are planted such conifers as Thuja aurea; while on the grass plots bordering the walk are beds of Lilium candidum and the handsome Bocconia japonica. Numerous alpine and bulbous plants also find a home here in suitable positions. From the opposite side of the lake, the point where the photograph was taken, a walk leads up to a broad avenue of Elms, Beech, Maples, Oaks, Ash, Hazel, and flowering Thorns, which is a mile long, somewhat circuitous, and leading to the North Lodge. Nearer the mansion, and on the same side, there is a beautiful row of old Elms, under the spreading branches of which have been planted a vast number of Snowdrops, Daffodils, and Crocuses, the former of which are now in full bloom, a pleasing sight indeed. Near this carpet of Snowdrops is The Mound, a coigne of vantage from which a number of fine views are obtained.

The kitchen garden and glass departments at Vinters are not extensive, indeed the latter is somewhat limited in quantity. The garden, which is close to and on the east side of the mansion, is an irregular-shaped walled-in space, an acre in extent. Against the south wall are two excellent vineries about which more anon. On the open walls are well trained Plums, Peaches and Nectarines, and Figs, while in the open quarters the crops for the coming season are quickly being got in. The choicer kinds only are being grown here, what are usually called the rough vegetables being grown in a field outside the park. Outside the garden wall on the north side is a neat little span-roofed Cucumber-house, which is also made useful in the cultivation of plants for table decoration, and for the propagation of bedding-plants, &c. Half-specimen stove and greenhouse plants are grown in heated pits, and well-grown too considering the confined space allotted to them. Outside the garden-walls is an excellent herbaceous border, and a rosery in front of a curiously constructed plant-house in two divisions, the largest portion of which is gay with the usual class of flowering greenhouse plants, and the smaller one devoted to subjects requiring more heat. Gardening, kitchen gardening especially, at Vinters' Park is well done, evidence of good management on the part of Mr. Malcolm McLean, the gardener, being seen in every department.

VINTERS' PARK, MAIDSTONE, THE RESIDENCE OF J. WHATMAN, ESQ.

THE HELIOTROPE.

Heliotrope, or Cherry Pie, as it is commonly called, is a very easy plant to cultivate, but it certainly would have seemed more hopeful (*see* p. 382) if your correspondent's plants had now been in growth. I should advise him to lose no time in placing them in a moist heat. If no other place is at command a Cucumber-frame would answer well, damping them overhead occasionally, but not over watering at the root, until the plant is started. If it breaks satisfactorily it may soon be removed to cooler quarters, but if it does not, procure another growing plant. In the summer months the plant in question succeeds well in a cold pit. It should have its points pinched out several times during the summer and be staked out so as to encourage it to grow bushy, shifting it on into larger-sized pots as it requires it, using a mixture of leaf-soil and loam in equal parts, with plenty of sand added. With care taken to shut up the frame early in the afternoon, giving the plant a damp over at the same time, a good-sized specimen may be grown in one season.

It would be best to prevent the plants from flowering until a short time before they are wanted, by pinching off the ends of all the shoots. When about to flower they should be removed to an airy greenhouse.—*C. Warden.*

FRUITS.

Fruit Culture under Glass.—Vineries containing such varieties as Lady Downes, Black Alicante, Gros Moroc, Gros Guillaume, and Mrs. Pince's Black Muscat, should now be started at a night temperature of 50 degs., raising it 5 degs. to 10 degs. by day with fire-heat, and 10 degs. to 15 degs. higher with sun-heat, and plenty of atmospheric moisture at closing-time. Syringe the rods three times a day with tepid water until they burst their buds, when it should be discontinued, and the moisture necessary for the production of a growing atmosphere obtained by damping the paths and surface of the beds morning and afternoon at closing-time. Continue to give plenty of air to the late Hamburgh-house, so as to keep the vines as long as possible from pushing into growth.

Strawberries.—The wet and cloudy weather which has prevailed during the last month has been most unfavourable to the setting, swelling, and ripening of Strawberries. In some cases the ripening fruits, though no moisture was distributed in the house other than that arising from the watering of the plants, and which the heat radiating from the hot-water pipes soon dried up, suffered from damp, which, arising from the wet soil in the pots, settled on the fruit during the night. But with an increase of light and a prospect of sunshine, better results should soon be forthcoming, Give plants swelling their fruit liberal supplies of weak, tepid liquid manure, and if there is any difficulty experienced in obtaining an adequate supply of the latter, Beeson's Manure, at the rate of 3 lbs. to 10 gallons of water will be productive of good results, but, as observed in a previous paper, this must not be poured indiscriminately over the leaves and fruit, as it would, like liquid manure, be liable to scar them, but should be poured in at the side of the pots, so as not to wet the fruits or crowns of the plants. When the fruits are set, reduce the number on each plant to ten or twelve of the best and most even-sized berries, and pinch out forthwith all flower-spikes that show on the plants afterwards, so as to concentrate the energies of each plant to the swelling and ripening of large fruits. Syringe the plants thoroughly overhead morning and afternoon, except when in flower and when the fruits are approaching maturity, when a somewhat dry and airy atmosphere should be maintained. There will be no difficulty in securing a good set of fruit now, if the hand is passed gently over the expanded flowers instead of a camel's-hair brush, as the flowers are larger and stronger as well as more plentiful than they have been hitherto this season.—*H. W. Ward, Longford Castle.*

Gascoyne's Seedling Apple.—"A most beautiful red-cheeked Apple from East Kent, extremely handsome, and a great but not an early bearer." Such is the brief description given by Messrs. G. Bunyard & Co., of an Apple that came prominently under our notice lately while looking over a collection of selected specimens of some hundred or more varieties in the fruit-room of Austin T. Killick, Esq., at Weavering, near Maidstone. Mr. Killick could give us no information as to its origin, but from Mr. George Bunyard we subsequently learnt that it was raised and grown largely by the gentleman whose name it bears, at Bapchild, near Sittingbourne, and that it was also known as Glory of England, but we may say at once that it is not the sort described under the latter name in the last edition of *The Fruit Manual*. Its appearance is not unduly lauded by the words "most beautiful," and we can affirm that it is as good as it looks, so that it seems highly desirable to us that its merits should be made known beyond the bounds of "The Garden of England." It is of the same size as Dumelow's Seedling, has a skin of the same pale yellow colour, but with a beautiful flush of crimson on the side exposed to the sun. Like Dumelow's Seedling, it is a good keeper, in excellent condition now, but unlike that variety which is valuable for culinary purposes only, Gascoyne's Seedling is an excellently flavoured dessert fruit. Except in colour and flavour, it may be said to be the counterpart of Dumelow's Seedling, and we advise those who have the one to grow the ther too. It is a fine free grower, never cankers, and a splendid bearer, producing all down its fruits at the tips of the shoots. An Apple with such credentials as this deserves to be widely known in the gardening world.

FLOWERS.

Seasonable Work in the Plant-houses.—Ferns will now require attention, they should all be gone through and re-potted or divided as they may require it. It is also a good time to sow spores of any kinds that are to be propagated in that way. Any old plants of Adiantum cuneatum that have been used for cutting from, and are too large for potting on, may be divided; that is, if the plants are healthy and throwing up good strong fronds, but where the old plants have become weakly, it will be better to discard them and grow on young plants. As A. Farleyense can only be propagated by division, care must be taken that it is done at the best time. We like to divide them just as they begin to start into fresh growth, but it is necessary to be very careful to avoid the young fronds getting withered during the operation, and they will require to be kept quite close, and well shaded until they have taken root in the fresh soil. At all times this fern requires great care in watering, if allowed to become too dry the under fronds will shrivel up, and then as soon as any moisture settles on them they will damp off, and affect the young fronds that are throwing up. We believe that allowing the plants to become too dry is the primary cause of much evil to this most beautiful fern, although an over dose of water is equally damaging, especially if the roots are in a bad state or the plants are over potted. The soil that we find most suitable is good rough fibrous loam, leaf-mould, and peat, in equal portions, with the addition of a little well rotted manure and some sand. The pots must be well drained, and should have a little sphagnum or other moss over the drainage.

Davallias.—In potting these they should be kept well above the rim of the pots; good rough porous soil should be used, with which may be mixed some broken crocks, and sphagnum moss. Where it is desirable to increase the stock of such kinds as D. dissecta, D. bullata, D. elegans, &c. it is a good plan to plunge the old plants in cocoa-nut fibre refuse, or any suitable soil for the young rhizomes to root in, and take them off and pot them as soon as they have made a few fresh roots. The elegant D. Mooreana, although usually grown on into large specimens, is also very pretty in a smaller state, and for this purpose young plants that have not made a too vigorous growth should be divided from time to time. D. tenuifolia stricta is another very pretty species. D. Tyermanni, and the beautiful Japanese species, D. Mariesi, should also find a place in every collection.

Nephrolepis.—This is another genus which is most readily propagated by division, and is perhaps one of the most useful of all classes of ferns especially for basket-work; for which purpose such sorts as N. pectinata, N. tuberosa, N. exaltata, N. davallioides, and N. davallioides furcans are the most useful. N. Duffi is another very pretty species. Nearly all ferns will be found to thrive better if treated more liberally than is usually the case; we like to use some well-rotted manure in the compost for potting, and as soon as the pots are well filled with roots, they should have liquid-manure occasionally during the growing season, or a little sprinkling of Clay's Fertilizer will be found to be very beneficial.

Propagating.—Mesembryanthemum cordifolium is a most useful plant for flower-gardening, either for forming lines in carpet bedding, edgings to flower-beds, or what is perhaps still better, as a groundwork to beds of tuberous-rooted Begonias, which are fast becoming general favourites. Unlike the generality of cuttings, these must not be placed in a close, shaded, and damp atmosphere, but in a position where the conditions are quite the reverse. The best place is a shelf over some pipes and as near the glass as possible, where they can be exposed to bright sunshine. They should never be shaded, and the more arid the atmosphere the better. In such a situation little fear need be apprehended of damp, which is most to be feared with these plants, and as to the sun injuring them, if ordinary care is taken in the watering, that is well nigh impossible. Epiphyllum truncatum is another plant amenable to similar treatment when propagated from cuttings, although this is most generally increased by grafting on some foster stock, as was so ably described by Mr. Dunkin in your pages a few weeks ago; nevertheless, it makes very useful plants on its own roots. Good-sized cuttings should be taken off now and inserted in sandy soil, placing a stick to each to support the growths and keep the cutting firm in the pot. Place the pot on a shelf near the glass and syringe overhead each day, but do not keep them too wet at the roots. When they commence to grow they may be treated to more humidity, both in the air and at the roots. Treated in this way they make valuable plants for the decoration of dinner-tables, &c., where dwarf plants are generally preferred. Hoyas must also be placed in a very light position when being propagated by either leaf or stem cuttings; the former method takes a long time, but good-sized plants may be had by it in two seasons, especially of the fleshy-leaved Hoya carnosa. H. bella is a very beautiful plant, especially when seen covered with its drooping clusters of wax-like pink and white flowers. It should be found in every stove, but like most fleshy-leaved plants, they are very impatient of over-potting and of too much water at the root.—*W. C. C.*

Campanula Tenorei.—Although the Campanulas cultivated in gardens are already numerous, the present very distinct species cannot fail to be welcomed as an important addition to their ranks. It is allied to the well-known and popular C. pyramidalis, having foliage and flowers similar to those of that species, but differs notably from it in being very much dwarfer in habit. The stems do not exceed 6 in. to 9 in. in height, many being produced from the same root, and are furnished with smooth glossy foliage. The flowers are produced from July to September, and terminate the stem in a close raceme of from twelve to fifteen blossoms, which are nearly an inch across and broadly bell-shaped, of a delicate pale violet-blue, the centre being often deeper in tint. It is a hardy border species, but will also probably be found a useful rock plant. Native of Southern Italy. It has been described by botanists under the synonyms of C. Rosani, C. Thomasi, and C. versicolor.—*W. Thompson, Ipswich.*

Acacia Riceana.—This is one of the most pleasing of greenhouse shrubs. It is altogether more graceful in habit than any of the other Acacias more commonly cultivated in gardens, producing long drooping racemes of yellow flowers during the spring months in such abundance that quite an important addition to the supply of cut flowers may be gathered from a thriving plant without in any way interfering with its appearance as a conservatory specimen. Indeed the plant possesses so many points of real merit that it should find a place in every conservatory in which there is space to plant one out. In small conservatories it will grow fast enough in a good-sized pot, but it is when it is planted out in a good bed of peat and sandy loam that it is seen in its best dress.—*Jason.*

Senecio Ghiesbreghtii.—This handsome groundsel—and it seems almost a libel to call it one—is very effective just now in the greenhouse or conservatory. It grows 3 ft. to 4 ft. high, hence it must be placed in the back rows. The leaves are large, elliptical, coarsely toothed, and some lobed, and the large terminal corymbs of flowers are of a rich orange-yellow. The plant has a bold and striking appearance, and may be used with excellent effect in subtropical gardening. It is a native of Mexico, and of the simplest possible culture.

Colchicum luteum.—This pretty species is quite an exception to the general run of Colchicums. They are usually autumn flowerers, with purple or sometimes white flowers. But this species is neither the one nor the other. The colour is a beautiful clear yellow, reminding one of Sternbergia lutea; and it is a spring or perhaps winter flowerer, for it is flowering at the present time.

VEGETABLES.

The Kitchen Gardener's Calendar.—Carrots (Long Surrey and Altrincham are good varieties for a general crop) and Parsnips (Hollow Crown and The Student) should be sown in the manner recommended for Onions at p. 379, except that the rows should be further apart—say from 15 ins. to 18 ins. between each row. Also make a sowing of Early Purple Top Munich Turnip in light soil, on a warm border, in drills 1 in. deep and 12 ins. to 15 ins. asunder,—always, of course, assuming that the ground is in a proper condition (as indicated in last week's Calendar) for the reception of the seeds. I may here remark that where the soot resulting from the periodical sweeping of the chimneys is saved and kept in a dry place for use in the garden, as it most certainly should be, a little of that fertilizing and purifying agent should be strewn over the ground prior to drawing the drills for Onions, Carrots, Parsnips, and Turnips (as these crops are more subject to the attacks of wire-worm than any others), and before making plantations of Lettuce, with the same object in view, the rendering of the soil distasteful to grubs, &c., as well as to enrich it.

Clear the ground of old Cabbage and Broccoli stumps, to make way for a planting of Potatos, then, without the addition of any stable-yard manure, dig the ground and afterwards draw drills about 4 ins. deep and 2 ft. apart, and in these, if the soil is considered deficient in fertility, strew a little Peruvian Guano, or, what is better still, Beeson's Manure, prior to setting the tubers of such approved varieties as Veitch's Ashleaf Kidney, Schoolmaster, and Sutton's Reading Hero, at from 7 ins. to 9 ins. from each other. Thin out autumn-sown Onions to from 4 ins. to 6 ins. apart in the rows, and lay in the thinnings for future use, or if necessary to increase the crop transplant them the same depth in the ground as they are now, and in rows at the same distance apart. Afterwards, if weather permit, run the Dutch hoe been the rows so thinned, also between the rows of Spinach, or wherever seedling weeds are putting in an appearance.

Forcing Department.—Pot off young Tomato plants singly into 3-in. pots, and grow on in heat near the glass where they can have a little air admitted when necessary to secure a sturdy growth. As young Celery plants become large enough to handle prick them out 4 ins. apart in shallow boxes, having a layer of rotten dung underneath 1 in. to 2 ins. thick of fine soil, water and shade from bright sunshine for a few days until the roots have taken to the soil, and gradually harden off the plants as the time for finally planting them out approaches. Sow a pinch of Curled Parsley in a box for transplanting in the open later on. By following this method of procedure space is not only greatly economized, but quicker and equally good results are secured.—*H. W. Ward.*

The Negro Dwarf French Bean.—What an interesting study it would be to trace the origin of the various Dwarf and Running Kidney Beans now in cultivation, and by what means they found their way into cultivation. The Negro Dwarf Bean is remarkable for the shining blackness of its seeds when in a dry state, and they are among the smallest of this group of Beans. It is among the oldest varieties in cultivation, and it is a great favourite among some of the market gardeners around London. A sub-variety of this, probably at one time a selection from it, is the Negro Longpod. The dried Beans are of a different shape, and larger, longer, and flatter, producing long handsome pods that are fine for exhibition purposes. This is a wonderfully fine garden Bean, bearing well, and producing a good crop of tender pods. A very fine selection from this is known as the Monster Negro Long-podded Dwarf Bean, which originated, we think, with Messrs. Hurst & Son, of Houndsditch, and was awarded a First-Class Certificate of Merit by the Royal Horticultural Society. This fine variety should be well selected, as this is the only way of keeping the stock up to its proper level. Gardeners will find it not only a fine variety for the table, but one also well adapted for exhibition purposes. It is well to top the leading shoots when this variety is grown in strong soil.—*Quo.*

Leeks and Onions for Exhibition.—"An Anxious One" (*see* p. 382) if he wishes to "catch the judge's eye" this year with Leeks and Onions, will have no time to lose. There may be secrets in the culture of these that he is not acquainted with, but there is nothing that any amateur will find at all difficult. As it is rather late for working the seedlings from seed pans or boxes, he had better start them in small pots. Take small 60-size pots, put in one flat crock to cover the hole, a pinch of moss for drainage, and fill up the pots with a compost of three parts rotten turfy loam, one part leaf-mould, and one part well decayed old manure. He ought to make up a good heap of this for use through the season, and if he can add a little guano or bone dust it will repay him to do so. Press the soil down gently in the pots, give a good soaking and let them stand to drain. When dry enough, sow about three seeds on the top of each pot, covering lightly with a pinch of the compost and plunge them in a hotbed. As soon as you can handle the seedlings, thin them out to one in each pot. As the pots begin to get full of roots, shift the plants on into 4-in. pots, keeping them all the time supplied with weak liquid manure. About the middle of April begin to harden them off for planting out, and have the trenches for the Leeks and the beds for the Onions ready by the end of the month. Dig out the trenches for the Leeks the same as for Celery, and when the plants are ready, fill up these trenches with fresh horse droppings that you are sure will heat well. Cover that over with an inch or two of rotten manure, spread your heap of compost over the top 10 ins. to 12 ins. deep, and then make holes in that in which to turn out the plants. Plant them a foot apart, cross-wise of the trench.

No manure water will be required for the Leeks, water from a stagnant pond being best; and the ridge must be well and thoroughly soaked every time it requires it. A light sprinkling overhead occasionally will do good. Blanching must begin as soon as the plants have got into rapid growth, and must be repeated every three weeks till a month before the Show season. Two boards placed on edge will be found a saving of time, labour and soil in blanching, and the soil lying in the space between the boards should always have a level surface so as to allow of the water getting down to all parts alike.

The beds for the Onion plants should be about 3 ft. wide, and three furrows, 8 ins. to 10 ins. deep, should be opened through the length of them, to be afterwards filled up with the compost before mentioned. The beds should then be levelled over and holes made for the balls of soil and roots in the pots; 9 ins. to 12 ins. apart will be a good distance for the plants in the rows. After planting, tread the soil firmly up to the plants and level off with a rake. Take care to keep the bulbs well up to the surface, or they will grow thick-necked. Liquid manure from sheep's-dung, to which may be added a handful of salt occasionally, should be used once a week during the growing season, taking care to leave it off as the bulbs approach maturity. Good standard sorts of Leeks for exhibition are Henry's Prize and Dobbie's Champion. Two good Exhibition Onions are—Improved Banbury (flat), and Bedfordshire Champion (round).—"*Ex-Sussex.*"

SELECT VEGETABLES.

(*Continued from p.* 327.)

Lettuces.

The number of varieties of Lettuce in existence is very large, although in this country it may be said that the cultivation is confined to a very few, but then England—from its cooler climate, maybe—is not a salad-eating country. In France, Germany, &c., Lettuces are used in much greater abundance, and many of the varieties that we despise are held in the highest esteem. As a general rule, the Cos Lettuces with their crisp, fleshy leaves, and the Cabbage varieties partaking of the same character, are with us most appreciated, whilst on the Continent the soft-leaved "buttery" varieties are the favourites. The varieties of Lettuces are first divisible into two primary classes—1. Cabbage Lettuce, 2. Cos Lettuce—and these again according to the seasons for which they are most suitable—certain varieties being much better adapted for particular seasons than others. To maintain a full supply of the best Lettuces throughout the year, the following may be grown with advantage, although for an ordinary supply much fewer may suffice:—

Cutting Lettuces.

1. Small Cutting.
2. Common Green.
3. Crisped Small Early.

These varieties are grown to cut very early when having only a few green leaves and no heart. They are not much used in this country.

Spring Cabbage Lettuces.

1. Tom Thumb, or Stone Tennis Ball.
2. Dwarf Green, very early.

No. 1 is well known and produces small, very solid hearts, of fine quality.

Summer or Autumn Lettuces.

1. Malta or Drumhead.
2. Neapolitan.
3. White Chavigny.
4. Marvel or Red Bossin.

No. 1 produces large hearts, is very crisp, tender, and excellent. No. 2 is also very large, very crisp and tender, of the same character as No. 1. No. 3 has large solid heads, soft and buttery, and of excellent quality. It stands the dry weather well. No. 4 is of a similar character to No. 3, tender and excellent; the outer leaves reddish-bronze, which by some is objected to.

Winter Cabbage Lettuces.

1. Hammersmith or Hardy Green.
2. Grand Admiral.
3. Brown Dutch.

No. 1 is a well-known variety, producing small solid hearts, which stand the winter well. No. 2 is a grand sort, producing large solid hearts, and is very hardy.

Cos Lettuces.

1. White Paris.
2. Green Paris.
3. Hick's Hardy.
4. Bath Cos Ne Plus Ultra.

No. 1 is the Lettuce par excellence that is most grown and appreciated in this country for general summer use. No. 2 is a dark green variety of the same, standing the dry weather better. No. 3 is a hardy green variety, standing the winter well, and producing fine large hearts; a very desirable sort. No. 4 is very hardy, and produces fine solid hearts of excellent quality. A very desirable sort to cultivate.

Excepting for special purposes, the following may be found sufficient:—

1. Tom Thumb Cabbage.
2. Neapolitan Cabbage.
3. White Chavigny Cabbage.
4. Grand Admiral Cabbage.
5. White Paris Cos.
6. Bath Cos.

Onions.

In making a selection of Onions, the properties most desirable to secure are those of size and keeping, and next that of early bulbing—that of flavour or quality is not of material consequence, albeit the qualities of Onions grown in this country are much alike. The following may be relied on:—

1. Queen or Early Silverskin.
2. White Spanish or Reading.
3. Giant Zittau or Danvers.
4. Trebons.
5. Red Wethersfield.

No. 1 produces small white bulbs very early, which are excellent for early salads, or for pickling purposes. It should be sown in August or September thickly, and not be thinned. No. 2 is the Onion in most general cultivation, and may be obtained under a great variety of names, more or less pure. It is one of the best keeping varieties. No. 3 is a large and fine variety somewhat of the same character as No. 1, and keeps well. No. 4 is a very large and excellent sort, suitable for summer and autumn use. It should be sown in autumn. No. 5 is red-skinned, and one of the latest keeping Onions in cultivation.—*B.*

THE

Orchid Growers' Calendar.

The Propagation of Phalænopsis.—I have never known an instance of root propagation such as is described and illustrated in THE GARDENING WORLD, at p. 364. Most Orchid-growers have seen instances where shoots have made their appearance through the potting material, in such genera as Cypripedium, for example, but I have little doubt that such shoots would always be found on careful examination to proceed from some outlying or partly detached piece of rhizome. The cases of conversion of flower-buds into shoots are common and well-known, as is the production of flower-shoots from nodes on peduncles. The case in question, unless it be a mere "luxus naturæ," deserves careful examination by a competent botanical observer. It certainly would seem to indicate the necessity of some modification of the accepted physiological views of the nature and functions of the fleshy roots of Orchids.—*Trevor Lawrence, 57, Prince's Gate, S.W.*

I have never met with an instance of Phalænopsis propagation by the roots. The note of "A. F. L." on the subject at p. 364 is very suggestive. I have never succeeded in germinating seeds of Phalænopsis, though I have several times had fine pods, which ripened to all appearance, the first and finest which I ever had being in 1868. It was on a P. amabilis fertilized in 1867.—*W. Davies, Gardener to Holbrook Gaskell, Esq., Woolton Wood, Liverpool.*

The most interesting paragraph on this subject, with illustration at p. 364, from A. F. L., who, I see by the report of the Royal Horticultural Society's Scientific Committee, is Major Lendy, whose varied collection of Orchids at Sunbury has been often mentioned, opens up a new phase of Orchid culture. Apart from the value of such means as a method of multiplying rare kinds, what lovely baskets of Phalænopsis could be produced in time by inducing the roots to produce young plants and leaving them all together to bear their flower-spikes. Again, as Phalænopsis have never been suspected of multiplying in this manner until quite recently, may not other Orchids be amenable to the same treatment as a means of reproduction. If so, Orchid-growers may now have a double interest in their plants. The plan is well worth trying on all kinds of Orchids, as the experiments are sure to be interesting.—*J. B.*

Odontoglossum crispum.—I note with pleasure the admirable illustration of one of Dr. Paterson's plants of this charming Orchid, which you give at p. 377, but observing that it has a very much branched spike, very different from those usually seen, I should be glad to learn if this particular plant always flowers with a branched spike, or if not, may any O. crispum by good culture be made to do so? The wonderful spike of flowers on the plant illustrated I should certainly have taken for O. Pescatorei, had not your artist so cleverly rendered every detail of the flower, even on so small a scale, as to leave no doubt as to its being the true O. crispum (Alexandræ), which you happily and truthfully designate "The Favourite Orchid."—*J.*

The Flowering of Phalænopsis.—The month of February is not generally considered to be favourable to the production of fine floral displays, yet those who grow a collection of Phalænopsis may, for two or three months at this season of the year, enjoy such a floral treat as, perhaps all things considered, cannot be produced at any other season of the year. We have had a nice display of these since early in November, and have been cutting almost daily. This morning I counted over 550 blooms open of P. amabilis, P. intermedia, P. Schilleriana, and P. Stuartiana; our best spike of P. Stuartiana carried fifty blooms. This species, I think, bids fair not only to rival but to completely outdo the gorgeous P. Schilleriana.—*J. Jacques, Malvern, February 11th.*

Masdevallia Tovarensis.—Can you tell me the cause of leaves of this plant falling off? My plants have made a good growth and flowered profusely, but many of the leaves turn yellow and die off. I have noticed the same thing in other collections. I have kept them in a temperature of 55 degs.—*A Constant Reader.*—[A temperature of 55 degs. is quite warm enough for this Masdevallia, but a low temperature will undoubtedly have the effect described, and it is possible your house may some night have got below this minimum. The leaves will also drop off if the plant is kept in small close houses and given too much water, but cold is the most fertile cause of the mischief.—*Ed.*]

Lycaste Skinneri.—Reference was made in THE GARDENING WORLD of February 7th, p. 364, to a giant form of Lycaste Skinneri, with flowers "over 5 ins. across," sent by Mr. J. Cypher of Cheltenham. We have a plant here of Lycaste Skinneri, growing in an 8-in. pot with numerous flowers and buds, and some of the flowers measure 7 ins. across, and the sepals 2 ins. wide. We grow them in a cool house, the temperature of which seldom exceeds 50 degs., they require a good supply of soft water when in a healthy condition, and occasionally liquid manure will assist them to plump up their bulbs. I am surprised this beautiful Orchid is not more generally grown by amateurs, being so cheap and so easy of cultivation. It flowers, too, during the dull season of the year, which makes it the more valuable, and its flowers last in perfection a month or six weeks.—*W. Driver, Longfords, Minchinhampton, Glos.*

Saccolabium illustre.—This beautiful Orchid has been in flower for a considerable time, and is certainly a plant of sterling merit. The raceme is gracefully arched downwards, as is usual in the genus, and the numerous flowers are white with delicate purple spots. The lip is purple, with veins of a paler colour. It seems to be a fairly robust grower.

OSMUNDA JAPONICA CORYMBIFERA (*see* p. 388).

HORTICULTURAL SOCIETIES.

Notts Horticultural and Botanical, *February 11th.*—At the general monthly meeting of the members of this Society, held on the above date at the Mechanics' Institute, Nottingham, there was an excellent attendance of members and other persons interested in horticultural pursuits to hear a paper read by Mr. J. H. Walker, Hardwicke House Gardens, Nottingham, on "The Cultivation of the Camellia." Mr. J. R. Radford having been voted to the chair, Mr. Walker proceeded to remark that it had been well said that "If the Rose has many claims to be the queen of summer flowers outdoors, the Camellia has many qualities to claim for her the premier position among winter flowers under glass." He could corroborate all this. It was to be regretted that well-grown plants were comparatively rare in this country, a circumstance remarkable since for so long a time the plant had been under cultivation; whilst possessing as it did a recognized value one would have thought that every detail of its successful management would have been familiar to every plant grower. The Camellia, it was pointed out, might be specially well-cultivated in pots. It disliked forcing in growth, and to this he attributed a good deal of the want of success many had experienced. It was singular in what a small quantity of soil the Camellia would live and thrive. For his own part, he urged firm potting and the use of small pots in its culture. The multiplication of fibrous roots required some resisting medium, as an examination of the roots in pots would show. Let them examine lightly potted plants, and a limited number, perhaps, would be found working from the centre to the pot, but in the great bulk of instances the centre would for a long time be found unoccupied with fibres. It was not generally until the roots reached the hard sides of the pot that they produced fibres under such conditions. Now in firm soil the roots were very different in character. By the obstruction they met with they were divided and subdivided at every point of extension, with the result that the plant was proportionately benefited. The fibres appropriated the qualities of the soil, and firm soil did not require the heavy quantity of water that light soil did. The aim of the cultivator of the Camellia should be the production of the greatest number of fibres, which could not be attained without firmness of soil and proper moisture. It was of the utmost importance in firm potting that the soil should be in the best possible condition when used. The employment of small pots was also advocated.

The shedding by the Camellia of its flower-buds was a subject upon which there had been much discussion. There were three primary reasons—first, dryness of roots; second, dryness of the atmosphere when the buds were on the point of expanding; third, indifferently ripened wood. Experienced gardeners knew that no half-ripe wood was desirable. Those who wished their flower-buds to be perfectly healthy should expose the plants to as much sunshine as was adequate, and keep the atmosphere in which the plants were growing constantly humid. He had always placed his potted plants in an early vinery during the growing season. There was no better situation obtainable. In dull, damp, sunless weather the syringe should not be employed, or weak growth would be the result. To those with sufficient house accommodation he would say throughout the year keep the plants indoors. A good healthy root action was of great importance, but the Camellia would not submit to be hurried. Practice and observation alone would enable the cultivator to treat each plant according to its own special requirements. It was contended that there was no danger of souring the soil with soot water, constantly and judiciously applied.

As to soil, the best in which to pot a plant was that which yielded the most nutrition and favoured the greatest amount of root development, with healthy condition. He recommended a compost of a mixed and varied character, rather light than heavy. If he had a choice of soils thoroughly pulverized, he would select equal parts of fibrous turf, cut from an old, well-trodden sheep pasture, and peat to which charcoal and sand had been added. Those having old neglected plants might try to renovate them.

As to re-potting, during the spring root action was most vigorous, and the plant would then bear better any slight check than when more advanced. Mr. Walker having dealt with the cultivation of plants in a permanent soil, and enforced the necessity of careful drainage, said that they should not attempt to force Camellias by artificial heat. They must, however, get them into early growth, giving plenty of light, abundance of air, due moisture, and food judiciously supplied. They would then be rewarded with a grand display of the plant's lovely blossoms, whose popularity never decreased, whose fair face was ever pure. For no matter in whatever aspect they looked at the Camellia, whether at her history, her beauty, or accommodating habits, her life would be found to be full of interest, which seemed to stimulate them to use every exertion in the matter of her culture. Her blossoms were widely sought after to grace the hand of the bride at the altar, to adorn the hair or breast of the noblest lady at a concert or a ball, and to mark a last tribute of respect to a departed friend. Give the Camellia plenty of light, abundance of air, and good food, and then they might unite with Longfellow in saying—

"The flowers, still faithful to their stems, their fellowships renew,
The stems are faithful to their roots, the worker out of view;
And to the soil the roots adhere in every fibre true."

A discussion followed, in which Messrs. J. Edmonds, T. Edington, W. Thompson, S. Thacker, and T. Palmer took part. Votes of thanks were heartily accorded to the lecturer and chairman.

There was also on view at the meeting a good collection of Orchids and other plants, which were greatly admired. The President, T. B. Cutts, Esq, sent some well-flowered Odontoglossums and Phalænopsis. His Grace the Duke of St. Albans (Mr. Edmonds, gardener) had a very fine variety of Brussels Sprout measuring over 3 ft. in length, called Northau Giant, and which is this season being sent out by the raiser, Mr. May, gardener to Captain Le Blanc, of Northau House, Barnet, Herts. This excellent variety was much admired by those present, and we shall possibly before long hear much of the many qualities which it is said to possess. Mr. S. Thacker exhibited a beautiful collection of Orchids, Camellias, cut blooms, and plants; Mr. H. Ashwell a fine specimen of Dendrobium nobile, and cut Primulas; and Mr. J. W. Lewis, of the Park, a fine flowering specimen of Passiflora quadrangularis.

FLORICULTURE.

Auriculas in February.—"My Auriculas are taking water freely," wrote a friend the other day, one who grows a collection of this fascinating flower in the West of England. That is to say, he had, in common with other growers, kept his collection somewhat dry during the winter; but now that growing weather has set in the plants are becoming active and need supplies of water, and must have them. My collection has made a rapid forward movement during the past three weeks. I never before had them growing so freely at this early period. The pots have been washed, those needing it top-dressed, and the plants are gradually unfolding their leaves and showing the buds deep down in their centres. Really the weather during the winter was so mild and genial that Auriculas scarcely had their period of rest, or only a short one; and all my correspondents who grow Auriculas say that the forward movement has commenced this season much earlier than usual. If my plants that are located in a cold north house, where little if any sunshine falls at this season of the year, are pushing ahead, one would suppose that plants in a southern aspect are even more early. Unless a sharp check of some kind comes an early bloom of Auriculas may be looked for. Late varieties, like Richard Headly, are pushing up their new leaves very fast.

What top-dressing may be required should be done at once. Mr. Douglas and other leading growers do not attach so much importance to top-dressing as our forefathers used to, more especially if they are potted late. It will be found that Auriculas push their roots down to the bottom of the pots first, and then they may be said to pile on layer upon layer until the surface of the soil is reached. Some sorts root much more rapidly than others, and top-dressing in early spring may be highly advantageous to such. My own impression is that plants that are destined to be potted late in the summer derive advantage from top-dressing in spring, and for this reason that during late spring and early summer they put forth roots near the surface, and it is helpful to the plants to have some fresh soil to root into; when this is so, I find on turning out the plants in order to repot them they have formed matted roots near the surface in the comparatively fresh soil, and when repotted they quickly lay hold upon the fresh compost.

This is a good time of the year to repot the off-sets taken off last year at the period of repotting. Those that are large enough I pot singly into small pots, the smaller ones are placed round the sides of store pots; during the autumn they put forth roots, and when they become active in spring they are repotted into rich light soil pressed firmly about them. They are put singly into small pots, they have another shift in August, and in the spring following they are good blooming plants. Some growers remove their off-sets in early spring, probably on the ground that they weaken the bloom. I prefer to let them stay until June, when they have rooted nicely, and I think the gain is as great as when they are removed in early spring. Of course, something depends upon the convenience of the grower. I have a notion that if the off-sets are allowed to remain until later in the season, the bloom is not so much weakened as some have supposed.

I think that at our Auricula Show in April, some difference in the competition should be made between plants flowered in heat and those grown solely under cold treatment. The latter grower is placed at a disadvantage when compared with the former. The one can keep frost at bay at a critical time by means of a little artificial heat, the other can do so only by covering up closely and keeping his plants in darkness. The one can hasten on as well as retard, as he is certain to have enough of cold frames to secure the latter, while he who grows under cold treatment must wait Nature's time of development. There is of necessity a higher character in flowers that have been subjected to a little heat, than in the case of those not so favoured, and it must be borne in mind that in the matter of judging Auriculas, the southern method does differ from that which prevails in the north. Mr. William Brockbank of Brockhurst, Didsbury, writing to me a short time since, said, "I do not believe in the London Auricula Shows—the system is bad. You allow sticks to Auriculas, and tall lanky plants win, which would not have a chance in the north. I have altogether given up growing Auriculas in houses for this very reason. All mine are now in low frames, and the plants within an inch of the glass. That is the proper way to grow them in character. The finest I ever saw were shown at Manchester last year by Henry Wilson of Halifax, low sturdy plants with grand trusses." There is no doubt a good deal to be said from this point of view. Under our present system, it seems to me that those who can grow and flower their Auriculas in greenhouses, must carry all before them at the annual competition in London.—*R. D.*

Letters to the Editor.

SHOW PRIZES AND AWARDS.

Please permit me to correct a very obvious arithmetical error in my notes on this subject in your last week's issue. The printer has made me to say, "Hence whilst the winner of the first prize with his 100 per cent. of points gets £10, the other two with 135 points between them gets only £11." Some readers may perhaps have thought that this arrangement was *not* an unequal distribution, but what I really did say or intended to say was, that the other two with 185 points between them gets only £11, and thus a very different interpretation is put on my proposition. It will be so difficult to impress those wedded by old associations and superstitions to the present system of prize awards, that I must be very careful in any suggestions put forth.

I am disappointed to find that no one seems to have thought it worth while to discuss this interesting subject, other than Mr. Holmes, as it leads to the inference that exhibitors are indifferent, and yet the propositions are put forward entirely in their interests, and for the securing of the more equitable adjustment of prizes according to the value or merits of the respective exhibits. Even under our present system, the prizes are as a rule too few in the classes and thus relatively too high. £10 would be far more equitably distributed in six prizes than in three only, for say what may be in favour of the present method, all must admit that collections are too often left without prizes that are relatively as good as those which obtain them, and to exclude them from any share in the prizes is to deal harshly with the exhibitors. A reform in prize awards is inevitable, and will come in good time.—*The Writer.*

I had hoped and expected that we should have seen ere now in your columns some further expression of opinion either for or against the somewhat startling suggestion in reference to an entire rearrangement of the prize and award system as at present carried out at most, if not all, of our Exhibitions. One deduction from this silence it is, I think, fair to make—viz., that exhibitors and judges alike do not yet see their way clear to adopt or even support the proposed new departure. While I do not for a moment contest that the present system is complete or without its anomalies, yet I do hold that, to say the least, there are equally grave objections to the proposals that have been placed before us.

In theory, and to those who deal with figures only, the proposal would, I am aware, seem to leave nothing to be desired; but to those who live and have their being in the realms of practical experience I do not think it will commend itself. Inasmuch as this discussion cropped up in reference to Chrysanthemum Exhibitions, it will be fair to take a Chrysanthemum schedule by way of illustration. Take, then, as an instance, a class of twenty-four incurved blooms, and as "The Writer" proposes, let one hundred represent the maximum number of points obtainable by the stand.

This will, of course, represent as nearly as possible four points as a maximum per bloom. The first stand has been awarded by the judges the full number of points, the second stand has twenty-three equally good flowers, but the twenty-fourth is not worth a single point, and this stand is in consequence awarded ninety-two as against ninety-six to the first stand. This is sufficient, of course, to place them first and second respectively, but if the actual cash is to be divided in accordance with the relative values of ninety-two as compared with ninety-six, I submit that the second prize taker would receive far more than the value of his stand entitles him as compared with the first, and for the reason, as all Chrysanthemum growers will bear me out, that it is easy enough to put up eighteen, twenty, and even twenty-two first-class flowers distinct, but the difficulty of finding the twenty-third and twenty-fourth is greater than all the rest put together, and is certainly not at all represented by the 4 per cent. as it would be under the proposed new system. Here, then, anomalies would at once crop up in practice that do not appear in theory. Again, in putting up a stand of twenty-four blooms it is easy enough to find, as I have said, the first seven well known varieties, but as the stand is made up so the difficulty increases in finding match flowers, therefore an equal number of points to the last six flowers as to the first six in no way represents the real value of the former on the Exhibition table, and this is a fact I venture to say not lost sight of by practical judges under the present system.

Since "The Writer's" last communication on this subject the plan has been developed to this extent, that judges are only to record the number of points to each exhibit, the apportionment of the cash to be left to the committee. To my mind this is a most undesirable arrangement, and likely to lead to much bitter strife and contention, for the simple reason that in nine societies out of ten the principal exhibitors are also members of the committee, and would be consequently making their own money awards. The last contention seems to me quite met by existing regulations—viz., that judges may withhold prizes where exhibits are not considered worthy of an award. This occurred twice or thrice last November to my certain knowledge—in one case a first was deservedly awarded, but the next in order only received a third prize; and in another case both first and second were withheld and only a third awarded.—*William Holmes, Hon. Secretary, National Chrysanthemum Society.*

I have read the remarks on the proposed alteration in the system of awarding prizes, to Chrysanthemums, for instance, but, for my part, I do not look upon the suggested alteration as likely to prove an improvement. "The Writer," p. 372, by insisting that the number of points given to each collection shall be marked in the judges' books, adds materially to the labours of the judges, not in merely marking the number of points instead of simply the first, second, and third awards, but by giving them the unnecessary trouble of finding out how many points each stand of blooms is worthy of. It is not in all cases, by a very long way, that "pointing" the blooms is necessary to determine how the first, second, and third prizes shall be disposed off, as in some cases one collection is such a long way ahead of the others that it is seen at a glance which is the first, and so on with the other prizes; but to give the number of points each stand of blooms is entitled to, each bloom must be examined and the points totalled up, which will take time and give much extra trouble to the judges, who often enough have so much to do that it is difficult to get through the work in the short time usually allowed.

I do not know that were the system adopted, as suggested, of awarding the prizes by the number of points, and making such a small difference in the value of the first and second prizes, that the blooms shown would be quite as good in quality as they are now, and they would not, I think, be presented in such good condition all through the show. Many exhibitors when they place their stands alongside of others have an idea how they are likely to stand, whether first, second, or third. Now, knowing that they were very close in point of merit, and assuming that they judged rightly that A. was first and their own collection—say B.—was a close second, B. would say, "A. will get £2 5*s*., and I, B., shall have £2;—the difference is so slight I shall not trouble to alter them," whereas if there was more risk at stake—say the first prize was £3 and the second £2, the greater would be the incentive to take a little extra trouble with the blooms, when perhaps by taking one or two flowers from the stand and giving them an extra ten minutes with the tweezers might make a vast difference in the award of the prizes.

I do not say that this want of energy at the finish would take place with an exhibitor who was competing in the champion class, because as a rule in those classes the honour of being first is a great consideration with exhibitors, but in the smaller classes it would take place, and the blooms would suffer in quality because it often happens that a person competing in the large class competes also in the smaller ones, and I ask, Why should the small classes suffer? Many people might say that the man who acted as I have stated ought not to show at all, and some again do not, perhaps, look upon showing as a matter of honour so much as of gain, but with cut blooms of Chrysanthemums it is a tedious matter staging in many classes, as many who have tried it know.

I do not see that making a class for forty-eight Japanese blooms and another one for the same number of incurved varieties is an advantage over the older plan of combining the two sections. I consider it no easy task to muster forty-eight blooms of either Japanese or incurved flowers, and I have had a little experience in this matter. Perhaps Mr. Holmes will explain *why* it is better than the older way of offering the prizes, as he ventures to predict great things from the new departure made by the National Society.

I do not consider that the judges labour under any very great difficulty with regard to awarding prizes to collections that are much inferior to the first prize lot. All judges ought to be empowered to withhold prizes where they are considered unworthy. Because the prizes are offered it does not follow that they must be given, and judges, as a rule, are quite able to decide that point to the advantage of the committee.—*An Exhibitor.*

NOTES AND QUERIES.

"Venetian" Flower and Fruit-Houses.—I send you a plan of a new house for flower and fruit-growing, introduced by Messrs. Skinner & Board, Stokes Croft, Bristol, and which I consider has many advantages over other houses, and for Orchard-house trees especially. I should be much pleased if some of your readers who have been using this style of house would give me their opinion of them.—*J. M.*

Potting Tuberoses.—Kindly give directions to an amateur for Potting Tuberoses, and oblige.—*K. R.*—[Pot them in well-drained 5-in. or 6-in. pots, filled with a mixture of peat, loam, well-rotted manure, and sand, and put them in the soil as deep as a Hyacinth. Give them one watering and no more until they commence to grow, and plunge them in gentle bottom heat. When they give signs of flowering remove the plants to a cold house.—*Ed.*]

Torenia Bailloni.—I shall feel much obliged if you will kindly furnish me with information as to the treatment required to grow Torenia Bailloni from seed, more especially details as to the soil, temperature and amount of moisture best suited to the plant.—*Chas. V. Smith.*—[Torenia Bailloni is a showy bright golden-yellow flowered stove annual, which, with T. Fournieri and the better known T. asiatica, is well worthy of cultivation for furnishing hanging baskets. Sow the seeds at once in well-drained pots filled with a compost of peat, leaf-soil, sand, and a little loam, and place the pots in a Cucumber-frame or propagating frame, where the seeds will germinate freely. As soon as the seedlings are large enough, pot them on in a similar compost, and still keep them in the frame, unless you have a warm house, until they are finally shifted into 6-in. pots for blooming. Water with care and moderation until the pots are filled with roots when they will take plenty of it.—*Ed.*]

ANSWERS TO CORRESPONDENTS.

Maréchal Neil Rose.—*H. Ledbury.*—You started it into growth too soon after potting it, hence there is now insufficient root action to meet the demands made by the foliage. Keep the plant as quiet as you can until it has made more root growth. You will not do much good with this Rose in a pot, and we strongly advise you, if you can, to plant it out in a border.

Names of Plants.—*Ireland.*—1. Polypodium aureum. 2. Nephrolepis tuberosa. 3. Asplenium cicutarium. 4. Adiantum formosum. 5 Davallia Mooreana. The Violet appears to be Marie Louise. *R. H. F.*—1. Pteris serrulata angustata. 2. One of the many forms of Pteris serrulata cristata, and not a particularly good one. 3. Onychium japonicum. 4. Not recognizable without fructification. 5. Asplenium concinnum apparently: if so, grown in too much heat and badly infested with thrips. 6. Adiantum formosum.

Erratum.—At p. 372, col. A, twenty-first line from the bottom, for "15 to 15 per cent." read "15 to 25 cents."

Alternantheras.—*Colic.*—Put the stock plants in heat at once to start them into a free growth. They will lose their colour under such treatment, and throw up strong green shoots which are the best for propagating. The colour will return after the cuttings have rooted.

Fuchsias.—*C. H. W.*—If you want them in flower early, bring the plants out of the cellar at once, prune them as much as is necessary, and put them in the greenhouse to break. Water very sparingly until the young shoots make their appearance, when the roots should be shaken out of the old soil, be reduced and re-potted in smaller pots. Let the soil be good sandy loam and old cow manure, and put in a good layer of the latter over the drainage.

Communications Received.—E. M.—W. H.—R. H. F.—J. C.—R. L.—J. L.—H. C.—H. R. I.—J. W. S.—P. B.—D. P. L.—D. & Co.—E. W. B.—W. R.

Trade Catalogues Received.

Viccars Collyer & Co., Central Hall, Leicester.—Choice Flower Seeds, Aquatics, New and Rare African Plants, &c.

P. J. Kane, Kells, Co. Meath.—Vegetable and Flower Seeds.

LONDON SEED TRADE.

February 18th, 1885.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report a slow trade for Agricultural Seeds at rates current last week. Supplies continue large, and moderate prices rule for all varieties. White Clover and Alsike are now cheaper than for many years, and qualities are much above average. Tares firm; no change in value of Bird Seeds.

COVENT GARDEN MARKET.

February 19th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 5 0	Kent Filberts and Cobbs, per 100 lb.	55 0-
— Nova Scotian, per barrel	10 0-15 0	Pine-apples, Eng., lb.	1 0- 2 0
— Extra samples	18 0-21 0	Pears, French, p. doz.	6 0- 9 0
Grapes, per lb.	3 0- 6 0	St. Michaels	3 0- 8 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	- 1 0	Horse Radish, bundle	3 0- 5 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	2 0-
Brussels Sprouts, p. lb.	0 4-	— Cos, each	0 2-
Cabbages, per dozen	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	3 0- 5 0
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	1 0- 1 6	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	1 6-
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Narciss, Paper White	2 0- 3 0
Azalea, 12 sprays	1 0- 1 6	Pelargoniums, per 12 sprays	1 0- 2 0
Bouvardias, per bun.	1 0- 1 6	—scarlet, per 12 sprays	0 9- 1 0
Camellias, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 6- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun	4 0- 6 0
— large, 12 blooms	-	Pyrethrum, 12 bun.	-
Cyclamen, doz. blooms	0 3- 0 9	Roses, outdoor, 12 bunches	-
Cineraria, per bunch	0 9- 1 0	Roses, indoors, p. doz.	2 0- 6 0
Epiphyllums, 12 blms.	0 4- 0 6	Roses (French), per doz.	1 6- 3 0
Eucharis, per dozen	3 0- 6 0	Stephanotis, 12 spr.	-
Gardenias, 12 blms.	9 0-12 0	Tuberoses, per dozen	2 0- 4 0
Heliotropes, 12 sprays	0 6- 1 0	Tulips, per doz.	0 9- 1 0
Hyacinths, Roman, doz. sprays	1 0- 1 6	Violets, doz. bun.	1 0- 1 6
Lapageria, white, 12 blooms	2 0- 3 0	— French, doz. bun.	1 6- 2 0
Lapageria, red, 12 blms.	1 0- 2 0	— Parma, doz. bun.	4 0- 5 0
Lily of the Valley, doz. sprays	1 0- 2 0	White Jasmine, bun.	0 6- 1 0
Marguerites, 12 bun.	4 0 -9 0		

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Bouvardias, dozen	9 0-18 0	Genista, per dozen	12 0-18 0
Chrysanth., dozen	-	Hyacinths, doz.	8 0-10 0
Cineraria, per dozen	9 0-15 0	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargoniums, scarlet per dozen	4 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	18 0-24 0	Solanums, dozen	8 0-12 0
Evergreens, in var., per dozen	6 0-24 0		

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POTTING COMPOSTS, 5*s.* Per Sack. Selected Brown Fibrous Kent Peat, 5*s.* per sack, five for 22*s.* 6*d.* Cocoa-nut Fibre Refuse, best quality, 1*s.* 6*d.* per sack, ten for 12*s.*, thirty for 30*s.*, 2-ton truck, 30*s.* Coarse Silver Sand, 1*s.* 6*d.* per bushel, 25*s.* per ton. Yellow Fibrous Loam, Leaf Mould, and Peat Mould, each 1*s.* per bushel. Best Tobacco Cloth, 8*d.* per lb.; and Paper, 10*d.* per lb., 28 lbs. for 21*s.* Manures, Virgin Cork, Garden Sticks and Labels, Russia Mats, Raffia, &c., Sacks and Bags, 4d. each. List free.—W. HERBERT & Co., Hop Exchange, Southwark Street, London, S.E. (late New Broad Street).

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ROSES, in all ways;
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12 CHOICEST EXHIBITION ROSES, 6*s.* Very strong, healthy plants on own roots, far superior to budded plants; 50 best known sorts, Hybrid Perpetuals, Teas, and Bourbon. Twelve Standards, fine heads, 12*s.* and 15*s.*—JOHN H. LEY, Woodside Green, S.E. (Norwood Junction or Woodside Stations).

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3 BEAUTIFUL ORCHIDS, 7*s.* 6*d.*, two showing plenty of flower, and one will flower in April. Dendrobium nobile, Cœlogyne cristata, and Masdevallia Harryana. All for cold house. Box gratis.—JOHN H. LEY, Woodside Green, S. Norwood, S.E.

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GISHURSTINE keeps Boots Dry and Soft on wet ground. Boxes—6*d.* and 1*s.*, from the trade. Wholesale from PRICE'S PATENT CANDLE CO. (Limited), LONDON.

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GOLD MEDAL STRAIN from our Prize Plants. New crop now harvested. Sealed packets.
CHOICE MIXED, from single varieties, 1/- and 2/6 per packet; 5/- extra large packets; double varieties, 2/6 and 5/- per packet.
COLLECTIONS, 12 named varieties, separate, 7/6
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Sales for Next Week.

MR. J. C. STEVENS will SELL by AUCTION at his Great Rooms, 38, King Street, Covent Garden, during the ensuing week, as follows, at half-past twelve precisely each day:—

WEDNESDAY.—Choice named AZALEAS, RHODENDRONS, PALMS, and other Plants, Ghent; 1,000 First-class ROSES, Ornamental Shrubs, Border Plants, Bulbs, &c.

THURSDAY.—Imported ORCHIDS from Messrs. SHUTTLEWORTH, CARDER & Co., and Mr. G. MARRIOTT; good established ORCHIDS, 5,000 LILIUM AURATUM, 2 cases of ARAUCARIAS, &c.

SATURDAY.—First-class ROSES, FRUIT TREES, Shrubs, Border Plants, Bulbs, &c.

On view mornings of Sale, and Catalogues had.

TUESDAY NEXT.

Established Orchids.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY next, March 3rd, at half-past twelve o'clock precisely, about 400 lots of Established Orchids, from various collections, including Dendrobium Farmeri roseum, Anguloa Ruckeri, Cypripedium mierax, a specially fine and dark variety of Cattleya Trianæ with over twenty bulbs, Cattleya Dowiana, and many other species; also some valuable Zamias and Indian Lilies, and 5,000 Berlin Crowns Lily of the Valley.

On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

Lilium auratum, Roses, Plants, &c.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on WEDNESDAY next, March 4th, at half-past twelve o'clock precisely, 6,000 unusually fine and sound bulbs of Lilium auratum, just received from Japan in splendid condition, also a fine lot of imported Japanese Iris in thirty varieties (see plates), 2,000 double African Tuberoses, 1,000 Standard, Half-Standard, and Dwarf Roses from English Nurseries, English-grown Camellias, beautifully set with buds, and other plants, an assortment of hardy English-grown Lilies, Carnations, Gladioli, Begonias, Gloxinias, and a variety of hardy Plants and Bulbs.

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FRIDAY NEXT.

Very Valuable Importations.

MESSRS. PROTHEROE & MORRIS are instructed by Mr. F. SANDER to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY next, March 6th, at half-past twelve o'clock precisely, a very large and fine importation of ORCHIDS from Mexico, also a grand specimen with twelve flower spikes of Lælia Elegans Russelliana or species, the finest plant of Elegans in existence.

On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT AND FOLLOWING DAYS.

WARMINSTER.—In Bankruptcy, *re* James Wheeler, Nurseryman.—Highly Important to the Trade and others extensively engaged in planting. Great Clearance Sale of about Forty Acres of Nursery Stock.

MESSRS. PROTHEROE & MORRIS (in conjunction with Messrs. HARDING & SONS) will SELL by AUCTION, on the Premises, the SEVERAL NURSERIES at or near Warminster, Wilts, on WEDNESDAY next, March 4th, and four following days, at twelve o'clock precisely each day, without reserve, by order of the Trustee with the concurrence of the Mortgagees, the whole of the valuable NURSERY STOCK, extending over about forty acres, including an enormous number of Trees of young growth and an extraording stock of large Conifers, Evergreens, and Deciduous Shrubs, invaluable to the Trade, Noblemen, Gentlemen, and others largely engaged in planting. The stock is too extensive to mention in an advertisement, but the following may be noted:—40,000 Laurels of sorts, 4,000 Yews, 5,000 Green Hollies, 10,000 Rhododendrons, 50,000 Larch, 35,000 Ornamental and Forest Trees, 7,000 Privet, 14,000 Firs, 20,000 Hazel, 15,000 Thorns, 8,000 Fruit Trees, &c.

May now be viewed. Catalogues had on the premises; of Messrs. Protheroe & and Morris, Auctioneers, 67 and 68, Cheapside, London; Messrs. Harding & Sons, Auctioneers, Frome; Messrs. Waterman & Black, Solicitors, Warminster; Messrs. Sparkes & Pope, Solicitors, Exeter; Mr. W. H. Phillips, Accountant, 1, Small Street, Bristol; and of Messrs. Chilton & Green-Armytage, Solicitors, Bristol.

N.B.—The Four Freehold Nurseries will be offered by Auction in Lots at the Bath Arms Hotel, Warminster, on Tuesday, March 3rd (the day preceding the Sale of the Stock), at three o'clock.

Lovely Lilies and Iris.

WM. GORDON has still the finest Collection of these. Buy of the Importer the lovely Lilies, Szovitzianum, each, 1*s.*, 1*s.* 6*d.*; Eximium, 1*s.*; Brownii, 2*s.*; Californiana, 2*s.* 6*d.*; Krameri, 1*s.*, 1*s.* 6*d.*; Album Krætzerii, 1*s.*; Tenuifolium, 6*s.* per doz. Over thirty varieties of Japanese Iris, all Hybrids, in all hues and beautifully marked, perfectly hardy, greatly admired last season. Six varieties, 9*s.*; twelve for 15*s.*; the thirty varieties for 30*s.* Lilium auratum, finest possible Bulbs, 4*d.*, 6*d.*, 9*d.*, 1*s.*, and 1*s.* 6*d.* each. Double African Tuberose flowering Bulbs, 2*s.* 6*d.* per doz. Tuberose, The Pearl, 4*s.* per doz.—Address: Twickenham, Middlesex.

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ORCHID GROWERS & IMPORTERS.

An immense Stock of fine robust Plants always on hand.

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THOUSANDS of clean, healthy, well-grown Orchids at reasonable prices. Priced list on application.

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N.B.—An inspection respectfully invited.

ORCHIDS A SPECIALITY.

The stock at the Clapton Nursery is of such magnitude that, without seeing it, it is not easy to form an adequate conception of its unprecedented extent.

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Very cordially and respectfully solicit an inspection by all lovers of this interesting and beautiful class of plants, whether purchasers or not.

CLAPTON NURSERY, LONDON, E.

VINES! VINES!! VINES!!!

EXTRA Strong Fruiting Canes, 9 ft. to 10 ft., well ripened, price 6*s.* to 7*s.* 6*d.* each. Peaches and Nectarines in pots, splendid trees full of bloom buds, including Bellegarde, Sea Eagle, and Nectarine Peach (true to name), 5*s.* to 10*s.* 6*d.* each.

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The Vineries, Milton, near Cambridge.

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MILLTRACK MUSHROOM SPAWN.

IF ONCE USED no other will be willingly taken. Testimonials of high merit received every day.—"THE GARDENS, SANDRINGHAM.—I have tried all other Mushroom Spawn advertised, but none to be compared with yours, which I have used for the last *twenty years* without once failing a quick and good crop.—CHAS. PENNY, Gardener to H.R.H. The Prince of Wales."—Price Six Shillings per bushel, One Shilling extra per bushel (for packing), One Shilling per Cake free by Parcels Post.

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Direct from the Growers,

ANT. ROOZEN & SON,

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BRUSSELS SPROUTS, Veitch's Exhibition.

Unequalled for exhibition or for general use. The stems are entirely covered from top to bottom with large, firm, solid sprouts, which are of remarkably fine quality.

Per Packet, 1s. 6d.

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The best main crop variety for general use, pure white heads of fine texture, medium size, and finest quality; perfectly distinct and very desirable.

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A most distinct, compact-growing variety, of a rich deep green colour, forming very early a close solid heart, beautifully crisp, juicy, and tender, and of excellent flavour.

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The largest and best self-folding variety in cultivation, of superior quality, very crisp and fine flavoured.

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Two First-class Certificates, Royal Horticultural Society.

The finest Tomato in cultivation for exhibition or main crop, enormously prolific, handsome large smooth fruit of bright scarlet colour; flesh firm and solid, of finest quality, excellent flavour.

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First-class Certificate, Royal Horticultural Society, and First-class Certificate, International Exhibition, Dundee.

This new, most distinct, and exceedingly prolific variety is by far the best of Mr. Muir's hybrids, and superior to any yet in commerce; the fruit, averaging about 6 ins. in diameter, is of handsome globular form, creamy white in colour, of finest table quality and particularly delicate flavour.

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For particulars of above and other choice Seeds, see Catalogue forwarded gratis and post free on application.

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The following Catalogues are now ready, and may be had upon application.

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Thoroughly revised, contains many plants not previously offered, and includes nothing but really first-class showy plants.

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Including Show, Border, Clove, Tree, Yellow ground Carnations, Delphiniums, Phloxes, Pœonies, Violets, Pyrethrums, Pinks, &c., &c.

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A most complete Catalogue, including all the really first-class varieties of each section and the new ones of the present season.

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One of the most complete ever issued, comprising almost every hardy climbing, creeping or trailing plant of real worth.

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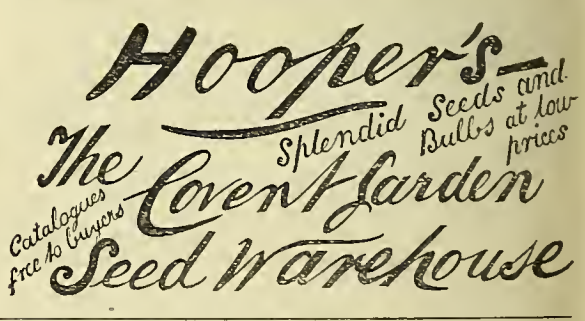

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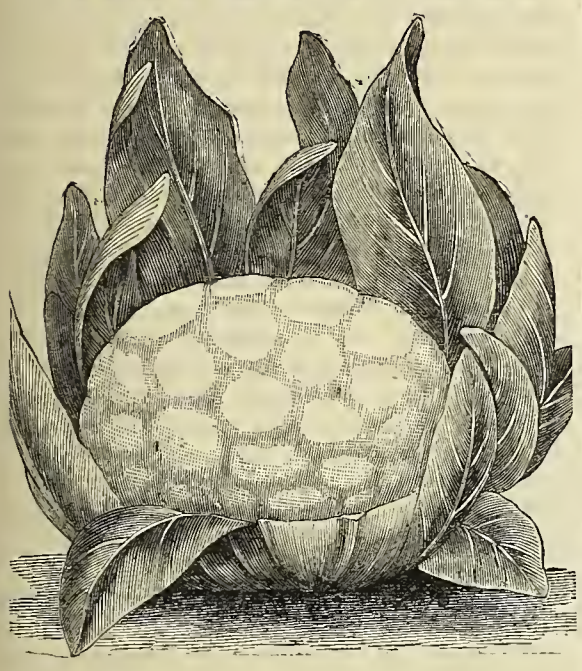

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MICHAELMAS WHITE BROCCOLI.

Comes in about Michaelmas day, and deserves a place in every garden. Heads firm, of fine texture, snowy white, massive, and of excellent quality.

Per packet, 2s. 6d., post free.

"Your Michaelmas White is a splendid autumn Broccoli; comes in about the second week of September. I find it remarkably level and compact in growth, very firm, solid, white heads, and cooks particularly tender."—Mr. J. W. Bunn, *Gardener to* E. M. Price, Esq., *The Philberds.*

"The Broccoli I had from you this season is now (the middle of September) a perfect wonder; very large and good in quality."—Mr. J. Hall, *Gardener to* Mrs. Hammond, *Kilverstone Hall.*

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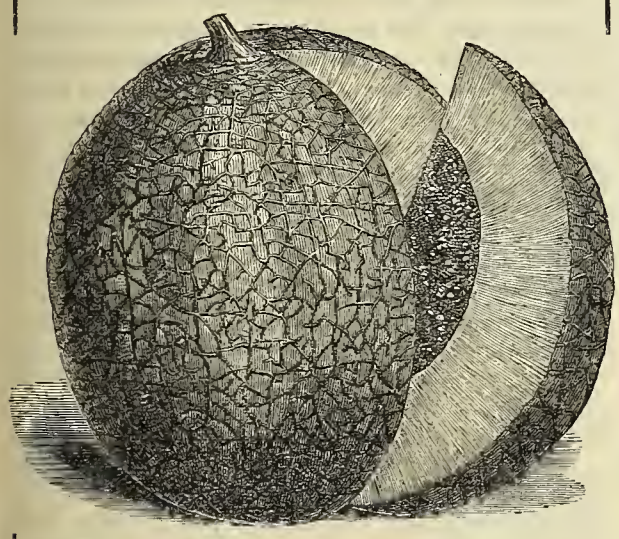

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First-class Certificate by the Fruit Committee of the Royal Horticultural Society;

and in every competition we are acquainted with it has taken 1st Prize.

Per packet 1s. 6d. and 2s. 6d. post free.

"A scarlet-fleshed variety of the most distinct character and highest excellence."—*Gardeners' Magazine*, June 30, 1883.

SUTTON & SONS,
ROYAL BERKS SEED ESTABLISHMENT,
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Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, FEBRUARY 28TH, 1885.

Gardeners' Benefit Societies.—The publication of the report of the proceedings of the United Horticultural Benefit and Provident Society, in these columns a fortnight ago, naturally serves to attract attention to the general question of gardeners' duties in relation to Benefit Societies, and the best form in which that relationship should be displayed. We put aside from present consideration all Societies that are essentially charitable or benevolent in character, because whilst such beneficently administered, may do good work in cases of sheer misfortune or pressing need, the real purpose now to be served is to induce gardeners and young ones especially, to consider how far they may become associated with some kind of Society for beneficial and not benevolent objects.

The Society whose report we refer to above, seems to be an admirable institution, and to be also in good hands, but it is of its kind far too modest. Its light is permitted to shine forth only on such occasions as is the present, when its annual report is published; then it seems to be forgotten for another year, except by those few who constitute its members. But there seems to be no reason why this Society or some other established on a broader basis should not exist for gardeners all over the kingdom. We want an United Kingdom Gardeners' Benefit Society, with local lodges or courts all over Great Britain and Ireland; not that we wish to see those ceremonies and formulas which characterize certain popular Friendly Societies introduced, but simply that the universality which is the very basis of those bodies, should exist also in the proposed Gardeners' Society.

It is to be feared that owing to the peculiar nature of the gardener's occupation keeping him rather remote from populous centres his chances of joining some sound Friendly Society are few, and his inducements are less. To tell the truth, he is so little brought into contact with his fellows, as workers in many other vocations are, that he thinks less of the duties devolving upon him to provide for a rainy day than he ought. But gardeners have some advantages which other bodies have not, and specially are they favoured with a professional press which is not matched by any other vocation. That press is always at the gardener's service, and can be made to form a means of inter-communion between gardeners all over the kingdom. Here at once is a means of promoting concerted action for any professional object such as cannot be too highly valued.

Then gardeners have what is esteemed to be essentially a highly healthy occupation. Were membership in any established or newly formed Gardeners' Benefit Society limited exclusively to gardeners, it should be easy to give a high rate of benefit, because sickness and mortality should be low. Without doubt, as is found in all the vocations of life, sobriety and steadiness of life are promotive of health, as the reverse features are provocative of sickness and death. Still gardeners are in these respects specially favoured, for their vocations place them less within reach of temptation to irregular living than is the case with many other workers; indeed it may well be believed actuarial returns would show that the gardener's life is a capital investment, both in relation to sickness and mortality. In such case any Benefit Society, composed of gardeners, should not only be financially healthy but should also be financially attractive. Gardeners ought to take special pride in attaching themselves to and strengthening their own society. They ought to be amongst the very first of working men, especially by reason of their experience and superior advantages, to provide for a rainy day; for a period of sickness or the grip of death may come to us all at any moment, even though our vocation be so healthy and inspiring.

We are not writing in the interests of any society. Nay, there may be hundreds of gardeners in the kingdom who have already associated themselves with some Benefit Society. Still that does not alter the fact that there is both ample room for and an actual need for a National Gardeners' Benefit Society. Gardeners ought to feel that any society devoted to members of the loved craft has the first claim upon them. They may in response to supporting it, hope to find it in active operation all over the country, and with the leading gardeners of each locality amongst its warmest supporters and its most efficient officers. Such a society would help to give a tone to gardening, and in return it would receive a high status because of its association with the profession. The man who can proudly show that he is the recipient of self-help is a thousand times more worthy than is he who, omitting provision for old age, becomes the object of charity.

A Potato Congress.—We live in an age of Congresses, and the fever of talk has settled heavily upon the world of horticulture, so that in various ways it is found needful to furnish safety valves for the escape of so much bottled-up eloquence. The *cacoethes lingua* sits heavily upon us, and like murder it will out, though in a much less dreaded form. We have already had an Apple Congress, then followed a Daffodil Congress. An Orchid Congress is at hand, and we are threatened with a Potato Congress. Happily, amidst a good deal of chaff thus blown about, there is found some residual corn, so that all is not waste. Happily, also, some very useful "copy" is found in these loquaccous gatherings, for which the papers have some reason to be thankful; therefore if no great good results, at least some few benefit. But the poor Potato seems to be specially designed to set pens and jaws to work, in the latter case less as an article of food than of controversy. Surely never has plant had all its virtues and its vices, its good points and its ills, so thoroughly canvassed as has the Potato. It has been beaten to a mummy, pounded to pulp in the mortar of contention, stripped of its coat and even of its under-clothing and exposed by scientists over and over again to the world in a state of deplorable nakedness. What more can be said about the Potato, in or out of a Congress, that is new or novel, or reliable, it is hard to say, for at the present all that is urged one day is denied point-blank the next. A little egotism may be aired, it is true, at a Potato Congress, but if that only is to be the product, the gathering may as well never become a fact, and if nothing new is to be told or learned, why trouble any farther about it.

Notes from Ceylon.—An obliging reader has favoured us with the perusal of a letter received from a friend in the spicy isle, and which is dated January 17th. We gather from its contents that the coffee crop is a poor one on the average, and

with low prices the planters cannot afford to do much manuring. Cinchona is mentioned as rising in value, and, as it is expected to continue to do so, those who have this bark anticipate large returns during the next few years. Tea planting appears to be the rage just now, and the writer remarks that "everyone is in earnest in the matter." Cocoa is reported as doing well in Dumbura and Matala, and to be still commanding fine prices. Cardamoms are, it seems, also a paying product, and there are still many acres in the island suitable for its cultivation. "I am going," says the writer, "to give some attention to fibre plants, and have recently planted several thousands—Rhea Grass and Sanseviera are the most important. The labour question is causing some anxiety among the planters, and 'crimping' is not uncommon. Two coolies per acre are required on a tea estate in full plucking, and I do not anticipate much difficulty in getting them. As to Britishers, no willing man need want a situation here at present, although salaries are poor as compared with what they were five years ago."

Gardening in the Black Country.—Pits, cinder banks, and blast furnaces, none of the readers of The Gardening World are ever likely to covet as desirable adjuncts to gardening. But where there's a will there's a way, and the experience of the last few years is proving that it is possible to grow even highly creditable produce amid adverse circumstances. The Bilston Horticultural Society has certainly done something to prove this. This Society was inaugurated in 1881 through the efforts of Mr. J. Knight, and at the annual meeting for 1885 just held, the Secretary made the following very gratifying announcement:—"The number of exhibits entered by the cottagers at the first Show was 59, at the second 156, at the third 237, and last year 305. The total number of entries at the first Show was 286 in all classes, and at the last 574. In the first year they started with a prize list of £30, the second with £46, in the third year this was increased to £66 and left off with a balance in hand of £91; last year the prize list was increased to £87, and left a balance in hand for next year of £102." These results from such a district should encourage others to move in the matter of local Shows for densely populated industrial districts where such do not now exist. Any one wishing for information as to how the above well-conducted Society is managed can obtain it by applying to Mr. J. Knight, Bilston.

The International Potato Show.—We learn that the schedules of the International Potato Show to be held at the Crystal Palace on October 17th and following days, will shortly be ready, and will show an increase of an extra prize to each of the classes, with such an arrangement of the sums as can hardly fail to give satisfaction. In this way the chances of exhibitors are greater than at any previous Show. Some important changes may be made in certain classes, and in the conditions, but these are not yet fully decided upon. The entering fees will be slightly increased, and encouragement given to exhibitors to become full subscribers, especially as so much of the income of the Committee is furnished in the shape of special prizes, and so little in the form of subscriptions to meet current expenses. The Lord Mayor has kindly consented to open the Show this year, and preside at the luncheon, and will do so in state. As the attendance will probably be unusually large, it is desired that those requiring lunch tickets should bespeak them early. It will be found necessary this year to materially reduce the number of free tickets, this item having proved last year much too heavy a burden for the Committee, and therefore it is constrained henceforth to be much less liberal than in the past.

Gardening Miscellany.

A sub-committee of the Scientific Committee of the Royal Horticultural Society has been formed "to Enquire into the Doubling of Narcissus, and to Collect and sift evidence of Modern Reversions from Single to Double." The committee will meet at the Lindley Library, on March 10th.

At Messrs. Protheroe & Morris's special sale of Orchids, on Tuesday, a plant of the extremely rare Cœlogyne cristata alba was, after a keen competition, knocked down to Mr. Bull for £131. The plant had seven flower-spikes, and the blooms were snowy-white, without the least shade or tint. A plant of Lycaste Skinneri alba, with 7 bulbs and 5 flowers realized 19 gs., at the same sale.

Mr. Thomas Maunder, who for forty-four years was gardener to the Earls of Abingdon, at Wytham Abbey, Oxford, died on February 13th, at Stoke-by-Clare, Suffolk, aged 78 years.

A correspondent of the *Agricultural Gazette* has found the use of carbonic acid gas in his garden a complete cure for the Potato disease!

The Maidstone Chrysanthemum and Fruit Show, which is conducted by the Maidstone Gardeners' Mutual Improvement Society, and confined to residents in Mid-Kent, will be held on November 17th and 18th.

Yesterday (Friday) evening a lecture on the Chrysanthemum for exhibition and decorative purposes was delivered at The Institution Hall, Yeovil, by Mr. Iggulden, Marston House, Frome.

On May 2nd next, M. Em. Rodigas, Director of the Zoological Gardens, Ghent, will complete the twenty-fifth year of his Professorship at the Ghent School of Horticulture, and a large Committee has been formed to present him with a suitable testimonial in recognition of the eminent services he has rendered to the School, and to Horticulture generally, during the period named. M. Ed. Pynaert is the secretary and treasurer.

An autumn Fruit and Flower Show, at which Chrysanthemums will be the leading feature, will be held at Yeovil, in November next.

The *Journal of Horticulture* announces the death, on the 18th inst., at Raplock-by-Stirling, of Mr. Alexander Meiklejohn, aged 88 years. The deceased was an enthusiastic grower of several florists' flowers, and notably of the Auricula, of which he at one time had a large collection. He was the raiser of Mrs. Meiklejohn, a very showy Alpine variety, but it is the fine grey-edged variety raised by Kay that will best recall his name to the memory of contemporary florists.

Mr. S. Mortimer has resigned the position he has held for the last nine years as gardener at Purley Park, Reading. Mr. Mortimer has proved himself during that time a most successful prize winner with all kinds of garden produce.

The Spring Seed Show, under the auspices of the Inverness Farmers' Society, was held on Tuesday. The number of entries was not large, but the samples shown were very superior.

Papaver Hookeri.—Considerable interest attahecs to this pretty novelty, both on account of its intrinsic merits as well as for the singular fact that, although cultivated for only two seasons since its introduction from Northern India, it has already shown a marked tendency to become double. It approaches in its botanical characters the well-known P. Rhœas, but is taller and more robust, with larger and more finely incised foliage, and flowers nearly as large as those of the Opium Poppy. They are of the most varied colours, including many shades of crimson, purplish-red, rose, &c., some of them being single, but many as densely double as the long cultivated Pæony-flowered and other annual garden Poppies. The flowers from their large size are extremely showy, and further cultivation will undoubtedly give rise to numerous varieties.—*W. Thompson, Ipswich.*

Davallias.—In the list of Davallias given at p. 394, the beautiful D. Fijiensis was omitted. Of this there are three different forms, *i.e.*, D. Fijiensis, D. Fijiensis major, and D. Fijiensis plumosa; these are all very pretty, but the latter is the most elegant. D. Griffithiana is another beautiful species of recent introduction.

CARPET BEDDING.

In our number for February 7th, at p. 361, we published a design of a large carpet bed planted by Mr. Gibson, in the garden of the Royal Hospital, Chelsea, which we have now the pleasure of supplementing with another from the same master hand. The present is the more simple design of the two, but it would be difficult to say which was the most effective, so faultlessly were both carried out. The eight small stars and the large central one were set in a carpet of Alternanthera versicolor grandis. The inner circle of the large star contained a plant of the Fish-bone Thistle, Chamæpeuce diacantha, carpeted with Sedum glaucum. The ring surrounding this was composed of Echeveria glauca metallica, while the four larger wings were planted with Alternanthera amæna, edged with Pyrethrum Golden Feather, and the smaller ones with Echeveria glauca metallica, edged with Santolina incana. Two patterns were used in the case of the eight small stars, those shaded on the plan being planted as follows:—The centre, Echeveria glauca metallica, enclosed in a ring of Santolina incana; the larger wings, Alternanthera amæna, edged with Golden Feather, and the small ones Santolina incana without an edging. The unshaded stars had a centre of Iresine Lindeni, surrounded by Echeveria secunda glauca, while the larger wings were composed of Alternanthera paronychioides major aurea, edged with Golden Feather, and the smaller ones of Echeveria secunda glauca only. The small circles represent dot plants, the four larger ones being large plants of Echeveria glauca metallica, and all the others smaller specimens of the same handsome succulent.

The light shaded portion of the outer ring was composed of Echeveria secunda glauca, and the small circles of Pachyphytum bracteosum and Alternanthera paronychioides major aurea alternately, and with the latter plant the dark shaded sections were planted in a frame of Golden Feather.

COLLINSIA VERNA.

Is this beautiful species going out of cultivation? I hope not. It used to be the practice, and possibly is now, for London seedsmen to send C. grandiflora for C. verna, and this misapplication of the latter may perhaps be traced to the publication by Sweet in his *British Flower Garden* of a figure of the former plant under the name of C. verna, and there is reason to believe that Sweet supposed the two names to be synonomous. But to whatever cause the mistake is due, nothing is more certain than that the two plants are decidedly distinct, both in their botanical characters and their habit of growth. Further, C. grandiflora is a native of the Pacific side of the Rocky Mountains, whilst C. verna occurs chiefly in the Eastern States, from Western Pennsylvania to Kentucky and northward; and though found also in Missouri, it ceases long before arriving at the Rocky Mountains, where the climate is too dry for it. It is somewhat remarkable that while our gardens have long been decorated by the species indigenous to distant California, a species inhabiting regions so much more accessible should have remained unknown, or, at any rate, unintroduced to cultivation.

The peculiar habits of C. verna will account for this, for its seeds refuse to vegetate unless sown in autumn, soon after they are ripe; or should a very small percentage maintain their vitality until spring, as sometimes happens, the seedlings never attain the same size, and, owing to these flowers being developed at a later period of the spring, when the sun possesses more power, little if any seed is produced, paradoxical as such a statement may appear. Mr. William Thompson, of Ipswich, who introduced the true form of C. verna about twenty-years ago, recommended the following method of treating this beautiful plant—"The seeds must be sown about the end of August, or from that time to the middle of September, in pans of light vegetable soil, which should be kept thoroughly damp. In a fortnight the seedlings will show themselves, and when they have made their first pair of leaves, be pricked off singly into pans, boxes, or pots; the latter if intended for blooming under glass. From this moment it is important that the seedlings should be kept cool and damp, and as near the glass as practicable, that their growth may

not be forced." If intended to bloom in the open ground, they may be planted out in light soil, in partially shaded situations, and will require only to be protected in severe weather. The plants will commence to flower in April, and continue to bloom for six or eight weeks. Messrs. Barr & Son used to grow this lovely Collinsia at Tooting, sowing the seeds in the open air in August round the sides of their beds of light sandy loam. It is likely that a plant that requires the seeds to be sown as soon as ripe will not attain to a great popularity. Then it may be said, Why take the trouble to notice it? I say it is deserved; first, because of its peculiar beauty, being the only blue-flowered Collinsia we have, for C. violacea cannot touch it in point of colour; secondly, because it is too valuable a plant to be altogether neglected; and there are a few (may their number be greatly increased) who take a pride in cultivating successfully subjects that others fail with. It is certain to be again re-introduced before long, but let us hope it is not altogether lost to cultivation in this country.—*Quo.*

DESIGN OF A CARPET BED.

MARIGOLDS FOR EXHIBITION.

Among the few really good things than can be recommended for culture almost anywhere French Marigolds deserve a foremost place along side of Asters and Stocks. In a district like the Black Country without the aid of these three popular half-hardy annuals, many a cottage and amateur's garden would make a very poor display during the months of July, August, and September. French Marigolds are the easiest in cultivation of the three, and decidedly the most showy.

I have frequently been struck with the singular beauty and chaste markings of the best strains which are grown in this district, and the stands annually staged at the local Shows in the autumn show how highly they are appreciated, and how extensively they are grown. I counted over twenty stands of twelves, staged at one of the Birmingham Shows last year, not a single bloom of which would have disgraced the side of a finely formed Flake or Bizarre Carnation. Blooming as they do from June to the time frost cuts them down, it is no wonder that they are held in such general repute.

To grow them fine for exhibition, however, requires some little extra care in their cultivation, which, when bestowed is amply repaid. My practice is to secure the seed from none but the best marked flowers, and, this for the first batch of plants I sow in a little heat the beginning of March, making a second sowing later on. As soon as the plants are large enough to handle with two or three rough leaves, I prick them out into pans or boxes, and when established, remove them to colder quarters, where they are hardened off, and as soon as danger from spring frosts is over they are planted out into their blooming quarters, which should be an open sunny situation, giving them plenty of room, at least 2 ft. apart; the soil having been previously well enriched with rotted manure.

As the plants progress and the first flowers show, all single ones are thrown away, and only those that give evidence of becoming double allowed to remain. Copious applications of liquid manure are given in dry weather, and as the side branches progress they are thinned out, only leaving about three to each plant, a stronger growth is thereby induced and larger flowers are the result, the buds being again pinched out when so abundant as to weaken the size of the blooms. In selecting blooms for exhibition only those that show the greatest regularity in the marking and are well up in the centre should be selected. Where the colours at all run they should be discarded. At one Show last year I saw the judges gave the prize to the stand with the smallest blooms, the larger ones being wanting in the correct Carnation stripe, and their judgment was commended.

The dwarf bedding strains of French Marigold are most valuable for bedding purposes, but size and correctness in marking is wanting in them for exhibition purposes, and it is very rare that I have ever been able to get anything really good from German imported seeds. The best strains I have seen out of Staffordshire are those known as Scotch striped, and in these of late years considerable improvement has been made.—*J. Knight, Bilston.*

ZINC POTS FOR PLANTS.

Thirty years ago I resided in that busy part of Staffordshire known as the Potteries, and in the gardens where I was located a series of experiments were tried, not only with zinc pots, but also with those hard-burned, highly glazed, and elaborate pots and vases made by the celebrated firm, Minton & Co. As most of these ornate pots and vases were intended especially for the decoration of the drawing-room, and were much too valuable and costly to allow of the plants being cultivated in them, the light zinc pots were used for this purpose, and when the plants were sufficiently established or in bloom, they were placed inside the others and mossed over. As an experiment, it was at first thought desirable to use only soft-wooded plants, such as Pelargoniums, Cinerarias, Calceolarias, and Primulas. These succeeded so well that some stove and greenhouse plants, such as Begonias, Eucharis, Hexacentris, Justicias, Camellias, and Azaleas were also tried, with the result that the whole succeeded fairly well. The hard-wooded plants, however, did not appear to relish the treatment for any length of time without renewal of the compost and drainage, the former appearing to have a tendency to become sour sooner than in the ordinary pot. It was very noticeable that the plants in these pots did

not dry so freely as in the common ones, and great care had to be exercised in watering them, especially until the plants were established. As far as I could tell, the zinc had no deleterious effect on their roots. Some good examples were grown in them as well as in some of the hard-burned, highly-glazed earthenware ones, and specimens in both kinds did duty with good effect at one or two important exhibitions in the north.

Orchids of all kinds were also grown in baskets made in this pottery-ware with the most satisfactory results. As an experiment, these zinc pots answered the specific purpose very well indeed, but on the whole they were troublesome and costly.—*Scribo.*

PROTECTING SEEDS FROM BIRDS.

From this time onwards for some time quantities of seed will be committed to the ground, and it is of vital importance that they should be protected from the ravages of birds, for when failure occurs we not only lose the value of our labour and the seed, but the season also. Those who can use powder and shot, or have other means of ridding themselves of these depredators and adjudged enemies of the gardener, need not be troubled with providing protectors; but all are not so placed, and to those who live in districts where wild birds abound, and they are not allowed to be destroyed to any extent, I would say make friends with the merry songsters at once, and by the use of simple materials, and at a trifling cost for labour, protect all kinds of seeds from the birds, leaviug them to the good work of destroying insects.

Several methods of protecting seeds I have seen practised, with more or less success. One of these is to damp the seeds a little and then sprinkle them with red lead, rolling them well together so that every part of the seed is covered. No more seed should be dressed than is required for immediate sowing, and the seeds should be sown as soon as dressed. Covering the drills with two or three lines of cotton, fastening bits of paper on it at intervals, and stretching cotton over the rows without the bits of paper are artifices adopted by some. Another plan is to use bent sticks with pieces of glass suspended so that when moved by the wind they chatter together, and the glass in turning about throws a reflection that frightens the birds for a time, but they soon get used to it. Covering seeds with nets is a great sacrifice, for the edges of the nets have to be pegged down to the damp ground and soon rot, to say nothing of the labour required to fix the same above the ground. Soot sprinkled over the surface of drills or seed beds will keep birds off until rain comes, when it is necessary to renew it, and if the weather is showery to successfully ward off birds by that means may result in an over dose of soot, so that that cannot be said to be satisfactory in all cases, although it may answer sometimes.

The plan we are in the habit of adopting is to protect all kinds of seeds that require it, and that are sown in drills, with wire Pea-guards. Enough of these are at hand to protect the Peas from the time of sowing until they are earthed up and staked, and they are removed from one sowing to another, from February to the end of June; some of them are occasionally used for a row of Turnip seed, and most of them are brought into use again about the beginning of August, when we make a large sowing of Turnips for standing through the winter. For all kinds of seeds, such as Cauliflower, Cabbage, Lettuce, Radishes, &c., a frame-guard is made in the following manner: A deal board, ¾ in. thick and 9 ins. wide, is cut down the middle with a saw, making two pieces about 4½ ins. wide; these are cut into convenient lengths according to the width of the border or other position where seeds of this sort are generally sown. Most of our guards are from 2 ft. to 3 ft. wide, and 4 ft. to 5 ft. long; they are nailed together at the corners, and the top is covered with wire-netting ½ in.-mesh. Two strips are fastened under the wire and across the frame to keep the wire from dropping in the middle, or the birds would reach the seed through the wire. We have sufficient of these also to enable us to remove them from bed to bed at each successional sowing. No seeds are ever sown that it is known the birds will attack without one or other of these guards, and by their use a load of anxiety is saved, and we are cheered rather than annoyed by the presence of the birds.—*C. Warden, Clarendon.*

AURICULAS IN FEBRUARY.

Looking along the stage whereon my plants are growing in the Auricula-house, I notice that in regard to activity the mealed leaved plants are leading the way. A large number of the leading selfs have mealed foliage, such as Mr. Douglas, Hetty Dean, Lord of Lorne, Pizarro, Ringdove, C. F. Perry, Topsy, and Read's Brilliant: so have Miss Smith, Taylor's Glory, Smiling Beauty, Acme, Cleopatra, Arabella, and The Rev. F. Tymons, in the other sections of white and grey. These are all growing freely, and perhaps the character of the foliage gives them a prominence that appears at least to place them before the green-foliaged varieties. Some of the finest grey edges have green or very slightly mealed foliage, such as George Lightbody, Lancashire Hero, Victor, Dr. Horner, Richard Headly, William Linton, and Robert Trail. Of selfs, with this character of foliage, there are Blackbird, Garibaldi, and Ellen Lancaster. White edges, Mrs. Campbell, John Waterston, and Conservative. All the green edges have green foliage, and the following are making excellent progress:—Prince of Greens, Colonel Taylor, Imperator, New Green, Trail's Anna, Talisman, and Lincoln Green. Day by day the plants become more interesting, and there is no pleasanter task than to watch for their developing buds, and see them gradually expand into fine pips and bold trusses. Now is the time when bright sunny days require that there be a free admission of air, and watchfulness for the appearance of green-fly. A good fumigation or two should be given before the earliest flowers expand, so that cleanliness may prevail. Constant attention is the order of the day, never in the form of laborious work, but a rendering of small attentions that to him whose heart is set on this fascinating flower is never irksome.—*R. D.*

LEEKS AND ONIONS.

It seems strange that a bulbous plant like the Onion should be so deep-rooted and require such good soil to grow it fine, yet so it is, and as everyone likes to have them large, the only way is to go in for trenching and heavy manuring, as, besides driving deep down, Onions are gross feeders, and can scarcely have the land they are sown in too rich. This being so, a good dressing of dung should be wheeled on and a wide opening made at one end of the ground, and the stuff taken out wheeled to the other, for filling in again when the work is complete. Although trenching is necessary and does a deal of good in gardens, it is not desirable to bring the subsoil to the top, instead of which it should only be broken up and mixed with manure, as when thrown on the top, it takes years of aëration to make it fit for the roots of young tender plants. These all require a well-prepared seed bed, and especially is this so with Onions, as when not so favoured they turn yellow, and go off wholesale with a sort of mould or rot at the roots.

To get really fine bulbs, without that tendency to become what is generally termed "bull-necked," not only is it requisite to have the land deeply stirred, but it is equally important to have it hard or firm on the surface, and to bring it into this condition it should be well trodden and then levelled and raked so as to get rid of all stones and clods from the surface. This done, all will be in readiness for sowing the seed, the proper time for doing which is about the middle of March, but rather than being over nice as to date, it is better to wait a few days or a week, than to sow when the soil is not in good order. The distance apart at which the drills ought to be drawn is about a foot, as that space between the rows gives room for the spread of the tops of the plants, and for cleaning, which should be done before the weeds get large by running a Dutch hoe along just under the surface. To give the Onions every chance, the thing is to thin out early, and in doing this the strongest and best should be left at about 6 ins. to 8 ins. asunder.

Of sorts there are many, but few, if any, are superior to the Reading or White Spanish, if true, and the Brown Globe and James, the latter being desirable on account of its keeping. For sowing in autumn, to stand the winter, the Tripoli, either Flat or Round, is good, as it is very hardy and grows to a great size, but will not keep long. To come up immediately after it, the Queen should be grown, as it turns in quick, and is soon ready for use if sown at the same time as the Reading. The Silver Skin is always preferred for pickling on account of its colour, but few manage it in a way to have the bulbs small, the size most people like to see them being about as big as marbles, at which they may be kept by sowing thick on a hard, poor piece of ground, and not thinning them at all. The plan to adopt is not to dig the bed, but choose a hot dry spot, and throw over the part to be sown a thin sprinkling of soil, or cast the seed on the surface first, and then cover it instead of raking it in. To have Onions hang sound and good, they must be well ripened before being harvested, which may be done by leaving them till the roots die away before pulling them up, after which they should be allowed to lie on the ground for a week or so before being stored, which ought to be done when they are in a dry state, and then be strung and hung up at once.

To get Leeks large and fine, it is necessary to sow the seed in February or very early in March, and to induce it to germinate, the box or pan containing it should be placed in gentle heat, and when the plants come up, stood near the glass to prevent them from drawing. As soon as they are large enough to handle, they must either be pricked out or potted, the latter being the better plan, as then they can be grown on quickly under the shelter of any cold frame, and planted out without feeling a check. The most suitable soil for potting them in is that which is light and rich, as then they root freely, and the same if pricked out, the light rich soil admitting of the plants being lifted with good balls for turning out in the open ground or in trenches. These should be dug in the same way as for Celery, and manured heavily at the bottom by working in a thick layer of rotten dung, when the plants may be planted out by digging holes for them with a trowel. This done, the next thing is to give a good soaking of water to settle the soil about them, and when the weather sets in warm their progress will be rapid.

The way to get the stems long and well blanched is to gradually hoe down the sides of the trench, when cleaning during the summer, till it becomes filled, but before doing this each time it is advisable, if the weather is dry, to give a good soaking of liquid manure, which will make the Leeks swell and thicken considerably. The best sorts to grow are the Ayton Giant and Musselburgh, as they are the largest and equal to the old one in flavour.—*Alpha.*

MESSRS. VEITCH'S ORCHIDS.

The new Cattleya-house built last summer by Messrs. Veitch & Sons, has proved a great acquisition to the Nursery. The house was only filled in the autumn, but the plants have taken most kindly to their new quarters, and abundantly show it in the robust vigour of their foliage, and the freedom with which the early flowering section are throwing up their sheaths. The house is 132 ft. long and 22 ft. wide, most substantially built, and combining all modern improvements as regards tanks, heating and ventilating. At the present time it is well worth a visit from any Orchid lover, an account of the splendid display of Cattleya Trianæ blooms which it contains; and which from the wealth of buds that have yet to open, it is likely to contain for some weeks to come. When we say that some 1,500 blooms are now open, some idea may be gained of the grandeur of the display, but it must be seen to realize the marvelously beautiful character of the individual varieties, the wide differences that exist in the size of the flowers, in the width of their sepals and petals, and in the breadth of their labellums; the delicate colouring of the former, and the gradations of purple in the latter. It would be an easy matter to select distinct varieties out of this collection for the honour of varietal names, but they are all Trianæs, here no distinctions being made between them, excepting in the case of the well-known and very distinct form called Delicata, the broad white sepals and petals of which are in marked contrast to the rosy-hued blossoms of the typical form.

If it were only to see the "Trianæs," a visit to the Nursery would be well repaid; but there are other Orchids and plenty of them to add zest to the visit of a connoisseur. In the new Odontoglossum-house

there is a fine show of flowers of O. Alexandræ and O. Pescatorei, the former in great variety and including at the time of our visit, early in the week, a very striking form, with the white sepals, petals and lip numerously dotted with well-defined bold chocolate spots—a distinct and very fine variety. In the Cypripedium-house, the inmates of which are in surprising health and vigour, we noted some grand masses of Cœlogyne cristata, one of them a yard across, and profusely bloomed. Among the Dendrobes in flower we may mention D. Jamesianum, D. nobile, D. moniliforme, D. crassinode lutea, D. Wardianum in variety, and the old D. speciosum, perhaps the earliest to grow of all the family. The Vandas look well, and are giving abundant indications of a fine harvest of flowers by-and-bye. The same also may be said of the collection of Ærides. But there is a novelty in bloom in this house now that all are not familiar with, a plant of the new and beautiful Ærides Lawrenciæ, bearing 2 spikes and 10 blooms in all.

In other houses we noted many examples of the always attractive Angræcum sesquipedale in various stages of flowering. This is one of the giants of the genus, both as regards the growth of the plant, and the noble proportions of its substantial wax-like flowers. Here also in bloom is one of the dwarfs of the order, or perhaps we ought to say *the* dwarf, for we know of no smaller species. This is Angræcum hyloides, a veritable pigmy—being only about 2 ins. high, with spikes of small white flowers 1½ ins. to 2 ins. long, and the spurs less than half-an-inch in length. Trichoglottis cochlearis is another novelty also in bloom—a rare species of small dimensions, with the habit of growth of an Ærides, and bearing on a short spike three small blossoms, white flushed with rose and barred with crimson.

In the Phalænopsis-houses, besides some grand spikes of P. Schilleriana, P. amabilis, P. grandiflora, and the pretty P. Stuartiana, which would be prettier still if white instead of creamy-yellow, may also be seen the scarce P. intermedia Portei, which is quite a gem, distinct from all others and novel as regards the colour of the lip—a rich shade of rose which we cannot describe.

In Mr. Seden's most interesting department, or rather, we should say, that part of it which includes the hybrids, quite a bevy of seedlings are now in bloom, and to the joy of this famous hybridist, there are some rare prizes among them. In the foremost place we must put Lælia bella, a lovely hybrid between L. purpurata and the old autumn-flowering labiata. Three plants were raised from one pod of seeds sown ten years ago. One of them flowered last year, when it was named and described, and the second one is in bloom now, bearing two flowers, which are somewhat darker in colour than the first one—a lovely shade of deep rose shot with purple. It is a splendid variety, and we can but regret that for some years it must be a scarce plant. Dendrobium splendidissimum comes of the same parentage as D. Ainsworthii, but from a cross made at Chelsea, and very closely resembles the hybrid D. Leechianum, which came out of the same batch. In D. Ainsworthii the sepals and petals are pure white, but in D. splendidissimum they are suffused with a rich shade of rosy purple.

Another interesting hybrid Dendrobe in bloom is D. micans, the result of a cross between Low's variety of D. Wardianum and D. lituiflorum, and whose blossoms, though quite distinct, partake more of the characteristics of the latter parent than of the former. It is a good free grower, but the same cannot be said of a seedling from the Assam variety of Wardianum and lituiflorum, which is rather slow in its development. Cypripedium Sedeni candidulum, the result of a cross between C. longifolium and C. Schlimii album, promises to become an even greater favourite than C. Sedeni. It has a larger and better shaped flower than the last named, and shows the influence of Schlimii album in its pale ground colour and pale rose slipper. C. tessellatum porphyrium is a very neat and pretty flower of a rich port-wine colour overlaying a light ground. Cypripedium leucorrhoda, which has just flowered after being nursed for nine years, we did not see, but it is described as being most distinct and a beautiful flower. It is certainly a vigorous grower, with unmarked bright green leaves, but there is only one plant of it which is developing another spike.

THE SNOWDROP.

"First, like a flock of children, purely white,
The Snowdrops lead the van, while every breeze
Seems visibly to drift the lovely foam
Upon the knolls; so sweetly do they take
Each mossy nook and arbour by surprise."

Faber.

In one of those remote by-roads which I have traversed much of late, there is a little bit of park land, the name of which reminds one of one of Miss Austen's novels. It is an unpretending place, consisting of some rough pasture land bordered by tall Poplars and other fences of "sportive wood run wild." Two of the heavy stone-posted gateways give access to the pastures in a neglected and careless sort of way. The third leads to the house, which though close to the road is almost entirely hid in the thick covert of trees on that side. Beneath the tall Poplars and the Firs are great Holly shrubs, and some branches of dark feathery Yew stretch over the gateway. The lower fences are straggling and uneven, and, in the leafless time, more or less open, so that you can get glimpses through them of a large grassy orchard with crooked, moss-stained boles and branches.

This bit of park land and this orchard was the limit of my walk on the morning of one of these February days. It was a moist day, with watery gleams of sunshine and wandering showers and interspaces of blue sky, more like an April day than one of this earlier winter month. As I sauntered along between the pale pastures, and the brown ploughed fallows, and the green springing corn, I thought of Coleridge's poem, "On observing a blossom on the first of February," for that day of 1796 seemed to have repeated itself in this year of grace. Of this blossom he says—

Sweet Flower! that peeping from thy russet stem
Unfoldest timidly (for in strange sort
This dark, freize-coated, hoarse, teeth-chattering month
Hath borrowed Zephyr's voice, and gazed upon thee
With blue, voluptuous eye), alas, poor Flower!
These are but flatteries of the faithless year.

Coleridge does not say what his flower was, but he predicts an untimely fate for it when the keen north-easter shall come down upon it. It was possibly a premature blossom on an orchard bough. When I came to my orchard there was no bloom of that kind, but there was a sweet surprise nevertheless. Close by the fence, in one part of it, among the bordering timber, there is a Chesnut-tree with overhanging branches, thick with large resinous buds, that curve downwards all about it. Beneath the boughs the brown withered leaves lie thick, but round the bole there is a circle of light green moss. All round the outer edge of this moss were groups of Snowdrops, with the white flowers hanging droopingly from the green spikes. Someone says—

The small green spikes of Snowdrops in the spring
Are there one morning ere you think of them.

To pass from flowerless fields to this unexpected vision of spring was a surprise almost pathetic in the suddenness of it; pathetic because one could hardly rid oneself of the idea of conscious life in the flowers. They seemed to cling together in a timid, sweet, modest fellowship. Wordsworth speaks of "frail Snowdrops that together clung," and elsewhere says:

Lone flower, hemmed in with snows, and white as they,
But hardier far, once more I see the bend
Thy forehead, as if fearful to offend,
Like an unbidden guest.

Wordsworth, as we know, had a faith that every flower had a consciousness of its existence. We call that a pathetic fallacy of the poets, but it is often beautifully expressed, and rarely more so than in those lines of Heine, not, in this case, of a flower, but of a tree:

A lonely Fir-tree is standing
On a northern barren height;
It sleeps, and the ice and snow-drift
Cast round it a garment of white.

It dreams of a slender Palm-tree,
Which far in the eastern land
Beside a precipice scorching,
In silent sorrow doth stand.

Perhaps the Snowdrops have dreams of their own, who knows? It is a pretty conceit, and in any case harmless. There are mysteries about flowers that impress thoughtful minds more and more as they grow older. It is one thing to take a Cockney delight in them of the æsthetic kind, lying on the grass, as some one has (perhaps wrongly) described Leigh Hunt as doing, dallying with a Buttercup and "holding it Italianly," and quite another thing to take the Laureate's view of "The flower in the crannied wall," of which he says

Little flower, if I could understand
What you are, root and all, and all in all,
I should know what God and man is.

Flowers are associated with fair women in legendary lore, and in Arthurian Romance, Matthew Arnold calls his fair Iseult of The Snow White Hand,

Our Snowdrop of the Atlantic Sea,
Iseult of Brittany.

. . . . . .

Who is this Snowdrop by the sea?
I know her by her mildness rare,
Her snow-white hands, her golden hair;
I know her by her rich silk dress,
And her fragile loveliness.
The sweetest Christian soul alive,
Iseult of Brittany.

The Snowdrops that I saw growing round the Chestnut-tree, and sending up their green spikes through the dead leaves that strewed the ground beneath the boughs, were early arrivals, and had flowered before Candlemas, the day when they were due. By-and-bye they will have other sisters on the green knolls of the orchard, but as yet only here and there was a flower showing. Under the orchard boughs seems a fitting place for the Snowdrop. In like manner they grew in the old orchards of convents and monasteries, for the flower is the Virgin's flower, and on Candlemas Day they were laid upon the altar.

The Snowdrop in purest white arraie
First rears her hedde on Candlemas daie.

Of the creation of the flower the legend says: "An angel went to console Eve when mourning over the barren earth, where no flowers in Eden grew, and the driving Snow was falling to form a pall for earth's antimeous funeral after the fall of man. The angel, catching as he spoke a flake of falling snow, breathed on it, and bade it take a form and bud and bloom. Ere the flake reached the earth Eve smiled upon the beauteous plant, and prized it more than all the other flowers in Paradise, for the angel said to her:

This is an earnest, Eve, to thee
That sun and summer soon shall be.

The angel's mission being ended, away up to heaven he flew; but where he stood on earth, a ring of Snowdrops formed a posy."

One wonders whether Wordsworth had this legend in his mind when he wrote the verses called "The Coronet of Snowdrops."

Who fancied what a pretty sight
This rock would be if edged around
With living Snowdrops? Circlet bright!
How glorious to this orchard ground!
Who loved the little rock, and set
Upon its head a coronet?

After asking whether it was the humour of a child, of a lovesick maid, of man or matron, he says—

I asked—'twas whispered—the device
To each and all might well belong;
It is the spirit of Paradise
That prompts such work, a spirit strong,
That gives to all the self-same bent
Where life is wise and innocent.

With the sun shining, the birds singing, and the Snowdrops springing in the orchard, there came a sense of peace in striking contrast to the feverish fret and turmoil of the world's work and strife. Very fittingly did there come to the mind that sonnet of William Allingham's inspired by the sight of the Snowdrop in time of war:—

Fair Maid of February, drop of snow
Enchanted to a flow'r, and there within
A dream of April green—who without sin
Conceived wast, but how no man may know;
I would thou mightest, being of heavenly kin'
Pray for us all (thy lips are pure altho'
The soil be soak'd with tears and blood) to win
Some ruth for human folly, guilt, and woe.
A fitting phantasy and fond conceit—
Yet mark this little white-green bell, three-cleft,
And muse upon it. Earth is not bereft
Of miracles; lo, here is one complete:
And after this the whole new spring-time left,
And all the roses that make summer sweet.

—*John Mortimer, in Manchester City News.*

The Amateurs' Garden.

THE GREENHOUSE.

Excepting during frosty nights fires may now be dispensed with, as by closing early and shutting in the sun a sufficient degree of warmth may be kept up; and natural heat obtained in that way is far better for the plants. These will require frequent attention and looking over, as they dry fast at this season, and if allowed to suffer from want of water the flowers soon flag and fade. Soft-wooded subjects, such as Primulas, Cinerarias, Mignonette, and others of that class will be greatly benefited and made to last in bloom much longer if they get liquid manure, which should be given clear and well diluted, as it is better to administer it weak and often than to apply it in strong doses, which are apt to damage the roots.

As this is the time of year when most plants need potting it is necessary to be prepared with proper soil, which should be got under cover that it may be in good order when wanted for use. For general purposes there is nothing like sods of fibry peat and loam, as suitable mixtures for almost any greenhouse subjects may be made out of them; but for Azaleas, Heaths, and Epacrises the peat alone, with sand, must be used. Camellias like peat and loam in about equal proportions, and in potting these plants it is better to have the soil rough and not rammed in too firm, as the roots are large and can only ramify freely in loose, open material. Heaths, Epacrises, and Azaleas, on the other hand, cannot well be potted too tight, and in dealing with them it is important that the peat be pressed well around the old balls, or the water, when given, will pass through the fresh stuff and leave the old dry.

Pelargoniums, Fuchsias, Calceolarias, and such like grow freely in pure loam, but if it is heavy it may be improved by having a little peat or leaf-mould incorporated with it to keep it from binding. Before using the pots see that they are clean and properly drained, as the health of the plants put in them depends much on the observance of matters like these. What adds to the ornamentation of greenhouses more than anything else, if there are not many roof climbers, are baskets filled with suitable subjects, among which ivy-leaved Pelargoniums, trailing Campanulas, Vincas, Creeping Jenny, Mother of Thousands, Begonias, and ferns may be named as being specially adapted, and if any of these are started now they will make a fine display during the summer. Fuchsias of the drooping kinds also look well suspended, as when elevated they show off the beauty of their blossoms to the greatest advantage.

PITS AND FRAMES.

The value of these to amateurs at this season is great, as they come in for so many uses, especially if the pits happen to be heated, or a good supply of fermenting material can be kept up, as then, at and after this time of year Cucumbers and Melons may be grown, and hosts of things raised and forwarded either for embellishing the greenhouse or planting out in the garden. If Cucumbers and Melons are attempted, a deep bed of tan, or dung and leaves that have been fermented and turned over, should be made, and, as soon as the heat gets up, some rough loamy soil placed in a ridge or in heaps along the centre of the frame ready for turning out the plants, which may be done as soon as the soil gets warm, and if the temperature is then maintained at from 65 degs. to 75 degs. by means of linings the growth of the Cucumbers or Melons will be rapid.

As there will be some amount of spare space at back and front of the heaps or ridges, it may be utilized for standing pans of seed, or receiving fresh potted stuff to give the plants a start, and when these are removed, filled up again, as it will be some time before the bines of the Melons or Cucumbers require the room. If French Beans are to be grown, it is a good plan to sow and raise the plants in small pots and plant them out after, as then they may be dropped down so as to partly bury their stems, which saves earthing up, and yet encourages them to make fresh roots in the soil. Potatos do not require top heat now, and a very little below suffices to start them, and therefore anyone having a spare frame and a load of warm dung may plant at once, with the certainty of raising a good crop of young tubers.

The space between the rows, which should be about a foot apart, may be made use of for sowing a pinch of Early London Cauliflower, Brussels Sprouts, Lettuce, and Celery, all of which want just a little heat and protection to get them to germinate, and when up and large enough they can be pricked out under the shelter of any old light, to stand and grow till they are ready for planting out in the open. A bed for propagating and raising seeds is almost indispensable, but the tan or dung and leaves for this must be well sweetened, and when the bed is built, have a thin layer of saw-dust or cocoa-nut fibre to keep down the steam, which otherwise is apt to cause the cuttings to damp.

With a frame made up in the way referred to, Petunias, Coleus, Iresine, Lobelias, Ageratums, Verbenas, Alternantheras, Heliotrope, and in fact almost all kinds of bedding-plants, may be struck rapidly and passed on to the Melon or other warm frame, and the vacancies thus made filled again and again; and the same in the raising of seeds, but the middle of March is all in good time for these, at which date we shall have something to say about them.

BEDS AND BORDERS.

These are now showing that there is life in them, as already Snowdrops, Crocuses, Anemones, Hyacinths, Narcissus, and other harbingers of spring are either in bloom or fast approaching that stage, and therefore, beds and borders will soon be gay and interesting; but to see them at their best, and have them really enjoyable, the surface of the ground should be free from weeds and neatly raked, as then the flowers show off to the greatest advantage. Before this is done, however, or to have all complete and in good order, it is necessary to look to the edgings to see if they are level or require trimming or mending, as nothing is a greater eyesore than uneven turf or patchy Box, which detract much from the appearance of any garden. As it takes almost as long to mend a ragged Box edging as to relay it, the better way, if the edging is at all large, is to take it up, and put in afresh, when it may be made a thorough job of, and, with care after, kept in nice order for years. The way to set about the work is to make the soil firm and level, and then, if the walks or beds are straight, it is an easy matter, by straining a line, to cut out a trench with a sharp spade and lay the Box in. This should be done after pulling it apart and shortening the tips, so as to leave it standing out about 2 ins. above the soil, that has been levelled and patted down, when the final filling up of the trench may be proceeded with, and the loose earth on the walk side trimmed off and gathered up ready for returning the old gravel and finishing off with some new.

If the edgings are of grass and have depressions in them, the only thing to rectify them is, to run the flaying-knife under and raise the turf by putting in fresh soil, when the grass should be rammed or rolled to make it lie firm again, and for the roots to get hold. Hollow places in the lawn may be treated in like manner, and if there are bare spots, patches of turf should be put in, or the parts raked and seed sown, which is a good plan where lawns are poor or thin, especially if at the same time they get a top dressing of fine light rich stuff to cover the seed. Seedsmen supply Lawn Mixtures, which contain fine clovers and suitable grasses, and only these should be sown, as to get seeds that fall from hay into mangers and sow them is to fill the turf with coarse plants and weeds that will spoil it at once. Lawns that have moss may be cleared by giving a good coat of lime, which destroys it quickly if used fresh and air slaked, as then it is much stronger; and an easy way to put it on is to mix it with fine mould, when it may be spread without blowing about.

FRUIT AND VEGETABLE GARDENS.

The show for fruit is most encouraging, as everywhere trees and bushes of all descriptions are crowded with flower-buds, and all we want to get good crops is a favourable spring; but as the weather is so uncertain then, it is only wise to be provided beforehand with coverings ready to protect Apricots and Peaches, which will not be long before they are in bloom. The material for the purpose should be strong open canvas or netting, as anything of a close make shuts out the air, and is bad if the covering has to be left on for the day. If Raspberries are not staked and tied, they should be done at once, and then mulched with half-rotten dung, but on no account ought they to be forked or dug between; neither should Strawberries, the best way of managing these being to mix some rotten manure and soil together, and give them a top-dressing, which encourages fresh roots and greatly strengthens the plants.

In the vegetable department the first crops to think about and provide for are Onions, Parsnips, Spinach, Turnips, Radishes, Carrots, Peas, and Broad Beans, the land for which ought now to be in good working order. To grow Onions well, the ground must be heavily manured and deeply dug, as they send their roots far down, and the same with Parsnips, but they do not require rich soil. For Spinach, Turnips, Carrots, and Radishes a warm sunny border should be chosen, and only small beds of each made, so as to have others follow on, and keep up a regular succession. Early Milan Turnip, Nantes Carrot, and Olive-shaped or Wood's Frame Radish, are the best for sowing now, as they turn in quick and are very tender and good.

To have Brussels Sprouts really fine, the plants cannot now be raised too soon, and seed should be sown at once, either in a frame or close under a sunny wall, and at the same time a pinch of Cauliflower and Lettuce. To keep up a supply of Beans and Peas, the way to manage is to plant or sow again as soon as the last put in are through the ground, the number of rows or quantity depending on the demand. The best Beans to grow after this are the Broad Windsor; and for a dwarf Pea, if the land is good and deep, none are equal to Veitch's Perfection. If a tall sort is preferred, Ne Plus Ultra should be the one selected, as it is a very prolific kind and of superior flavour. Any that are now up will require close watching, as sparrows are very fond of the young tender tops and soon cripple the plants. A cheap and good way of keeping them off is to strain three lines of black cotton along just over the rows, which will so frighten the birds when they alight that they will not come near again.

JASMINUM GRACILLIMUM.

This is one of the beautiful plants discovered in Northern Borneo, by Mr. F. W. Burbidge, when on a plant-collecting expedition in that country, for Messrs. James Veitch & Sons, some six or seven years ago; and we are inclined to think that from a gardener's point of view, it is the most useful plant Mr. Burbidge sent home. It flowered for the first time at Chelsea in December, 1880, and soon afterwards was put into commerce, in a very quiet way, but it soon made a name for itself among those who have to provide cut flowers, as the best winter-blooming plant that has been introduced for some years.

There is indeed nothing like it in cultivation that will yield the same quantity of deliciously fragrant white flowers in winter, and wherever there is a stove or warm greenhouse, there should this graceful Jasmine be found. The bushy habit of the plant lends itself admirably to pot cultivation, and when its long, slender, pendulous branches are in bloom, there are few handsomer objects to be seen. It produces its large panicles of white blossoms in the axils of the leaves, as will be seen in the illustration, for which we are indebted to Messrs. Veitch, but it does not produce them all at once. It is a long and continuous bloomer. and on that ground alone should be highly esteemed by those who have to keep up a supply of choice cut-flowers. It flowers also in a small state, which is another point in its favour.

Pentstemon Rattani.—This is a neat Californian species of dwarf but robust growth, resembling in its general aspect the well-known P. digitalis. It grows from 12 ins. to 18 ins. high, bearing rather large broadly-ovate acuminate foliage. Flowers are produced in terminal panicles, and are of a lilac-purple colour, each about 1 in. in length, and in form like those of the species above named. It requires only the treatment of other border species, blooming the second season from seed.—*W. Thompson.*

BALSAMS AND COCKSCOMBS.

Having both grown and exhibited prize winning Balsams and Cockscombs, I will give "A Keen Competitor" my experience on their culture for competition next autumn — September. To begin with, I should devote a pit or frame to the especial purpose, as good bottom-heat is essential to their healthy and rapid growth from first to last. Both will need about the same amount of heat, being alike tender annuals; both require about the same soil—well rotted turf with one-third part of rotten hotbed manure, and the same sort of liquid manure twice a week during the whole of the growing season, that made from sheep's-dung is best, and a canful of it should always be standing inside the frame to keep it at the same temperature. The third week in March will be a good time to sow the seed, but a sowing once a month till May of Balsams will be well, as there will then be successional plants should the first sowing get past their best by September. A two-light frame will accommodate about two dozen plants till they get their last shift, and if more than that quantity is grown on from the first the faulty ones should be thinned out as they become noticeable. The plants should be kept within 6 ins. of the glass all through, and air should be admitted to keep the plants strong and prevent their being drawn. The temperature should not fall below 70 degs. at any time or exceed 90 degs., and shading will have to be resorted to very cautiously, loose thin muslin that can be quickly removed being best. I have sometimes removed them and put them on again six times in one day.

There are two or three things to observe in potting these plants that "A Keen Competitor" may call "wrinkles." One is that though they must have ample drainage, yet the crocks must not be piled up inside the pots to more than an inch or so, as it is the grower's aim to get the ball of roots as deep down into the pot as possible in order to shorten the length of bare stem. Another is that the plants should never suffer a check by any sudden change, or by being allowed to become root-bound before re-potting. Soil for re-potting in should be set inside the frame a few hours beforehand. Always pot the seedlings down to below the seed-leaf if possible; begin with 3-in. pots, and pot on with small shifts till 10-in. or 12-in. pots are reached. Seldom water these plants over head, and be careful in watering to see that it drains away well or damping off will soon follow.

Pinch off the lateral shoots of the Cockscombs as they appear, also all blossoms that appear on the Balsams before they have got over their last shift. When well established after the final shift, remove the plants to a light greenhouse and place them well up to the glass.—*B. C.*

I never grew Balsams for exhibition (*see* p. 382), but the finest lot of plants I ever saw in the autumn were grown in the following manner:—Seeds were sown on a slight hotbed under glass about the middle of April; when the seedlings came up they were potted into small pots and again returned to the frame, care being taken to keep them close to the glass, and as soon as started, plenty of air was admitted. When they had filled their pots with roots, which would not take long, they were shifted into those a size or two larger, and plunged in a bed prepared in the following manner. To about three loads of tree-leaves, one of long stable litter was added, this was frequently turned over and well mixed until all the rank heat had passed off, so that when made up into a bed about 2 ft. 6 ins. to 3 ft. thick and well trodden down, there was no fear of its heating so as to injure the roots. The bed being ready for the reception of the plants about the beginning of June, they were plunged up to the rims of their pots in the bed in the open-air, no further covering being afforded them.

In potting the plants, care was taken to keep them as low as possible, so that by the time of the final potting, the lowest branch shoots were on the surface of the soil. They were plunged a good distance apart, so that plenty of air could pass between them and light not be obstructed in the least. To form specimens fit for exhibition, they would require to be potted on, the branching shoots to be tied down to a wire brought round under the rim of the pot, and the blooms removed so as to keep them in growth, discontinuing some time before they are wanted. About three weeks or a month before the exhibition they should be removed to a greenhouse, where they will soon come into bloom. Through the whole of the season, the plants should have frequent supplies of liquid manure except immediately after potting, and they should be occasionally turned round in the bed to prevent them rooting through into the manure, for if this is allowed, they will receive a considerable check when removed to the greenhouse as they come into flower in the autumn.—*W. C. C.*

JASMINUM GRACILLIMUM: FLOWERS WHITE.

COPROSMA BAUERIANA VARIEGATA.

This ranks among the most useful of variegated plants for greenhouse and general decoration, that is provided it is well grown, and there is very little difficulty in having it in good condition if grown on freely from cuttings, but old plants after they have once become stunted, seldom do much good. The present is a good time to propagate it. Cuttings strike very freely where there is a brisk bottom-heat, and not too much moisture; in making the cuttings, they should be cut off as close below the joint as possible, and have only the two bottom leaves taken off. In putting them in they should be kept as near the surface as possible, as if put in too deep they are very liable to rot off at the bottom. They strike best in sand, and as soon as they are rooted, should be potted off in any good light soil. Although nearly hardy, it will grow most freely in an intermediate temperature, and for an amateur who has a greenhouse, and who is fond of ornamental leaved plants, this is one of the best that can be grown.

FRUITS.

Fruit Culture under Glass: Pines.—The fruiting plants should have a night temperature ranging from 70 degs. to 75 degs., and 5 degs. higher by day with fire-heat. Put air on at 80 degs. and run the temperature up to 90 degs., with sun-heat and atmospheric moisture at closing-time; taking care, however, while damping the plunging material, walls, pathways, and the lower parts of the plants, to avoid syringing the plants overhead now that most of the fruits will be in flower. The lodgment of water on the fruit would prevent some of the pips from swelling to the disfiguration of the fruit, and it would tend also to the production of large crowns. A bottom-heat of from 85 degs. to 90 degs. should be aimed at. Give successional plants a night temperature of 65 degs., with 5 degs. more by day and fire-heat, and 10 degs. higher with sun-heat. Five degs. less of heat will answer the requirements of young plants. Admit air at 75 degs., and shut it off early in the afternoon, before the temperature has fallen below this point, damping the plunging material, paths, and the plants slightly over-head at the same time. The plants should be examined regularly every week or ten days to ascertain their condition at the roots, and if the soil is on the dry side, give sufficient tepid diluted liquid manure to thoroughly moisten it.

Melons.—As the plants in the early house are now making rapid progress towards the trellis, they should be secured to the sticks supporting them, every two or three days, until the shoots have nearly reached the top wire of the trellis, when they should be stopped, the object being to secure an equal set of fruit regularly distributed over the plants. This can easily be done by pinching out the first flowers that show on the laterals. Pinch the shoots showing on the main stem between the base of the plants and the first wire of the trellis to one joint, to insure that portion of the stem being as thick as that furnished with fruit-bearing shoots above it. Damp the plants overhead and the walls and paths generally morning and afternoon on bright days, to promote a growing atmosphere in the house, and at the same time to prevent red spider from attacking the plants. Ventilate somewhat freely during favourable weather to secure a short-jointed, firm growth in the plants. A night temperature of 70 degs. should be aimed at, and 75 degs. by day with fire-heat, running it up 10 degs. or 15 degs. higher with sun-heat, and plenty of atmospheric moisture at closing-time—about 2.30 in the afternoon. As regards varieties, I may remark that, in my opinion, Blenheim Orange (scarlet-flesh) and Cox's Golden Gem (green-flesh) are two of the best all-round Melons in cultivation.—*H. W. Ward, Longford Castle.*

Thinning the Fruit Buds on Pear Trees.—Notwithstanding that the fruit spurs may be thinned, it very often happens that there are too many fruit-buds left upon the trees, and if these are all allowed to flower, it very much exhausts the trees, and causes a stunted growth. Besides, in favourable seasons much more fruit sets on a tree than it is able to mature well, but if favoured by a good season, the tree does bring a heavy crop to tolerable perfection, it takes a rest the next year, and thus we have one year more fruits of a quality that we do not want, and the following season none. To obtain a full supply every season is what should be aimed at, and every means tending to insure it ought to be adopted. Thin the fruit-buds, then, as well as the spurs, on trained fruit-trees, whether wall-trees or pyramids, espaliers or bushes. The fruit-trees here are showing very freely for fruit, particularly the Pears, and I intend to have a great number of the fruit-buds removed at once as they are showing signs of plumping already. I have practiced this disbudding for two or three years past, on old and young Pear trees with good results. In some cases I removed half, and in a few instances three-fourths of the buds. It is well known that the largest, best formed, and finest-flavoured Pears, are produced from the strongest buds and blossoms. These should be left on the tree, and evenly distributed. This practice may appear to some to be unnecessary, but my humble opinion is that it is not practiced enough by many gardeners. The fruit-buds are easily removed with the finger and thumb at this season.—*Robert Smith, Kenward, Yalding.*

FLOWERS.

Seasonable Work in the Plant-houses.—In the Stove any plants that require it should now be potted on, and as many will be starting into growth, care should be taken that the night-temperature does not fall too low. Crotons as they start into growth should be well exposed to the sun, and care must be taken that they are kept free from thrips or other insect pests. To grow Crotons successfully it is necessary that a high temperature should be regularly maintained throughout the winter, but at no time is it so essential as when they are starting into young growth. They must also not be allowed to become too dry in the pots, and a moist atmosphere should be maintained. Dracænas must also be examined from time to time, and carefully sponged on the first appearance of thrips, their greatest enemy. Soot-water may be used for any plants that have filled their pots with roots.

Flowers for Autumn and Winter.—At this season of the year, when much time is taken up in preparing plants for bedding, and in looking after other things for spring and summer use, it is necessary also to bear in mind what will be required in the autumn and winter, and to take care that such things as Tree Carnations, Bouvardias, Begonias (winter-flowering), &c., are not allowed to stand too long in their cutting pots. The earlier the Tree-Carnations and Bouvardias can be propagated the better plants will they make, but they must be kept growing on without receiving a check. April or May will be early enough to propagate the winter-flowering Begonias, but the stock-plants must be looked to, or they may be deficient of cuttings at the time they are wanted. It will be a good time to propagate a batch of Zonal Pelargoniums for autumn and winter-flowering, selecting only such sorts as are known to be of good habit and free-flowering. In growing plants on for this purpose they should be as much exposed as possible through the summer, though it is best to have them in a position where they can be protected from heavy rains. Plants grown on in this way, and all the flower-trusses picked off as they appear, will start off into flower very freely when they are housed in the autumn. They should not be left out later than the end of August or beginning of September.

Chrysanthemums.—In any case where sufficient stock has not already been propagated, no time should be lost in getting cuttings put in, and those that were struck early will require potting off. Old plants that are to be divided should have the tops cut off, if they have been kept where they have made weakly growth, and should have a position where they can be well exposed.

The Lemon-scented Verbena.—Aloysia citriodora is a most useful plant, which will stand out-of-doors in a sheltered position during a mild winter uninjured in the Southern and Midland counties, but during sharp winters it gets cut down to the ground, and sometimes it is so hard hit as to be unable to form young shoots again in the free manner which it does when the frost has not been too severe. I have heard some say that they experience a difficulty in propagating this plant, and it was only the other day that I saw a number of shoots of last year's growth put into heat to strike, which perhaps they may do, but it is not the method we adopt. We generally grow a few of the plants in pots which are wintered in a cold frame and protected from severe frost. A plant or two of these are put into a warm house in the spring, say during the latter part of February or beginning of March, young shoots are soon formed, and when 1½ ins. to 2 ins. long, they are taken off with a heel (although the heel is not absolutely necessary), and inserted in sandy soil and treated the same as soft wooded bedding plants about that time. They are potted on or planted out in due course and make nice plants during the ensuing summer. I do not know of any scented-leaved plant which is more generally appreciated than is the Aloysia, a spray or two of which mixed with a few cut flowers gives the whole a delightful perfume.—*C. Warden.*

Plants in Flower at Heatherbank.—You asked me to give an occasional note on our gardens. I am happy to do this for old days' sake. We have Cyclamen coum and Atkinsii blooming among Gualthieria procumbers, and the effect is very pretty. Also a number of Snowdrops flowering in a large bed of mossy Saxifrage. These, sometime back, I recommended to be planted on graves in shady situations. Cheiranthus mutabilis, which I owe to my friend the late Mr. Harpur-Crewe, planted on a bank where it is sheltered from wind and from morning sun, has so far been untouched by frost and has bloomed all winter. —*George F. Wilson, Heatherbank, Weybridge Heath, February 21st, 1885.*

Salvia patens.—This is a most useful summer-flowering Salvia, though not so often met with as its merits deserve. Although flowering in summer, when so many other things claim our attention, its azure-blue blossoms at once strike the eye, especially when seen in quantities, so distinct is it in colour from any other plant (except, perhaps, some of the Delphiniums) in flower at that time. The plant in question is almost hardy, standing out in open borders during mild winters, with no other protection than a little ashes or leaf-soil over their crowns, the plant being tuberous rooted, not unlike the Dahlia. Where it is thought desirable to increase the stock a pot or two of the roots should be put into a little warmth to start it into growth, when the tops may be taken off as cuttings, inserted in sandy soil and placed in a moist and close temperature till rooted, after which, with the care of ordinary bedding-plants, they will make nice flowering stuff during the summer.—*C. Warden.*

Boronia megastigma.—Those who have not yet made the acquaintance of this delightfully fragrant, greenhouse, flowering plant should lose no time in so doing. So powerful is the perfume of this plant, that a few of its comparatively insignificant flowers when open, are sufficient to scent a large greenhouse. Treatment similar to that given to Heaths and other New Holland plants suits it well. I should be pleased to hear from any of your correspondents who have grown this plant, if they have succeeded in striking cuttings of it, and if so, under what circumstances. I have made several attempts, but without success.—*C. Warden.*

Japanese Chrysanthemums.—The introduction of 200 of the best varieties of Chrysanthemums grown in Japan, by the Messrs. Cannell, as briefly mentioned in our last, is an event of considerable interest to lovers of this much prized flower, and their blooming next season will doubtless be anticipated with even more than the usual amount of curiosity. The English gardener who selected the plants when in flower, states that the collection includes "the best and most recently raised sorts." Some of them are described as having a tinge of blue in them, others are white and green, some are single, some are double-flowered, some have peculiarly broad petals, and all are novel. The strange, fantastic forms and brilliant colours of the Japanese varieties which we already possess in gardens have won the hearts of all; they are grown in larger numbers every year, and we hope they will long continue to do so.

Specimen Plant of Heliotrope (*see* p. 382).—"Heliotrope" wishes to get up a specimen for a prize competition that will, I should say, about win if he can do it well. There ought to be more such prizes offered at our local shows. Try with an old plant by all means if you have space to grow it on. By an old plant I mean, however, one of last year's—older plants might not submit to the treatment. Select say three of your old plants that you say are now resting and plunge each, overhead, roots, and all, in a tub of water (not ice cold); let them soak well, and then stand to drain. Do not water them again if you can help it till the young shoots have begun to push.

When the shoots are ½ in. long turn the plants out of the pots and reduce the balls of soil all you can, re-potting again in pots of the same size, but let them be quite clean and well crocked. If your house is small discard the least promising of the three, keeping one to work up into a bush and the other to train to a ladder or trellis. The soil for growing these on in should be rich old turfy loam, to which add one-sixth of sharp sand and the same of rotten cow-dung. Always pot firmly and never within 1 in. of the top, water with weak manure water once or twice a week, and re-pot as soon as the roots begin to run round the sides of the pot. Pinch out the points of the shoots and stake and tie so as to get the plants into a neat form—training can never begin too soon. Give the last shift, which should be into an 8-in. or 10-in. pot, about six weeks before the show, and do not pinch after that. If you can stand the plants on a mild bottom heat for a few weeks from now their growth will be more rapid. Give also plenty of air and a sprinkling overhead daily. If you wish to keep the plants in bloom over as long a time as possible you must use stimulants later on, but I would not recommend liquid manure after the first bloom shows. To retard the plants should they get too soon into bloom, stand them under a canvas shade outside, having one side open to the north, and turn them round every day. The later on the show to which you intend to take the plants, the longer must the pinching and feeding continue. I shall be glad to advise you later on should you find a difficulty in your way.—*Authentes.*

The Knap Hill Primroses.—Barely protected from frost, Mr. Anthony Waterer has a houseful of his special strain of Primroses now in full bloom, varying in every shade from white to crimson. We venture to assert, without fear of contradiction, that no class of plants could be brought to furnish such a display of colour at this season with so little trouble. So little trouble say we, that is so little trouble to the purchaser of the plants or seeds, but to produce the strain the labour cannot be calculated as it has been the work of a life-time with Mr. Waterer.

The Earliest Narcissus.—Narcissus pallidus præcox is now expanding its beautiful sulphur-coloured blossoms in the open, and will, as happened last year, be nearly a fortnight in advance of all others in our bulb grounds at Tooting. The first flower opened about the 15th inst.—*Barr & Son.* [The early straw-coloured Daffodil of Parkinson, N. pallidus præcox, the re-introduction of which we owe to the Messrs. Barr, is not only the earliest, but one of the handsomest varieties. It is flowering a little later this year than last.—Ed.]

The Propagator: Cyperus alternifolius.—This and the variegated form are very useful plants for decorative purposes; for if supplied with plenty of water at the root, they will stand for a considerable length of time in an almost dark room. The most common method of increasing these plants is by division, but when propagated in this way, the plants raised cannot be compared to those grown from cuttings or tops. Select a hard and full grown crown, and if it is very straggling shorten back the tips and insert it in a small pot, or several in a pan of very sandy soil. Place them in a close propagating frame and keep them moist. On no account allow them to become dry once, for it delights in plenty of moisture, and nothing injures it sooner than dryness at the root. When rooted they may be potted up and will soon grow into useful plants.—*C. W.*

Eritrichium strictum.—There is so little to distinguish the flowers of this genus from those of Myosotis that by the ordinary observer most of the species would be taken for Forget-me-nots. The most obvious distinction is in the smaller size of the flowers in Eritrichium, to which, however, there are some exceptions; E. nanum, for instance, has blossoms as large as many species of Myosotis. The seed-like fruits or nuts show, however, that they are really related to the genus Cynoglossum or "Hounds-tongue." Most of the species are insignificant weeds, but that just named is eminently worthy of cultivation and this, though less remarkable, is deserving a place in the borders. It grows about a foot high, and bears long terminal racemes of small bright blue flowers in succession for a considerable period. It is of the easiest cultivation in any light or mixed soil, and will probably succeed treated as a hardy annual.—*W. Thompson, Ipswich.*

Richardia æthiopica.—I noticed on a recent visit to Gunnersbury that Mr. Roberts grows this plant in a cooler atmosphere than it is generally seen in at this season of the year; the plants, too, are potted in a stiff loam, but they are dwarf and very robust, and throw up spathes of great size and beauty. Really the specimens one sometimes sees are much too lanky in appearance, through being drawn, and the spathes are generally undersized in consequence.—*R. D.*

Corbularia monophyllus (Clusii and albus).—These beautiful snow-white flowers have been blooming with us from the middle of January, and will continue so for some weeks, under one of Boulton and Paul's frames. Early in autumn we planted these bulbs in a mixture of sand and loam, on a bed raised a few inches above the general level and covered with the frame. The lights were raised sufficiently to admit air only, the great point being to protect the bulbs from the cold autumn rains. When the leaves had advanced an inch or two the sides of the frame were alternately raised, thus fully exposing the plants, except when there was a severe frost or heavy rains, when air only was admitted; this treatment will be followed till the weather becomes dry and warm, when the glass will be kept constantly down, only admitting air.—*Barr & Son, February 24th.*

Erica herbacea alba.—All lovers of pretty, neat, hardy garden plants will hail the presence of this pretty gem with pleasure. Peeping out of the compact bushes of it at Mr. Anthony Waterer's, at Knap Hill, are myriads of the earliest flowers of this little beauty presaging the display which they mean to keep up until the summer comes in.

VEGETABLES.

The Kitchen Gardener's Calendar.—Where new plantations of Asparagus are contemplated, the ground should be got ready by trenching it and mixing with the soil a good quantity of well-rotted manure, as the trenching to an uniform depth of at least 3 ft. is proceeded with. Similar preparatioms should be made where necessary for making fresh plantations of Rhubarb, by dividing the roots or crowns, and planting the divisions with the buds 2 ins. under the surface, in rows 3½ ft. asunder, and 3 ft. apart in the rows.

Draw a little soil up to early sowings of Peas, and afterwards stake them; putting the sticks (with small spray between the latter at the bottom) close to the Peas on either side of the rows to prevent them from swaying. Make another sowing of such varieties as Telephone or Stratagem. I would here remark that where there is any difficulty experienced in securing long sticks, the latter variety is the Pea to grow, as it only requires very short sticks (from 2½ ft. to 3 ft. long) to support its heavily cropped haulms.

Complete the planting out of autumn-sown Cauliflowers. The nature of the weather having prevented the directions given in the two preceding calendars respecting seed-sowing from being carried out, the first favourable opportunity that presents itself for this purpose should therefore be taken advantage of, but under no circumstances should this be attempted—even though the operation had to be deferred for a month or six weeks—before the ground is in a thoroughly workable condition. Overhaul herb-borders, and make fresh plantations of Tarragon, Sage, Thyme, Sorrel, Pennyroyal, Chamomile, Savory, Chervil, and Lavender, by division of the roots and slips. Weed, brush, and afterwards roll gravel walks, and otherwise maintain cleanliness and good order throughout the garden.

Forcing Department.—Cucumbers which have been bearing all the winter will be considerably benefited by having a little of the loose surface soil removed and replaced with a like quantity of a compost, consisting of three parts of light loam and one of horse droppings. This, by causing the surface roots to push into it, will have an invigorating effect on the plants. Remove old shoots and leaves to make room for young ones. Train the former thinly over the trellis, and pinch the points of the shoots out to cause the same to thicken, as well as the fruit to swell faster. Close the house at 85 degs. early on bright afternoons—say at 2.30—with an abundance of atmospheric moisture. Aim at a night temperature of 65 degs. to 70 degs., and 5 degs. higher by day with fire-heat. If the plants are growing in pots or boxes, they should have liberal supplies of weak tepid manure water at the roots. If young plants of Tender and True—the best for summer indoor work—are not already transferred to the hillocks—the house having been previously well-cleaned—no time should be lost in doing so, in a compost the same as that indicated above. The soil should be in the house twenty-four hours before setting the plants therein to get warm.—*H. W. Ward.*

Onions.—I should like to ask "B." whether the Onion mentioned by him as the Wethersfield, see p. 395, is the same as that somewhat rare sort, the Danesfield, a very fine flattish kind, having a reddish brown skin, and evidently a capital keeper? It is curious that the firm which sent out this Onion a few years since do not now quote it, and I infer that the stock has been permitted to become small, and has been thus for a time withheld from commerce. It has the merit of being not only a fine kind and a good keeper, but is also quite distinct, and that is much more than can be said of any of the so-called new forms of the White Spanish type, because these seem to differ in nothing but name. Now and then exceptionally fine bulbs are shown of this reputed sort or that one, but still all are alike as two Peas. Happily any good strain of the White Spanish gives us as fine a crop of good keeping Onions as does any other variety. In selecting Onions for late keeping, it is well to go carefully through the bulbs, and if it is not possible to rope all the crop, at least a bushel or two may be selected for that purpose. These should be of medium size, well ripened, and solid, whilst any large bulbs, and especially those not so firm, should be used first. Keeping necessarily is to no inconsiderable extent contingent upon the season, and if the bulbs be thoroughly matured and not too early so as to provoke precocity, and be stored thoroughly dry, it is certain that the best may be preserved, roped, and in a dry cool shed for many months.—*D.*

Lettuces.—In the admirable list of select vegetables furnished by "B.," I note that the fine French Cabbage variety, White Chevigny, figures as one of the best. This is a kind almost unknown to gardeners under that name, although it may have very recently got into commerce here under some other designation. The great merit of the White Chevigny lies not so much in its fine white, solid, crisp eating heads as in its long-standing character. I found last summer, in the heat and exceeding drought of July, that it stood wonderfully, far better than any other Cabbage kind. Some years ago, when I grew more Lettuces than now, I found a strain of the Paris White Cos, named Alexandria, to stand wonderfully well also, but these long-standing sorts are of necessity bad seeders, because in starting so late they neither bloom freely nor early enough to ripen seed well. Of course, for such purpose it would be wisest to sow seed late in the autumn, and save the plants in a frame through the winter. That plan, however suitable it may be for obtaining early summer Lettuces, will not do for successional cuttings, which must be sown from March till June. Kinds, whether of Cos or Cabbage, are most severely tested when sown in April and May, as they are expected to heart in during the greatest heat of summer, and if they will not stand, but bolt to seed ere they have hearted, they are useless. Too often such bad strains are left to produce seed, and thus an inferior variety is largely perpetuated.—*D.*

THE

Orchid Growers' Calendar.

The Propagation of Phalænopsis.—Through the courtesy of Major Lendy's gardener I examined the plant of Phalænopsis (figured on p. 364 of The Gardening World), at the last Floral Committee at South Kensington. I think there is some error in describing it as Schilleriana; it certainly was Stuartiana, as clearly defined and well marked as one could desire to see. With respect to the small plants appearing on the roots where injured by pricking, all traces of injury or "pricking" have now vanished, and there was nothing on the plant itself to show why these plantlets have developed.

Their occurrence is an entirely new fact. So far as my knowledge extends no indication of any such growths has ever been made known before. No doubt the roots of all our plants of this order do occasionally get bruised or broken, whether in re-basketing or re-blocking. It does not appear that any of the older varieties (grandiflora, amabilis, or Schilleriana) have, after such injuries, shown any tendency to form leaflets; at least so say all your correspondents, as do also all growers with whom I have had an opportunity to discuss this subject. Major Lendy would add to the obligations we are under if he would tell us a few more details, particularly when the lesions of the roots took place, how precisely they were affected, was the plant making a new leaf or new roots at the time, or was it at rest, had it flowered last season, and any other facts he may think of interest.

So few succeed with Phalænopsis, and so many kill their plants by excess of flowering, that any new departure which will help to multiply this charming family will be of real service to Orchid growers, if it can be brought within the range of "practical possibilities."—*F. A. Philbrick.*

Sir Trevor Lawrence, whom all Orchid growers revere, has carefully summed up this matter in less words than any other man could (p. 390), but I and my compeers here in France would be glad of any other information we can get on the subject. P. Luddemanuiana propagates freely by the flower-spike with us, but no other, except for an occasional plant. Your remarks on this subject came upon us with great surprise. Let us hope that your excellent journal will furnish us with all particulars.—*C. M. Herbault, France.*

Sophronites grandiflora.—This is one of a genus of small growing Orchids which hardly seems to meet with so much attention as it deserves. It grows freely in peat and sphagnum in well-drained pans or baskets, suspended from the roof of the cool-house. It also thrives equally well on a block, and should be liberally supplied with water the whole year. Flowering as it does during the winter months, its beautiful bright scarlet blossoms form quite a contrast to the pure white flowers of Odontoglossum crispum (Alexandræ), the queen of the cool Orchids. There appears to be two varieties of S. grandiflora, one being somewhat shorter in the leaf than the other, and producing flowers of a more brilliant scarlet.—*J. S. B.*

Orchids at Shirecliffe Gardens, Sheffield.—A few days ago I called at Shirecliffe, and was much pleased with some well-flowered plants which I saw there. Amongst them was a pan of Cœlogyne cristata bearing thirty-five spikes of its lovely white and yellow flowers. The plant has a very striking appearance owing to its cone-like shape and the vigour of its growth. The bulbs are 5½ ins. in length, and the leaves, which are quite 18 ins. long, hang gracefully over the pan which is quite hidden. Phalænopsis Schilleriana is done well here, two of the plants having leaves from 15 ins. to 17 ins. in length, thick and broad; and they are bearing very strong flower stems with numerous expanded flowers. I consider these to be examples of good cultivation. There are also several specimens, varying in size from 2 ft. to 3 ft. through, of Dendrobium nobile and its varieties, cœrulescens and Wallichianum, and which, with their different shades of colour and form, are a very pleasing sight, arranged with Adiantum cuneatum, Tulips, Hyacinths, and a margin of Crocuses, of different colours, in narrow boxes running the whole length of the conservatory. But Orchids are not the only things which are done well at Shirecliffe; the Camellia and Azalea houses are filled with large and vigorous specimens of the best kinds, and these two houses alone will be worth a visit in the course of a week or two when the plants will be in bloom. Mr. J. Udale, the gardener, is a culivator who does all things well which he takes in hand.—*J. W., Sheffield.*

Lycaste Skinneri.—Your correspondent, Mr. W. Driver (p. 396), mentions a bloom coming from here of Lycaste Skinneri, measuring over 5 ins. across. The variety mentioned in your issue of February 7th was L. Skinneri delicatissima, which does not usually bear such large blooms as ordinary forms of the species. I send you by same post a bloom of a good bold variety, cut from a plant in a 5-in. pot which is bearing four others that have been open several weeks.—*James Cypher, Cheltenham.*

Orchid Flowers from Mr. Cypher.—With the beautiful bloom, measuring 5 ins. across, of Lycaste Skinneri, mentioned in Mr. Cypher's preceding note, came a perfect flower of Dendrobium Ainsworthii, very pure white, and the blotch on the lip of a rich rosy plum colour, and the bloom larger than in the ordinary type, of which Mr. Cypher states that he has a splendid plant bearing twenty-eight blooms, and growing in a 4-in. pan. We have also from the same source a bloom of the beautiful Dendrobium nobile pulcherrimum, of which Mr. Cypher is fortunate in possessing a nice stock of sturdy plants. The blotch on the lip is very dense, and the white wax-like sepals and petals are flushed with violet at the tips. A charming variety of Lælia anceps, with a rich ruby crimson-coloured lip, yellow throat, and rich maroon markings also deserves mention.

Cypripedium niveum.—This lovely free-blooming variety never fails to win the admiration of all who see its fine satiny-white flowers. Its foliage is similar to that of C. concolor, but when examined closely the difference is easily seen. It grows freely in a compost of turfy loam and peat in equal parts, and sphagnum moss with a few pieces of charcoal and a small quantity of silver sand, and the pots should be well drained with crocks and charcoal. Water should be plentifully supplied at the roots during the growing season; it also delights in a warm moist atmosphere. I once had charge of a small batch of plants of this Cypripedium which were treated as I have advised, and they grew and flowered freely, the foliage being firm and glossy, and not unfrequently two flowers were produced on a spike.—*J. S. B.*

Angræcum sesquipedale.—There are, perhaps, few Orchids which can compare with this gem of the Island of Madagascar when seen in perfection, nor is it at all miffy or difficult to keep in good condition. It does not, I think, require such a high temperature to keep it in perfect health, as is sometimes recommended, nor do I think it so floriferous when grown in a very high temperature, as in a house where a medium temperature is maintained. For some years it has succeeded very satisfactorily with me in a temperature varying from 55 degs. to 65 degs. in winter, and from 70 degs. to 85 degs. in summer. It requires plenty of air and light; but will not endure strong sun-light without injury. I have found it do well either in pots or baskets, but it has a decided preference for a large basket where the roots have plenty of space to ramble in. It succeeds admirably in large lumps of peat, with a liberal admixture of large lumps of charcoal, for which the roots appear to have a special liking, more so, perhaps, than any other Orchid. It appears to dislike the material being compressed so tightly about its roots as is now becoming customary in potting most Orchids, a fashion necessitated I suppose by the small pot mania, and one which, although convenient, is not so conducive to the health of the Epiphytal Orchids generally, as it is supposed to be. When so grown, the leaves of this beautiful Orchid are always short, thick and of a healthy deep green colour; the peduncles, four to six in number bearing about six to eight flowers each. When fully exposed to the light, in a moderately dry atmosphere, the flowers are creamy white, but when slightly shaded and in a moister atmosphere they become pure white; the flowers continue in a good condition for about a month. For the drawing-room as well as for funeral wreaths and crosses they are invaluable.—*Scribo.*

Oncidiums for the cool-house.—In addition to Oncidium macranthum, O. nubigenum, O. tigrinum, and O. cheirophorum, we have succeeded in growing and flowering in the same house, O. Forbesii, O. crispum, O. varicosum, and O. Marshallianum. The growths made in such a temperature are decidedly better than those made in a warmer house, and I feel sure that the four last mentioned species will be longer lived than if grown warmer. I have tried established plants of Oncidium bicolor in a cool structure, but they soon became unhealthy. Newly imported plants also were tried, but failed to start into growth in a low temperature. It was not so, however, with O. concolor and O. dasytyle, purchased at the same time in November last, and placed side by side with O. bicolor, as the former is growing well, and the latter flowering from a young bulb. I think Oncidium leucochilum and O. ornithorynchum have been named as cool-house Orchids, but I find they do not like too cool a temperature in winter, but are more at home with Odontoglossum vexillarium and O. Phalænopsis.—*T. Simcoe, The Gardens, Lake House, Cheltenham.*

Calanthes.—At Elm Lawn, Heversham, near Milnthorpe, the residence of the Misses Woods, there is a grand lot of Calanthes in bloom, such a collection, indeed, as would astonish many growers of this beautiful and useful class of winter-flowering plants. It is only about three years since Mr. Robinson commenced cultivating them with two or three small bulbs of Veitchii and vestita; now the stock consists of some three dozen pots of each variety, and many bulbs of Veitchii are more than 18 ins. in length, bearing flower-spikes upwards of 6 ft. long, with a fine show of highly-coloured flowers, notwithstanding that the first blooms began to open in September last. The C. vestitas are equally fine, having grand, well-ripened bulbs and flower-spikes over 4 ft. long. Mr. Robinson grows his plants in a small pit kept at a very high temperature, and for potting uses a good fibry loam with a little cow manure. He places about three bulbs in 8-in. or 9-in. pots, and all through the growing period gives them plenty of moisture, both at the roots and also in the atmosphere. Many other subjects are equally as well grown by Mr. Robinson, who has no assistance in the garden—a small one—which is a model of neatness and cleanliness throughout.—*W. J. Ireland, Headfort, Kells.*

FLORICULTURE.

Chinese Primroses at Forest Hill.—If any one desires to know how fast the march of improvement has been carried on with this favourite flower during the last few years, there is no place where he can secure ocular demonstration of the fact equal to the nursery establishment of one of those firms who grow a large number of plants for seed, and with whom the raising of novelties is a very important matter. During the last week or two one of these large collections—that of Messrs. James Carter & Co., at Forest Hill—has been in rare form. The plants occupy several large houses, which have literally been a blaze of bloom, and as each sort is kept separate, a golden opportunity has been afforded all who are interested in the matter for comparing the merits of the respective sorts.

The Messrs. Carter seem to be striving as much as possible to obtain strains of rich and fixed colours, and to a considerable extent have succeeded in doing so. Thus we have Holborn Blue, the very distinct novelty which the firm introduced a few years ago, and the porcelain blue colour of which has since been improved by careful selection. This process of careful selection of the darkest flowers will doubtless eventually lead to the production of a genuine

dark blue Primula, which is still a desideratum. The Holborn Purple is a decided acquisition, obtained from crossing Holborn Vermillion with Holborn Carmine. The flowers at first come of a rosy-purple hue, which becomes intensified with age, and they are both of good size and substance. It belongs to the fern-leaved section.

Holborn Vermillion and Holborn Carmine both represent good and true strains of plants, bearing flowers of the colour named, with the advantage in the case of the latter of a good free habit of growth; and in the same category may be named Holborn Magenta, a richly coloured fern-leaved variety, obtained from Holborn Gem, a pretty novelty of a pale blue or mauve colour, with a wire edge of white; and Holborn Pearl, a white variety of good substance, with a suffusion of blue in the centre. Elaine is a fern-leaved variety, with fine white fimbriated flowers, having a conspicuous clear lemon coloured centre; while Snowflake is a double or semi-double white of great merit. In the same section, but salmon red in colour, is Carter's Prince of Wales, a very showy flower. Rosy Morn is one of the prettiest Primulas we know, and is seen here in good style. It is of the same neat habit as Holborn Blue, indeed, it came out of the same batch of seeds, and is of a very pleasing shade of purple in colour. Holborn Blush is a very chaste flower of a pretty peach colour, and the stiff flowers all nicely fimbriated. It is fern-leaved, and in every way a fine variety. Venus, spotted and striped with carmine, on a white ground, is exquisitely pretty, and should become a favourite.

All the sorts we have named may be seen in quantities, but there are many individual plants in the collection that claim attention while passing through the houses, and which, showing "breaks" into new colours, are being watched and crossed with an amount of care and attention that well deserves a rich reward. One of these new departures is a genuine curiosity—an ivy-leafed Primula—with deeply-lobed leaves exactly like some of the Ivies in shape, and bearing flowers of such an abortive and nondescript character, that one can but pause and wonder how it originated, and what it will lead to.

Hollyhocks.—At a time when herbaceous plants, especially of the hardy kinds, are engaging the attention of so many people, our old friend the Hollyhock should again come in for a fair share of attention. Unfortunately the dreaded fungus to which this plant is subject, has well nigh stamped it out of many gardens. Where the plant is subject to the disease, it would be well to raise plants from seed every year and treat them as biennials, sowing the seed in May and planting them out in a prepared bed, to be transferred to their flowering quarters during the following winter, giving them a change of soil each time. If the soil in the locality is not suitable, a hole may be dug out, incorporating some rotten manure and a good portion of strong maiden loam. In gardens where there are old stools now in the ground, the present time is favourable, if thought desirable, for increasing them. Lift a plant of each kind and place it in a pit where a little warmth is afforded, and as soon as they show signs of growth, take off the cuttings and insert them in small pots, place them on a gentle hotbed, and as soon as the cuttings have taken root, they should have more air admitted and be removed to cooler quarters before they become drawn and weak. When the weather becomes sufficiently warm, they must be planted out in a bed previously prepared, or in stations prepared for them in the herbaceous border.

Phloxes of the perennial class are also most desirable plants for the herbaceous beds or borders, and like the Hollyhock they may be increased by cuttings taken from clumps lifted now, and subjected to a slight warmth for a few days prior to removing the cuttings. The cuttings should be treated in every way similar to those of the Hollyhock, and any sandy soil that will grow good bedding plants will suit them. Care should be taken that the plants do not become drawn after they are rooted. Nothing can hardly excel the beautiful trusses of bloom these young plants produce, when planted out in a well-prepared bed and attended to as to staking and tieing, and kept supplied with water in dry weather. They are among the most useful plants for cutting from to furnish glasses in the dwelling house.

Dahlias.—It is now time that a few roots were put into heat, if it is thought desirable to increase any of the varieties, or, perhaps, I should say whether increase is looked forward to or not, for none do better than good strong cuttings the first year. The Dahlia was sadly out of favour a few years ago, and about that time there were many gardens in which the plant was not represented by a single specimen, but now, probably, there are but few gardens in which it is not to be found. The two sorts that we are increasing most are the Cactus Dahlias, Juarezii and Constance, especially the former, which is admired by all who see it. The single varieties also do well when grown from cuttings. To insure success in propagating these plants it is necessary to take the cutting off when no more than 3 ins. long, and if the heel is not taken, secure the next joint to it, as it would be unwise, if a number of cuttings were wanted to cut all the eyes away, so as to prevent the plant from breaking up again. The cuttings should then be inserted either singly in small pots, or several in a larger one, taking care to keep them correctly named. The pots can then be plunged to their rims in a dung-bed, be shaded from bright sunshine, and kept moist. I have known gardeners who have failed to root these plants in moist heat, but who have succeeded with them when placed on a shelf in the full sun in a warm house and never shaded. One of the largest Dahlia growers in this country propagates his plants on a bed of tan, which does not differ very much from a well-prepared bed of tree leaves and manure. As soon as the cuttings are rooted they should be removed to cooler quarters, and be potted up as required, and prevented from becoming drawn and weak, if good flowers are expected.—*C. W.*

FLOWER SEED SOWING.

March and April are the two months when the necessary work in the garden presses heaviest upon the gardener. It is a season of untiring exertion; it is during these two months that the great bulk of the work of seed sowing is performed. Flower seeds are divided into three main sections, viz., annuals, biennials and perennials. The first of these—annuals—are plants which, raised from seed, perfect the flowers, ripen their seed and die the same season. Annuals make a bright display, and it may be kept up nearly the whole season. They are divided into three classes:—Hardy, half-hardy and tender. Hardy annuals may be sown in autumn, and in early spring. Such things as Silene, Candytufts, Eschscholtzias, Collinsias, Limnanthes and others make a superb display when sown in autumn, as they thoroughly establish themselves in the soil, which they cannot always do when sown in spring, and flower grandly and much earlier than when sown in the spring. Half-hardy annuals will not stand sharp frost, but much depends upon the nature of the soil and the situation where they are sown; as a general rule, they should not be planted out in the open ground until all danger from frost has passed.

Tender annuals should be sown in a little bottom heat, and require greenhouse culture except in a few instances. Under the head of tender annuals we get Balsams, Cockscombs, Globe Amaranthus, and a few others, but Balsams will do well in the open ground during the summer, if the soil be fairly light and good, and the position an open, warm and sunny one. Biennials are those which grow the first season, flower the next and then die. The following are a few leading biennials:—Dianthus chinensis, Œnothera Lamarckiana; certain stocks, Sweet William, though to some extent a perennial; Wallflowers and others. They may sometimes be induced to flower for two or three successive seasons, by preventing them from going to seed. Their general culture is the same as annuals, and some are of a more tender character than the others.

Perennials are those which live and continue to blossom for several years. If planted very early in the year in the open ground, or if brought forward in a hot-bed or the greenhouse, they will bloom the first season. Many of these are hardy enough to stand the coldest of our winters, dying down in the autumn and coming up in the spring from the old roots. Generally they should be taken up once in two or three years, have the roots divided and then be re-planted. Like the annuals and biennials, they are divided into hardy, half-hardy and tender; the two latter require to be started in heat.

Now, a few words as to the culture of these plants from seeds; for many persons appear to suppose that the matter is so unimportant that if put into the soil in the roughest fashion they will be certain to do well. In sowing out of doors the soil should be of good character, fairly light, and well pulverized, as well as deeply stirred, so that the roots may descend into it. The surface should be levelled, and the seeds sown thinly—much more so than is generally done; and then a little fine soil scattered over them. Should the weather prove warm and drying immediately after sowing, a little shade may be necessary, and occasional sprinklings with water. A little cocoa-fibre refuse lightly and thinly strewn over the surface will be found of great advantage. As soon as the plants are large enough, the weaker ones should be thinned out, leaving the strongest to grow.

It is a practice with some lovers of annuals to start some varieties in pots or pans in a warm house, transplanting them as soon as the weather permits, the result being that if the spring is favourable and the plants do well, they flower earlier than those sown in the open air. But in growing these on into size, great care must be taken that the plants are not allowed to become drawn.

Half-hardy annuals, being of a tender character, should not be sown in the open ground until the middle or end of April, and in an early light sandy soil. Forty years ago, when the choicer annuals were much more grown than they are in the present day, we remember one enthusiastic cultivator who used to make up a bed of long stable dung and leaves to the height of some 4 ft., and by making it of this height allowing for sinking. Some slabs of deal were laid along the sides and across the ends to form an edging to the bed, and 4 ins. of a good light soil specially mixed for the purpose was added. The seeds were sown thinly in lines across the bed, and a suitable covering was provided by putting stout Hazel rods into holes made in the slabs, bending them over and inserting them into similar holes on the other side. Then, when necessary, a covering of mats was placed over the bended rods, and all was made snug and warm when frost threatened. At most there was but a gentle heat in the bottom. In those days not a few hardy annuals were raised in this way and transplanted, as well as such things as Stocks, Asters, Zinnias, &c. In default of such a bed, the seeds should be sown in pans or pots of fine soil, distributing them as thinly as possible, the pots placed in a gentle heat and shaded from the sun; when the plants are large enough, prick them out into other pots, and plant out in the open ground as soon as it is safe to do so. Biennials and perennials may be sown in spring and all through the summer if necessary. Many of them may be sown in the open air, but the choice kinds should be sown in pans, raised in a cold frame, and transplanted to the open ground.

Not a few persons sow seeds of Wallflowers, Stocks, Honesty, Canterbury Bells, Scabious, Sweet Williams, &c., too late in the season to get plants strong enough to flower well the following spring and early summer. Instead of sowing in August, they should sow in April and May, transplanting at the end of August and in September. Advantage should be taken of what the market gardeners term "dripping," *i.e.*, showery weather, to perform this work. Plants placed out during moist weather soon lay hold upon the soil, establish themselves, and grow away merrily during the autumn. Sometimes a very severe winter will punish biennials and perennials, especially where keen frost follows close upon the heels of rain. But very severe winters are exceptional times.—*Quo.*

Alocasia reginæ.—This fine new Alocasia, which obtained a Certificate of Merit at the International Exhibition at St. Petersburg, is figured in the January number of *The Illustration Horticole.* It was introduced from Borneo by the Compagnie Continental d'Horticulture, of Ghent. Its pubescent leaf-stalks mark it at once as very distinct, for this character is comparatively rare in Aroids. The leaves are deeply cordate, dull dark-green above, with darker pubescent veins, and purple-brown beneath.

NOTES ON CARROTS.

Of late years several new types of Carrot have been introduced iuto seed lists, the results of careful selection. Certainly one of the most useful and deservedly popular is the little form of French Horn, which is very useful because it can be sown at all seasons of the year. I have just dined, and the principal dish of vegetables was one of these delicious little Carrots, drawn from an open border, under a west wall. The soil is light and rich, the border warm and sheltered, and here the seeds were sown in drills in the month of August last, and for weeks past these Carrots have been pulled almost daily. It is a variety that does not make much top, and soon forms Carrots. Nor is it necessary to thin the crop, as some of them soon begin to turn in, and the work of thinning is performed by successive pullings. Another French variety is the Early Nantes, or stump-rooted French Horn. It is longer than the preceding, and requires a little more time for turning in. It is intermediate in size between the French forcing Horn and an English Horn, the latter being larger, broader, and tapering to a point. This is one of the most useful Carrots that can be grown in a garden, especially in shallow soil; in good land it grows to a large size, and is first rate for table purposes.

James's Scarlet Intermediate, or Merriott Scarlet is a well known variety, and taking it all together one of the best for a general crop and for Exhibition purposes, as it is of a good colour, and comes out of the ground clean and handsome. In some parts of the country Carrots are judged for their colour: the deeper the orange red, the more are they approved by the judges. However handsome they may be, any of a pale colour are put back. There will be differences of opinion as to this course of action, but this much can be said in commendation of it—it secures a good stock. At the Exhibition of the Newbury Horticultural Society, some of the finest types of Intermediate Carrots one can desire to look upon are produced, but that is the home of the Shaw family, well-known seed growers, and famous for their stock of Carrots. In the South of England the Long Red Surrey is the staple Carrot for market purposes, though the Intermediate is a formidable rival to it. The Long Red Surrey should be without a particle of green at its top, and rich in its orange-red colour. The Altringham Carrot, when represented by a good stock is long, deep-orange red in colour, and with a green top. The variety has the peculiarity of thrusting itself up out of the soil 3 ins. or 4 ins. above the ground. It is largely grown in the midland and northern districts, and greatly in request in the Manchester, Liverpool, and other markets. The Long Orange or Studley Carrot is to all appearance a selection from the Long Red Surrey, and it is said to have originated at the village of Studley, between Calne and Chippenham; where it is still grown, and it is not unusual to see a batch of Carrots seeding in most cottage gardens. These three being long, require a deep, well-tilled soil, if the grower would have them of handsome and symmetrical shape. In the foregoing we get our best garden Carrots.

Large quantities of seeds of Altringham, Surrey, Long Orange, Intermediate, and English Horn Carrots are grown in Essex, Cambridgeshire, and Bedfordshire, as well as in other counties. It is astonishing what quantities of seeds are required. The work of cleaning, mixing, and packing Carrot seeds in large quantities is a disagreeable one in the wholesale seed warehouses; but it is accepted as a necessary part of the routine of warehouse operations.—*R. D.*

Letters to the Editor.

SHOW PRIZES AND AWARDS.

I venture to think that very few exhibitors will agree with "The Writer" that a change is required in the system of awarding and distributing Show prizes. I believe that exhibitors generally will prefer the amounts of the different prizes to be definitely fixed as now, rather than leave it to the decision of judges or committee-men. The committee, on Mr. Holmes' showing, being generally made up of exhibitors, is a body totally unfitted to fairly apportion prize-money. In my opinion, when the prizes are proportionately graduated, as they generally are—and not as in the one Special Chrysanthemum class, upon which "The Writer" originally based his argument, and in which the second prize was less than half the amount of the first—the usual arrangement will agree with the views of exhibitors generally. As for a reform in prize awards being "inevitable," this may be the opinion of "The Writer," but I think the majority of exhibitors will agree that the "good time?" is likely to be a very long time coming.—*Another Exhibitor.*

May I, as an old exhibitor, be allowed to offer a few remarks on the subject of the leader, at p. 339? The greatest difficulty, I opine, would be that the groove of custom and practice in framing schedules is so universal that any abrupt and sudden departure from it would be likely to unhinge the vehicle.

There are exhibitors and exhibitors; how would the proposed alterations affect the two types? First, let us consider that class who, by their disinterestedness, love of fair-play, and love of horticulture, have helped to place our exhibitions on their present high platform. These men, who consider the honour of winning in good company as the highest reward for their merits, would not be disposed to cavil at any innovation that proposed the more even distribution of pecuniary awards. With the highest award would still go the greatest honour, and more or less pecuniary gain would be a subject of secondary moment.

But again, we have to consider the position of the exhibitors who make showing more or less a business. Without that class of competitors, many of our grand displays would be shorn of their gayest and most attractive proportions. With them it is a question of pounds, shillings, and pence, and they must calculate their chances pretty accurately at the beginning of the season if they intend to secure the plums. The tempting offer of, say, £20, to be divided into first, second, and third, "at the discretion of the judges," would certainly lead to a more serious business view being taken of the matter, on the principle that "the more the outlay the higher the prize gained." Admitting the fairest judging, calculating by points, and awarding accordingly, the latter class of exhibitors would seldom leave much "plum" for their more disinterested brethren. Champion classes would soon become more prevalent at our large shows, which would then distinguish between the two classes of competitors. I, for one, do not think the proposal at all a startling one; on the contrary, I think it is a good move in the right direction.—*Authentes.*

DO WE PROGRESS?

Fifty years ago the art of propagating must have been well understood, judging from the following extract taken from *The Floricultural Cabinet*, 1835:—

"Propagating the Dahlia.—The most successful method I have ever adopted is to put the roots in pots, the size of which should be in proportion to the size of the roots, any good rich mould may be used. When potted they should be placed in a house or frame (the temperature of which should be from 65 degs. to 75 degs.), and sprinkled at least once a day with clean water. As soon as they have produced shoots 3 ins. or 4 ins. in length they should be carefully taken off and put in very sandy light mould, in small pots. I recommend placing the cuttings close to the sides of the pots as this will materially accelerate their rooting. They should then be carefully watered, and the pots plunged in decayed tan or sawdust in a frame not lower than 75 degs. and occasionally, from the influence of the sun, may be raised as high as 90 degs. The cuttings should be daily shaded, if the sun be too powerful for them, and sprinkled over once or twice a day with water. If they be managed in a proper manner, and daily attended to, forty-nine out of fifty cuttings will in a few days strike root. I would recommend this plan to those who require but few of each kind, as they make much better plants than those obtained by dividing the old roots, and I have generally remarked that the flowers were much finer."—*A. H.*

Now, can any one lay down instructions that are more clear, and more suitable to the requirements of the small plant grower of the present day than these?

Another extract from the same paper, but which is too long for insertion here, gives the following as being a "*Genial compost* for fibrous-rooted perennial herbaceous plants of the open ground":—

"Hazel-loam earth from the richest pasture ground; bog-soil from meadows or other low lands; hot-bed stable manure, fully rotted down; and finest white sand from the deepest pit—mixing them in equal quantities. On first putting the above together, apply bullock's or other blood in the proportion of one gallon to the quantity of compost to be contained in two wheel-barrows of the common size."

Then, following this elaborate formula, is a description of the course of ripening the compost, which takes a long time.

Hazel-loam comes in for quite a treatise, describing its many valuable qualities; and the extract takes up the subject of soils and composts in the clearest and most practical manner. The Article is from the pen of Mr. Thos. Haynes, of Oundle, Northamptonshire.

Another periodical of the same date also contains a most practical article on "Soils," going fully into the natures of loam, peat, bog-earth, and heath-soil.—*Authentes.*

VITALITY OF SEEDS.

"B. N. T." (p. 366) will find the information he requires, and more on the same subject, in Mr. Burbidge's work on "Cultivated Plants." According to the table printed on p. 36, Beet seeds preserve their vitality five years; Cabbages, five years; Carrots, four years; Turnips, five years; Onions, two to three years; Leeks, two years; Parsnips, one year; Radishes, five years; Lettuce, five years; and Parsley, three years.—*B. C. P.*

ANSWERS TO CORRESPONDENTS.

Books.—*Scipio.*—Sutherland's *Hardy Herbaceous and Alpine Plants* (Blackwood & Sons).—*I. T. B.*—Niven's edition of *Maund's Botanic Garden* is worth about £12 12s. We do not know the value of the other.

Boiler.—*B. O.*—The manufacturers are Messrs. C. P. Kinnell & Co., 31, Bankside, S.E.

Nicotine Soap.—*Practical.*—We have not used it our selves, but some of our correspondents have spoken highly of it as an insecticide. Any dealer in horticultural sundries can supply you.

Notice to Leave.—*H. H. C.*—The rule with regard to head gardeners is a month's notice on either side, but if you are paid weekly and have no agreement, you can only legally claim a week's notice.

Compass Plant.—*A Reader.*—We should have added the name last week—it is Silphium laciniatum.

Names of Plants.—*C. Brown.*—Libonia floribunda, a good winter blooming plant.—*Lady D.*—The old Sparmannia africana.—*X.*—Phajus maculatus.—*R. H. F.*—1. Selaginella Willdenovii. 2. Adiantum hispidulum. 3. Polypodium plumosum. 4. Doodia media. 5. Pteris cretica lineata. 6. Pteris argyrea.

Importing Orchids.—*A Constant Reader.*—The best time to get African Orchids over is in the autumn or spring. There is yet plenty of time if you give instructions immediately. No preparation of the plants is necessary. Simply place the plants in cases as collected with as little packing material around them as possible, but carefully secure them so that they will not knock about on the journey. Raising Orchids from seeds is a very slow process. Make up pans of peat and sphagnum in about equal parts for each kind; sow the seeds on the top, and keep them moist and shaded. Some of the seeds will not germinate under twelve months.

Utricularia montana.—*Young Gardener.*—It is not an Orchid, though often seen growing in collections of those plants. It is a native of New Grenada, and should be grown in a basket, in fibrous peat and sphagnum, suspended from the roof; and it likes plenty of water.

Epiphyllum truncatum.—*J. J. B.*—Your opponent wins. There are a dozen and a half or more varieties in cultivation.

Planting.—*Foreman.*—At 10 ft. apart, 435 trees to the acre.

Vines.—*M. U.*—If the Vine has reached the top of the house you should cut it back 12 ins. or 18 ins., or further than that if the wood is not ripe. The leading shoot then becomes the leader, and that you can either stop when it gets to the top or allow it to grow longer, according as there is room for it. The golden rule to bear in mind is, the more leaves and shoots developed the more roots are produced, but you should be careful to avoid overcrowding.

Hones.—*Capt. C.*—The Tam o' Shanter Hone is one of the best we have used. You will find the maker's name and address in our advertising columns.

Communications Received.—I. S. B.—J. C.—F. A. P.—G. F. W.—J. K.—G. F.—C. M.—W. & J. B.—M. D.—C. W.—W. C.—P. McC.—R. D.—Tertius—D. W.—W. B.—R. S.—J. A.—B. P.—P. McC.—R. G.—C. W.—T. C.—E. M.—J. M.—W. P. R.—J. C.—B. L.—J. A.—E. W. B.—G. T. M.—W. J. I.—M. T.—C. H.—T. H. S. (next week).

Trade Catalogues Received.

Max Deegen, Jr., Köstriz, Thuringia.—Pompon, Fancy, Show and Single Dahlias.

H. Elliott, Springfield Nursery, St. Helier's, Jersey.—Choice Chrysanthemums.

LONDON SEED TRADE.

February 25th, 1885.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report a moderate trade for Red Clover at unchanged rates. Medium quality. White Clovers are slightly cheaper; Alsike and Trefoil unchanged. French, Italian, and Perennial Rye Grass are in good request. Tares, Bird Seeds and Blue Peas are selling at rates current last week.

COVENT GARDEN MARKET.

February 26th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 5 0	Kent Filberts and Cobbs, per 100 lb.	55 0-
— Nova Scotian, per barrel	10 0-15 0	Pine-apples, Eng., lb.	1 0- 2 0
— Extra samples	18 0-21 0	Pears, French, p. doz.	6 0- 9 0
Grapes, per lb.	3 0- 6 0	St. Michaels	3 0- 8 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	- 1 0	Horse Radish, bundle	3 0- 5 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	2 0-
Brussels Sprouts, p. lb.	0 4-	— Cos, each	0 2-
Cabbages, per dozen	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	3 0- 5 0
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	1 0- 1 6	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	1 6-
		Turnips, per bunch	0 6-

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	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Narciss, Paper White	1 6- 2 0
Azalea, 12 sprays	0 6- 1 0	Pelargoniums, per 12 sprays	1 0- 2 0
Bouvardias, per bun.	1 0- 1 6	—scarlet, per 12 sprays	0 9- 1 0
Camellias, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 6- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun	4 0- 6 0
— large, 12 blooms	-	Pyrethrum, 12 bun.	-
Cyclamen, doz. blooms	0 3- 0 9	Roses, outdoor, 12 bunches	-
Cineraria, per bunch	0 9- 1 0	Roses, indoors, p. doz.	2 0- 6 0
Epiphyllums, 12 blms.	0 4- 0 6	Roses (French), per doz.	1 6- 3 0
Eucharis, per dozen	3 0- 6 0	Stephanotis, 12 spr.	-
Gardenias, 12 blms.	9 0-12 0	Tuberoses, per dozen	-
Heliotropes, 12 sprays	0 6- 1 0	Tulips, per doz.	0 9- 1 0
Hyacinths, Roman, doz. sprays	1 0- 1 6	Violets, doz. bun.	0 9- 1 0
Lapageria, white, 12 blooms	2 0- 3 0	— French, doz. bun.	1 0- 1 6
Lapageria, red, 12blms.	1 0- 2 0	— Parma, doz. bun.	3 0- 4 0
Lily of the Valley, doz. sprays	1 0- 2 0	White Jasmine, bun.	0 6- 1 0
Marguerites, 12 bun.	4 0 -9 0		

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	s. d. s. d.		s. d. s. d.
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Azalea, per doz.	18 0-42 0	Ficus elastica, each	1 6- 7 0
Begonias, per dozen	4 0-12 0	Foliage Plants, various, each	2 0-10 0
Bouvardias, dozen	9 0-18 0	Genista, per dozen	12 0-18 0
Chrysanth., dozen	-	Hyacinths, doz.	8 0-10 0
Cineraria, per dozen	9 0-15 0	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargoniums, scarlet per dozen	4 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	18 0-24 0	Solanums, dozen	8 0-12 0
Evergreens, in var., per dozen	6 0-24 0		

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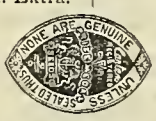

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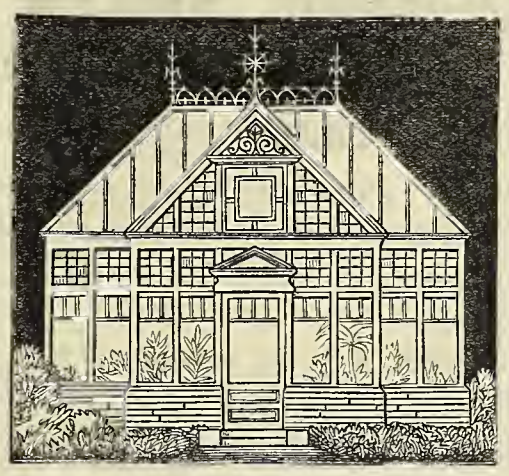

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The Chair will be taken at Five o'clock precisely.

By order,

EDW. ROGER CUTLER, *Secretary.*

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Catalogues, *free*, of Dobbie's Choice Pansies, Seeds and Plants, containing an Election of Pansies, the Culture thereof, with Remedies for the Prevention of the Pansy Disease, the True Secret of Growing Leeks and Onions for Competition, may now be had from DOBBIE & CO., Rothesay, N.B.

6 CAMELLIAS or AZALEA INDICA, full of buds, 10*s.*, large healthy plants of either in 5½ pots, all different choice sorts and colours. Packing gratis, and extra plants for carriage.—E. VAN DER MEERSCH, Queen's Nursery, Selhurst, S.E.

Genuine Garden Requisites as Supplied to the Royal Gardens.

POTTING COMPOSTS, 5*s.* Per Sack. Selected Brown Fibrous Kent Peat, 5*s.* per sack, five for 22*s.* 6*d.* Cocoa-nut Fibre Refuse, best quality, 1*s.* 6*d.* per sack, ten for 12*s.*, thirty for 30*s.*, 2-ton truck, 30*s.* Coarse Silver Sand, 1*s.* 6*d.* per bushel, 25*s.* per ton. Yellow Fibrous Loam, Leaf Mould, and Peat Mould, each 1*s.* per bushel. Best Tobacco Cloth, 8*d.* per lb.; and Paper, 10*d.* per lb., 28 lbs. for 21*s.* Manures, Virgin Cork, Garden Sticks and Labels, Russia Mats, Raffia, &c., Sacks and Bags, 4d. each. List free.—W. HERBERT & Co., Hop Exchange, Southwark Street, London, S.E. (late New Broad Street).

The Best Hardy Plant Nursery.

PAUL AND SON, THE OLD NURSERIES, CHESHUNT.
ROSES, in all ways;
FRUIT-TREES for Orchards and Garden Walls;
GOOSEBERRIES, CURRANTS and STRAWBERRIES;
TREES; SHRUBS; EVERGREENS; CLIMBING PLANTS;
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NURSERIES AT CHESHUNT STATION, G.E.R.
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Carefully prepared, illustrated, and fully-priced descriptive Catalogue, post free.

JAMES BOYD & SONS, PAISLEY and LONDON, Horticultural Builders and Heating Engineers to Her Majesty the Queen, H.R.H. the Prince of Wales, H.R.H. the Duke of Connaught, H.R.H. the late Duke of Albany, H.M.'s Board of Works, London and Dublin, H.M.'s Colonial Department, the Royal Horticultural Society, the Royal Botanic Society, and the Royal Dublin Society. Gold Medal, Paris, 1878.—London Office, 48, Pall Mall, S.W. Illustrated Circulars post free. Complete Catalogue, 3*s.*

PLEASE SEND PARTICULARS of any large or small Greenhouse for which Hot-water Apparatus is required. Ask for cash estimate, and save 15 to 20 per cent.—J. JONES & SONS, 42, Farringdon Street, London, E.C., late of 6, Bankside, S.E.

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JOHN DOWNIE, SEEDSMAN, 144, PRINCE'S STREET, EDINBURGH, begs to intimate that he is now sending out the finest stock of the above that money can buy, and as J. D. is now in business solely on his own account the most of the flower seeds have been saved under his own supervision, and may be thoroughly relied upon.

Ware's New, Rare, and Choice Flower Seeds.

THE most complete list of Miscellaneous FLOWER SEEDS ever published, including Hardy Perennials, Hardy Florists' Flowers, Greenhouse Seeds, Hardy Ornamental Grasses, Hardy Annuals, &c., free upon application.
HALE FARM NURSERIES, TOTTENHAM, LONDON.

BUD YOUR OWN ROSES, on strong Seedling Briar Stocks, plant now for budding next August, carriage free, 5*s.* per 100. DWARF BUSHY ROSES, finest sorts, extra strong, 6*s.* per doz.; Bushy GLOIRE DE DIJON ROSES, 3 ft. to 5 ft. high, 9*d.* each. APPLE-TREES on Paradise Stocks, for small gardens, all free-bearing and very best varieties, for pyramids or bushes, 7*s.* 6*d.* per doz. sorts. LAURESTINUS, good rooted bushes, 18 ins. high, 3*s.* per doz. LAURELS, caucasica, and rotundifolia, the hardiest and best, two years old, very good rooted bushes, 1*s.* 6*d.* per doz. All orders must be accompanied by a remittance.
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J. BOOTH, FLORIST, FAILSWORTH, offers the above in choice named exhibition varieties. 12 Carnations, 6*s.*; 12 Picotees, 5*s.*, or 24 for 10*s.* Cash with order. Catalogues on application.

ROSES, ROSES, ROSES.—Wonderfully cheap Roses, 100,000 Rose-trees to select from. Best sorts and true to name. 20 Choice Standards, 12*s.* 6*d.*; 24 Choice Half-Standards, 12*s.* 6*d.*; 50 Choice Dwarfs, 12*s.* 6*d.*; 24 Choice Teas and Noisettes, 12*s.* 6*d.*; 12 Choice Climbing, 5*s.*, my selection. Cash with order. Hundreds of Testimonials. Catalogues free.—JAMES WALTERS, Rose Grower and Nurseryman, Mount Radford, Exeter.

ROSES.—ROSES.—ROSES.—Fifty choice Perpetuals sent on receipt of remittance for 21*s.*; purchaser's selection from 400 best varieties. List of names on application. Twenty-four choice Standards, or Half-standards, 21*s.*—JAS. WALTERS, Mount Radford Nursery, Exeter, Devon.

PAINE'S PATENT VENTILATING GEAR for Greenhouses.—120 Ventilators can be opened and closed in one minute. No cords required; can be worked by a boy, and cannot get out of order. Information and references on application to
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ZONAL GERANIUMS for early Spring Bloom. Nothing can excel these easily grown plants for the decoration of the greenhouse or conservatory all the year round. One dozen strong plants in twelve of the choicest varieties, true to name, selected from a collection of over 100 sorts, 2*s.* 6*d.*, free per Parcels Post.—J. F. DACE, Florist, High Street, Leyton, Essex.

JOHN LAING & Co.

All Good Tubers just starting into Growth, free by Parcels Post. Catalogues Gratis.

OUR OWN UNRIVALLED VARIETIES.

Laing's Begonia Tubers.

Named Sorts, per dozen, Singles: A, 42*s.*; B, 36*s.*; C, 30*s.*; D, 24*s.*; E, 18*s.*; F, 12*s.* Named Sorts, per dozen, Doubles: R, 63*s.*; S, 48*s.*; T, 42*s.*
Unnamed Sorts, per dozen, Singles: G, 21*s.*; H, 18*s.*; J, 15*s.*; K, 12*s.*; L, 9*s.* For Bedding, per 100: M, 40*s.*; N, 30*s.*; O, 24*s.* Unnamed Sorts, per dozen, Doubles: W, 80*s.*; X, 24*s.*; Z, 18*s.*
Begonia Growers, Forest Hill, S.E.

SALES BY AUCTION.

TUESDAY NEXT.

Lælia anceps Schroderiana. Lælia anceps stella.

Two New White Lælia anceps.

MESSRS. PROTHEROE & MORRIS are instructed by Mr. F. SANDER to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY next, March 10th, at half-past twelve o'clock precisely, a small but especially fine importation of LÆLIA ANCEPS SCHRODERIANA, Richb. f., and LÆLIA ANCEPS STELLA. Both are extremely rare. See Prof. Reichenbach's description in Catalogue.

At the same time will be Sold a fine lot of ODONTOGLOSSUM ALEXANDRÆ, and many other Odontoglots and other Orchids.

On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

Lilium auratum, Roses, Plants, &c.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on WEDNESDAY next, March 11th, at half-past twelve o'clock precisely, 6,000 unusually fine and sound bulbs of LILIUM AURATUM and Iris Kempferi varieties from Japan in fine condition, 1,000 Standard, Half-Standard, and Dwarf Roses of the best sorts from English Nurseries, Camellias, Azaleas, Azalea Mollis, Palms, &c., from Belgium, African Tuberoses, 3,000 crowns Lily of the Valley, and an assortment of hardy English-grown Lilies and bulbs, Gladioli, Dahlias, Begonias, Gloxinias, &c.

On view morning of Sale, and Catalogues had.

FRIDAY NEXT.

Mexican Orchids.

MESSRS. PROTHEROE & MORRIS are instructed by Mr. G. MARRIOTT to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY next, March 13th, at half-past twelve o'clock precisely, the finest importation of MEXICAN ORCHIDS that has ever reached this country, consisting of a grand lot of Epidendrum vitellinum majus, E. Parkinsonianum, E. nemorale majus, Cattleya citrina (fine masses and extra large bulbs), Odontoglossum maculatum, O. Rossi majus, O. cordatum, Oncidium suave, Lælia anceps, L. albida, L. majalis, &c.; also a few established ORCHIDS, including Cattleya Skinneri alba, Cypripedium vexillarium, Odontoglossum polyxanthum, and Dendrobium Huttoni, together with a large quantity of Orchids in flower.

On view morning of Sale, and Catalogues had.

Sales for Next Week.

MR. J. C. STEVENS will SELL by AUCTION at his Great Rooms, 38, King Street, Covent Garden, during the ensuing week, as follows, at half-past twelve precisely each day:—

WEDNESDAY.—Imported and established ORCHIDS, in great variety, from Messrs. SHUTTLEWORTH, CARDER & Co., and other growers, and 5,000 LILIUM AURATUM.

WEDNESDAY.—1,500 First-class ROSES, FRUIT TREES, SHRUBS, BORDER PLANTS, BULBS, &c.

THURSDAY.—Valuable Importations of VANDAS, CATTLEYAS, ÆRIDES, and other ORCHIDS, from Mr. F. SANDER; 5,000 LILIUM AURATUM.

SATURDAY.—First-class ROSES, FRUIT TREES, SHRUBS, CLIMBERS, BORDER PLANTS, BULBS, &c.

On view mornings of Sale, and Catalogues had.

Flowering Orchids.

MR. J. C. STEVENS begs to announce that his next Sale of Flowering Orchids will take place at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY, March 18th. Gentlemen desirous of entering plants for this Sale will please send particulars not later than Thursday next, March 12th.

STOKE PARK, SLOUGH.

Stove and Greenhouse Plants, Orchids, &c.

MR. J. C. STEVENS has received instructions to SELL by AUCTION, on the premises as above, without the least reserve, on MONDAY and TUESDAY, March 16th and 17th, at half-past twelve precisely, each day:—The Collection of STOVE and GREENHOUSE PLANTS formed by E. J. COLEMAN, Esq., comprising fine Standard, Half-Standard, and Pyramid Azaleas, Camellias, Orange Trees, Eucharis, Crotons, Dracænas, Greenhouse Rhododendrons, &c. Also the Orchids, including many specimen plants of Dendrobium nobile, Cattleyas, Lælias, Odontoglossums, Phalænopsis, Cælogynes, and other species. A quantity of Callas, Fuchsias, Primulas, Pelargoniums, Bouvardias, Strawberry plants, &c.

On view Saturday prior and mornings of Sale, and Catalogues had on the premises, or of Mr. J. C. Stevens, 38, King Street, Covent Garden.

Lovely Lilies and Iris.

WM. GORDON has still the finest Collection of these. Buy of the Importer the lovely Lilies, Szovitzianum, each, 1*s.*, 1*s.* 6*d.*; Eximium, 1*s.*; Brownii, 2*s.*; Californiana, 2*s.* 6*d.*; Krameri, 1*s.*, 1*s.* 6*d.*; Album Krætzerii, 1*s.*; Tenuifolium, 6*s.* per doz. Over thirty varieties of Japanese Iris, all Hybrids, in all hues and beautifully marked, perfectly hardy, greatly admired last season. Six varieties, 9*s.*; twelve for 15*s.*; the thirty varieties for 30*s.* Lilium auratum, finest possible Bulbs, 4*d.*, 6*d.*, 9*d.*, 1*s.*, and 1*s.* 6*d.* each. Double African Tuberose flowering Bulbs, 2*s.* 6*d.* per doz. Tuberose, The Pearl, 4*s.* per doz.—Address: Twickenham, Middlesex.

F. SANDER & Co., ST. ALBANS,

ORCHID GROWERS & IMPORTERS.

An immense Stock of fine robust Plants always on hand.

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A. McINTYRE (late of Victoria Park) is now at liberty to undertake the FORMATION and PLANTING of NEW GARDEN and PARK GROUNDS and REMODELLING existing GARDENS. Plans prepared.

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NEW & CHOICE PLANTS.

STRONG ROOTED CUTTINGS.

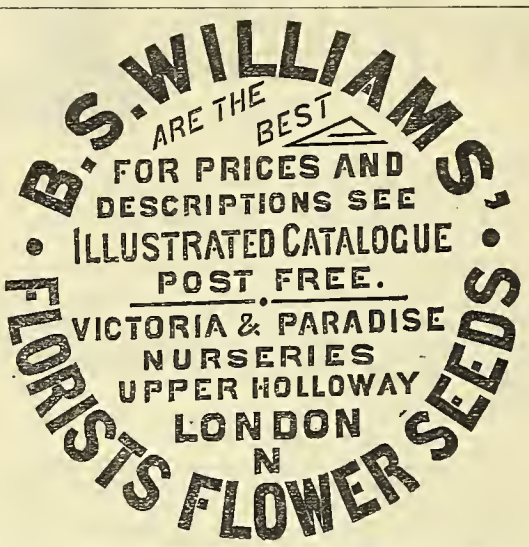
12 varieties Chrysanthemums, Incurved or Japanese, for 1885 7*s.* 6*d.*
12 ,, 1884 ... ... 3*s.* 6*d.*
12 ,, best older sorts... ... 2*s.* 6*d.*
12 Double Ivy-leaved Pelargoniums ... ... 3*s.* 6*d.* and 5*s.*
12 Splendid Tuberous Begonias, single 2*s.* 6*d.*, 3*s.* 6*d.* and 5*s.*
12 ,, Double varieties... ... 5*s.*, 7*s.* 6*d.*, and 10*s.* 6*d.*
12 Zonals, best sorts, single ... ... 2*s.* 6*d.* and 3*s.* 6*d.*
12 ,, ,, double ... ... 3*s.* 6*d.* and 5*s.*

12 Cuttings of above, 6*d.* less.

Choice Flower Seeds:—Begonia, 1*s.* 6*d.* single, 2*s.* 6*d.* double; Abutilon, 1*s.* 6*d.*; Primulas, from 20 varieties, 1*s.* 6*d.*; Cinerarias, 1*s.* 6*d.*; Single Dahlia, 1*s.* 6*d.* Large Packets of each.

Post free for cash with order. Catalogue one stamp.

R. OWEN, FLORAL NURSERIES, MAIDENHEAD.



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The following Catalogues are now ready, and may be had upon application.

HARDY PERENNIALS, ILLUSTRATED.

Thoroughly revised, contains many plants not previously offered, and includes nothing but really first-class showy plants. Also selections of Hardy Terrestial Orchids, Primula Sieboldi, Aquatics and Bog Plants, Ornamental Grasses, Bamboos, Helleborus, &c., &c.

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Including Show, Border, Clove, Tree, Yellow ground Carnations, Delphiniums, Phloxes, Pœonies, Violets, Pyrethrums, Pinks, &c., &c.

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A most complete Catalogue, including all the really first-class varieties of each section and the new ones of the present season.

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One of the most complete ever issued, comprising almost every hardy climbing, creeping or trailing plant of real worth.

THOMAS S. WARE,

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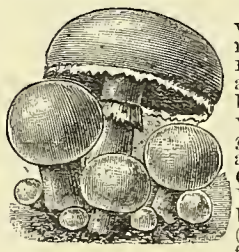
MILLTRACK MUSHROOM SPAWN.



IF ONCE USED no other will be willingly taken. Testimonials of high merit received every day.—"THE GARDENS, SANDRINGHAM.—I have tried all other Mushroom Spawn advertised, but none to be compared with yours, which I have used for the last *twenty years* without once failing a quick and good crop.—CHAS. PENNY, Gardener to H.R.H. The Prince of Wales."—Price Six Shillings per bushel, One Shilling extra per bushel (for packing), One Shilling per Cake free by Parcels Post.

HIGHGATE NURSERIES, LONDON, N.

ORCHIDS.

THOUSANDS of clean, healthy, well-grown Orchids at reasonable prices. Priced list on application.

JAMES CYPHER,

EXOTIC NURSERIES, CHELTENHAM.

N.B.—An inspection respectfully invited.

VINES! VINES!! VINES!!!

EXTRA Strong Fruiting Canes, 9 ft. to 10 ft., well ripened, price 6*s.* to 7*s.* 6*d.* each. Peaches and Nectarines in pots, splendid trees full of bloom buds, including Bellegarde, Sea Eagle, and Nectarine Peach (true to name), 5*s.* to 10*s.* 6*d.* each.

ELSDON & CO.,

The Vineries, Milton, near Cambridge.

GENUINE SEEDS.

JAS. VEITCH & SONS

ROYAL EXOTIC NURSERY, CHELSEA, S.W.

THE following CHOICE NOVELTIES of Proved Merit and Sterling Quality, should be grown in all Gardens:—

BRUSSELS SPROUTS, Veitch's Exhibition.

Unequalled for exhibition or for general use. The stems are entirely covered from top to bottom with large, firm, solid sprouts, which are of remarkably fine quality.

Per Packet, 1s. 6d.

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The best main crop variety for general use, pure white heads of fine texture, medium size, and finest quality; perfectly distinct and very desirable.

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CABBAGE LETTUCE, Veitch's Perfect Gem.

First-class Certificate, Royal Horticultural Society.

A most distinct, compact-growing variety, of a rich deep green colour, forming very early a close solid heart, beautifully crisp, juicy, and tender, and of excellent flavour.

Per Packet, 1s. 6d.

LETTUCE, Veitch's Superb White Cos.

The largest and best self-folding variety in cultivation, of superior quality, very crisp and fine flavoured.

Per Packet, 1s. 6d.

NEW TOMATO, Hackwood Park Prolific.

Two First-class Certificates, Royal Horticultural Society.

The finest Tomato in cultivation for exhibition or main crop, enormously prolific, handsome large smooth fruit of bright scarlet colour; flesh firm and solid, of finest quality, excellent flavour.

Per Packet, 1s. 6d.

NEW VEGETABLE MARROW, Pen-y-Byd,

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First-class Certificate, Royal Horticultural Society, and First-class Certificate, International Exhibition, Dundee.

This new, most distinct, and exceedingly prolific variety is by far the best of Mr. Muir's hybrids, and superior to any yet in commerce; the fruit, averaging about 6 ins. in diameter, is of handsome globular form, creamy white in colour, of finest table quality and particularly delicate flavour.

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ALL PACKETS FREE BY POST.

For particulars of above and other choice Seeds, see Catalogue forwarded gratis and post free on application.

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FERNS A SPECIALITY.

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ACME,
Apple-shaped, very prolific.

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Apple-shaped, very prolific.

ABUNDANCE,
A grand variety, heavy cropper.

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Rich coral red, very handsome.

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Early and prolific.

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Very fine American variety.

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Rather ribbed, fine variety, and prolific.

Special offer per ounce or per pound of above fine varieties of Tomato on application.

CATALOGUE of all the best Vegetable and Flower Seeds, free by post.

WATKINS & SIMPSON,

SEED AND BULB MERCHANTS,

EXETER STREET, STRAND, W.C.

GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 ozs. to the gallon of soft water, 4 to 16 ozs. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots Dry and Soft on wet ground. Boxes—6*d.* and 1*s.*, from the trade. Wholesale from PRICE'S PATENT CANDLE CO. (Limited), LONDON.

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By Royal Warrant To Her Majesty The Queen,

AND BY

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LAWN GRASS SEEDS

AWARDED

The Diplome d'Honneur, Amsterdam, 1883.

The Special Gold Medal, Melbourne, 1880.

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EVERGREEN MIXTURES

SPECIALLY PREPARED FOR

Garden Lawns,
Tennis Lawns,
Cricket Grounds.

PRICES.

Sutton's Mixture for Garden Lawns and Croquet Grounds	Per bushel,	25s. 0d.
	,, gallon,	3s. 3d.
Sutton's Mixture for Tennis Lawns and Bowling Greens	Per bushel,	22s. 6d.
	,, gallon,	3s. 0d.
Sutton's Mixture for Cricket Grounds.....	Per bushel,	22s. 6d.
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☞ *Sow 3 bushels per acre to form new Lawns, or 1 bushel per acre to improve an existing sward.*

"Your new plot of Grass is perfection itself, I don't think I have ever seen better."—J. C. FOX, Esq., Royal Horticultural Society, South Kensington.

"The new Lawn made with Messrs. Sutton's Grass Seeds has been a wonderful success. Everyone who sees it is astonished to find that it was only sown last May."—Mrs. CRESSWELL, Morney Cross.

"Your Grass Seeds have quite surpassed anything ever seen about here before. My employer desired me to express his pleasure in playing on such a close sward of sown grass." —Mr. J. McINTOSH, Gardener to W. Lowson, Esq., Taymount.

"I have a wonderfully good Tennis Lawn from the seed supplied by you last season. Although only sown the second week in May, the Lawn was actually played upon the first week in August."—T. W. FORESHEW, Esq., Witney.

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PAMPHLET ON THE FORMATION AND IMPROVEMENT of LAWNS from SEED

May be had GRATIS and POST FREE on application.

Sutton & Sons

SEEDSMEN BY ROYAL WARRANT TO H.M. THE QUEEN, AND ALSO THE FIRST SEEDSMEN BY SPECIAL WARRANT TO H.R.H. THE PRINCE OF WALES.

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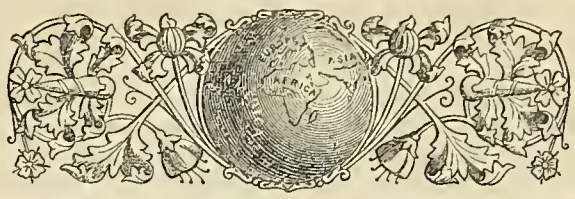

Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 7TH, 1885.

VIOLETS, SWEET VIOLETS.—If the voice of the turtle has not been heard in the land, and here as a rule, turtle is more eaten than heard, at least the voice of the street-seller of our sweet lowly Violet has been far from dumb, for the rush of these perfumed flowers into the market has been truly remarkable. It is one of the difficulties of market-gardening that no one can well forecast the nature of the crops or their incoming. This is the case with some flowers, Violets especially, at one time the plants bloom all through the winter giving up driblets of flowers, and that is a season over which the growers rejoice, for they can command both the labour and the floral markets. In such seasons there is no great rush of bloom, because the long season of dribbling has very materially exhausted the crowns.

The past winter has been a dissapointing one to some extent, because its open and comparatively mild character naturally led to the belief that Violets would bloom moderately all through. This was not the case. The fact was, that the long drought of the previous season running right into the winter, had told upon the plants and kept them restful to an unwonted degree. But when the other day we got almost a flood of water, followed by some warm sunny weather, there came a remarkable reaction, and the plants began to give up their sweet blooms in marvellous quantities, indeed in such profusion that the resources of the growers were taxed to keep pace with the supply.

Some, whose breadths were large, sent up 1,000 dozen bunches per day, and when rain fell heavily, kept the women gatherers sheltered with sacks, a relay of dry ones being at hand, in order that the picking might go on. Of course in such a case, the Violet harvest is a short one, and though there is an enormous quantity of flowers, yet not so very profitable, for the price falls rapidly until it becomes miserably low. The myriads of street sellers may then make a good market, but the grower finds a season of such far from being one of profit.

FRUIT PROSPECTS.—Several sunny days of real spring-like temperature have caused the buds on all kinds of fruit-trees to swell rapidly, and the promise of bloom is a glorious one. Nothing can well prevent a rich profusion of flowers on all kinds of trees, although the after-production is utterly beyond calculation; at least the spring, if it be ungenial, will not have the aid of imperfect bloom and unripened wood, as so often in previous years has been the case. It may well be doubted whether wood on trees was ever firmer or more thoroughly matured than it is now, and, judging by the plump nature of the buds, it would seem as if these were full of fertility.

In the ordinary course of events we ought to have a grand fruit season immediately before us, and although none dare feel assured, yet anticipation is strong that the event will be as indicated. All kinds of wall trees and of bush fruits share in the generally fruitful promise; and now that we have had such a splendid rainfall, and the tree-roots are well moistened, the soil should be fully capable of sustaining the trees and other crops when the demand is made upon it. It is no far-fetched assertion when we say that the present depression in trade will find strong counter-action in an abundant fruit crop, for such a crop means real gain in many ways; it means increased wealth, abundant employment for a considerable portion of the community, money put into active circulation, and through its aid a revival of trade. This does but need a start to create a general activity.

MELONS.—These fruits are produced in such exceeding variety and with such abundant nomenclature that it is difficult to keep pace with them. We have no intention to cavil at this prolificacy; it would be as reasonable to pen a diatribe against the rapid increase of the human race. The present year will no doubt bring not a few other assumed new kinds into prominence, and of that we shall not complain either, especially if the raisers can exhibit something in Melons that shows us real gain. Perhaps in few of our ordinary garden-crops has there been less advance seen, for size, form, and average cropping remains now about as those features were in the Melons a dozen years ago. The only thing in which any claim for advance can be set up is in the matter of flavour, and upon that point perhaps more is assumed than can be proved.

Melons unfortunately differ so much in flavour, even from the same plant. One fruit is perhaps delicious, another is as flat as a Turnip. That is not a feature with the majority of fruits or even of vegetables. One fruit of a Cucumber or Tomato eats just about the same as another from the same plant. Apples, Pears, Plums, and other fruits are about as alike as can be from the same tree; but the Melon is so erratic that, given one fruit out of half-a-dozen from any one plant to be exceptionally good, it is not possible to guarantee that any one of the remaining fruits will be equal in flavour and lusciousness. Can those who now and again produce what they believe to be new and improved forms of Melons undertake to raise any kind that shall have the merit of giving not only one of its fruits, but all of its fruits alike, and equally good?

We have yet ample room for flavour in Melons, indeed it is a notorious fact that of a score of kinds put up for competition the proportion really showing good flavour is always small; so small, indeed, as to render the duties of the judges exceedingly unpleasant, for a bad Melon is little less than obnoxious. Then it is well worthy of note that no one kind can ever be relied upon to come out the best; indeed, the kind that is placed highest at one Show may be amongst the worst at another. For that reason, judging Melons by appearance or even by perfume, can never be satisfactory; indeed it sometimes happens that the poorest-looking of the fruits may have the best flavour when tasted. What a gain it would be could we secure some one or more sorts the good qualities of which should be as marked, and as enduring, as are those of a Ribston Pippin Apple or Marie Louise Pear.

It is worth while asking Melon raisers whether they have not inter-crossed upon the same stocks too much to produce any further element of novelty, or of special value from such sources. Melons seem to want fresh blood, and why not try some from good sources? They grow fine Melons out at the Cape, few, if any, of which perchance are known here. Then we have read glowing accounts of the Melons of Central Asia, where they are grown in vast quantities and are

held to be specially delicious. Perhaps their best are no richer or luscious than our best are, perhaps not so good; but better or not, no doubt because of the warm ripening and stedfast character of the climate, the bulk are as good as the best, and there is little variation. It is said that seed of these sown in this country have but produced failure and disappointment, which is perhaps only natural, as our hot-house method of culture is hardly suited to such children of the desert. On the other hand, were some of those Asian kinds inter-crossed with our best sorts no doubt better results would follow, and how much better none can tell.

Perhaps these foreign varieties would succeed here were they grown in a cooler temperature and under the influence of sunlight as they have been accustomed to in their native habitats. Certainly we cannot give them Asian summers, but ordinary frames without bottom-heat ought to supply the deficiency. A race of hardy free-fruiting Melons, the fruit of which should be of good flavour and of soft luscious texture would be a great boon to us, and if some one would endeavour to raise such they would perhaps perform more service to horticulture than is now seen in the too abundant reproduction of old kinds devoid of improvement.

Seedsmen's Collections.—There lies before us one of those interesting products of seedsmen's enterprise and of postal simplicity, a small box of flower seeds, inclusive of sixteen packets, all neatly got up, and having upon them printed names and instructions as to character of plants, time of sowing, and other useful information. These sixteen packets are found in a stout cardboard box, have come by post through the aid of a twopenny stamp, and all for the small charge of one shilling. Intrinsically, the seeds themselves do not represent any considerable value. Probably in the bulk they are not worth more than sixpence at the outside, and if the matter ended there the bargain would be no great one to the purchaser. But then we must remember that these sixteen kinds of flower seeds must be kept in separate stores, and the labour involved in packeting them is not inconsiderable. Then there is the cost of the packets, with their lengthy printed instructions, the cost of the box in which the packets are enclosed, and finally, the charge of twopence postage, and when these items are taken into account, it must be admitted that only an enormous sale can make such a business element profitable.

But, whilst it may be admitted that the seeds intrinsically by no means represent the amount paid for them, the fact remains that, whilst in the seedsmen's drawers they are practically of little value to no one, it is when they are thus packeted and labelled, and sent all over the kingdom through the instrumentality of the Post Office, that their real value is realized. If through these humble means many thousands of small gardens are made for the summer time gay and beautiful with simple flowers, how great is the gain. Myriads of flower lovers in villages and elsewhere live remote from seedsmen, and perhaps could hardly obtain their small needs in this direction without great trouble and perhaps cost. It is here that the enterprise of certain seedsmen steps in, and at trifling cost, and with a minimum of trouble, sends the purchaser just what may be desired. Some seedsmen are even more liberal than is the one whose box is before us.

Aloe supralævis.—A very handsome Cape Aloe which is now flowering in the Cactus-house at Kew. It reminds one of a small and compact plant of Agave americana on a stem 4 ft. high. The plant bears three stout erect spikes, about a foot long, with numerous orange-buff flowers.

Gardening Miscellany.

The Fruit, Floral, and Scientific Committee of the Royal Horticultural Society will meet at South Kensington on Tuesday, when there will also be a Promenade Show. Messrs. William Paul & Son, Waltham Cross, will exhibit a large collection of Camellias in pots.

We regret to hear of the sudden death recently, of heart disease, of Mr. John Wilson, for many years gardener at Arundel Castle, Sussex.

Mr. William Thomson, Clovenfords, was on Tuesday elected president of the Scottish Horticultural Association.

Messrs. Wills & Segar, Onslow Crescent, South Kensington, have received a Royal Warrant appointing them Florists to Her Majesty the Queen.

The fences and other property in over one hundred allotment-gardens at Nottingham, were completely destroyed on Monday by a gang of men employed on relief-works by the Corporation.

The Battlesden Manor Estate, an extensive and picturesque demesne, nearly adjoining Woburn Park, has been bought by the Duke of Bedford for £120,000.

We hear that Messrs. James Carter & Co. are daily expecting an importation of a very select collection of new seedling Chrysanthemums from Japan, and that they expect next autumn to be in a position to show some novel and beautiful forms.

It is reported that the General Bulb Company, Vogelenzang, Holland, planted no fewer than 230,000 bulbs in the grounds attached to the New Orleans Exhibition. The Hyacinths were in flower at the middle of January.

Mr. Andrew Ross, for 50 years a Forester in the service of Sir James Dunbar, in Nairnshire, died last month at the age of 108 years, and was buried in the same grave as his father who died 29 years ago, aged 109 years.

It is proposed that trials should be made at Chiswick by the Fruit Committee, during the present year, of the newer varieties of Peas, Beans, Cauliflowers, and Potatos, and by the Floral Committee of Fuchsias, Caladiums, Carnations, Picotees and Pinks, Phloxes, and the various sorts of Ivies. Fellows or others who may be cultivators of these plants are invited to contribute for the purpose.

Mr. McLean, has sent us from Vinters Park, Maidstone, two specimens of twin-flowered Cyclamens, obtained from one plant. In both instances the twins are perfectly formed, but we cannot say they are pretty.

Mr. John Kennard, Swan Place, Old Kent Road, S.E., who is extending his old established business in various directions, has favoured us with a sample of his garden pots and Orchid pans. They are, it seems, made in Berkshire, of what is locally known as "sympathetic" clay, and for excellence of quality, neat shape, and good finish, are certainly much superior to the ordinary London make.

At the forthcoming Brighton Show, of the Bath and West of England and Southern Counties Association, a piece of plate, value ten guineas, will be awarded in the horticultural department, for a group of Orchids; also a cup, value £5, for a collection of fruit, and first and second prizes for six dishes of Strawberries. The Hon. and Rev. J. T. Boscawen, Lamorran, Probus, is again the steward of this department.

A Fine Cedar.—The following particulars of a very fine Cedar, in Bulstrode Park, near Beaconsfield, Bucks, may be of interest to your readers. This tree is situated in the park, about a quarter of a mile from the mansion. It does not appear to have lost any of its massive branches during the gales of recent years, nor are there the least signs of decay. An aged gardener spoke of aged men having said that in their early days it had very much the same appearance in size and leafage. The diameter of its range of branches, which is nearly uniform, is 100 ft.; the circumference of the trunk of the tree at 1 ft. from the ground is 26½ ft. At about 10 ft. from the ground the massive limbs spread out, forming a magnificent head of 25 branches which bear some very fine cones in the green state, measuring 2 ins. by 3 ins.—*Lillian King, Ivy Cottage, Bulstrode Park, in Forestry.*

HERBACEOUS PHLOXES.

I have often tried to raise Seedling Phloxes, but always in previous years without success. It may have been that the seed was not well ripened, though that did not appear to have been the case; but I am inclined to think that the fault lay in the time of sowing; for, having saved some seed late last autumn, I sowed it almost directly in a frame, but left the seed-bed fully exposed to the weather during the winter, and I discovered a week or two since that some of the seeds showed signs of germination. I placed lights over the frame at once, and now I have large numbers of seedlings, indeed I shall no doubt have hundreds of seedlings presently. The seed was saved from excellent kinds in various colours, and no doubt there will be found considerable variety when the young plants bloom, as I trust they will in the autumn.

That seed should thus germinate freely when sown almost as soon as ripe, and left exposed to the action of the air and rain through the winter, is evidence that our ordinary methods of keeping seeds stored and sowing in the spring is not always correct, especially where, as in this case, it has so often been found that spring-sown seeds would not germinate at ll. Perhaps the coating of the seeds hardens so much by exposure and drying, that germination cannot result; perhaps the fleshy kernel becomes dried and shrivelled.

Herbaceous Phloxes are so beautiful that doubtless many would grow them if they found raising fresh plants from seed to be easy. As it is, they may be increased by division just about this time with ease, and if trouble be taken to remove some of the young shoots and put them in under glass as cuttings, they will soon take root and produce plants of great value, for these blooming rather later, carry splendid heads. In this way they are very effective in greenhouses or conservatories.—*D.*

CARROTS AND THE CARROT-FLY.

For several years we have been so bady pestered with the larvæ of the Carrot-fly that it has been extremely difficult to maintain a supply of this root, especially for late use. Sometimes they would fail while quite small, or at about the stage of thinning, but more often immediately after that operation, when several remedies were tried, such as pouring along the drills a mixture of paraffin oil and water at the rate of a wine-glassful to a gallon; also a few handfuls of soot stirred up in a watering-can and applied in a similar way, but with no beneficial results.

Last year we determined to start early with the preparation of the ground for this crop, and as the old potting soil was removed from under the bench in the potting-shed, it was wheeled and spread over the ground selected. After this the ground was given a good dressing of lime and soot and also of common salt, and dug over in due course. About the second week in April the ground received a further dressing of fine soil and soot and a light dressing of salt, the whole surface being broken up with hoes and rendered fine before sowing the seeds. This was sown moderately thin so as not to require much thinning out. The crop did not present a very regular appearance at first after the seed came up, but this soon passed off as the plants grew larger, and from this plantation we had the finest lot of Carrots I have seen, and this after one of the driest summers we have experienced for several years. I attribute our success in a great measure to the salt and lime, and perhaps mostly to the former, as in a neighbouring garden, I have been informed, they were unable to grow Carrots at all until they applied the salt, after which the crop was all that could be desired.

It would be interesting to know if salt has any effect on the insect which has proved so destructive to Parsley, as stated by some of your correspondents. Here we have no trouble with Parsley except in early spring, and especially after a cold winter, when it is sometimes almost exhausted from constant and close picking. The failure to produce good late Carrots is by no means uncommon, and those who are troubled, as we have been, I would strongly recommend to give the above plan a trial. Our early Carrots, such as are grown in a frame on a bed of leaves and litter, and

those that succeed them on a warm and sheltered border, are seldom damaged by the grubs, but they are removed for use as soon as they get of a serviceable size.—*C. Warden.*

IMANTOPHYLLUM MRS. LAING.

Imantophyllum miniatum, or as our Belgian friends, and as we ourselves, for brevity's sake, would like to call it, Clivia miniatum, has long been a favourite in English gardens, but it was not until a few years ago that any improvement took place in the shape of its flowers, and the improved varieties in question were of Continental, not of English origin. First, if we remember rightly, came the variety Splendens, which had a more vigorous habit of growth, with an increase of size in the flowers, and the orange colour of a purer tint than in the ordinary miniatum. A few years later, Mr. B. S. Williams introduced the variety known as Martha Reimers, and which when awarded a First-Class Certificate, in March, 1881, was recognized at once as a still further step in advance. Martha Reimers is a vigorous grower, and produces grand umbels of bright orange scarlet blossoms, which are moreover of excellent shape.

We have now from Messrs. John Laing & Co., Stanstead Park, Forest Hill, a flower of a new variety named Mrs. Laing, which marks a still further advance. The flowers are large, and, as will be seen from the accompanying illustration, of a neat symmetrical form, the segments being broad and well rounded. It is decidedly what florists call a smooth flower, and in colour is a bright orange-scarlet. The umbel of flowers on the Messrs. Laing's plant measured 9 ins. in diameter, and consisted of twenty-one blooms, which may be considered pretty strong evidence of its being a vigorous grower. During the last few years some hundreds of seedlings have been raised, notably by M. Pynaert, of Ghent, yet we do not seem to be able to get far away from the orange shade of colour in the flowers. What is wanted now is a "break" in colour, but how it is to be obtained is another question—one in fact which we must leave to the hybridists.

The Imantopyllhum is a capital amateur's plant, as it will grow and flower as freely with ordinary care in a window as in a greenhouse, its thick fleshy leaves, which are easily cleaned with a sponge, standing the dry atmosphere of a room much better than the less substantial subjects usually grown. The plant likes a compost of rough fibry loam, leaf soil, cow-manure and sand, and it also likes plenty of root-room, though not to be too frequently potted, and plenty of water.

IMANTOPHYLLUM MRS. LAING.

CROCUS IMPERATI.

This is one of my most dearly prized hardy spring gems. It is a lovely species, but, more's the pity, so seldom seen; and yet, if lovers of flowers knew how beautiful it is, and how easily grown, they would secure it. I grow it in pots, about eight bulbs in a pot; they remain in them for about three years, and then the bulbs, which increase considerably during that time, are repotted in entirely fresh soil when thorughly at rest. But during the summer—the early part of the summer—when the bulbs have matured their foliage, they have a sprinkling of Clay's Fertilizer occasionally, and I am sure it is a mistake to allow the bulbs to become dust-dry.

It is an early spring-flowering Crocus, coming into flower just before the earliest form of C. vernus in the open-air. The external divisions of the flower are of a pale yellowish-cream marked with dark lines; the inner divisions are of a delicate, soft lilac-rose, or rosy-purple, perfectly captivating when the flowers expand and disclose their exquisite vernal beauty. Anyone may be well excused for going into raptures over a flower that is so charming. All that it requires is cold frame culture during winter when grown in pots, which it well deserves to be. In the open-air it is an object of great beauty on warm, sunny banks. It was found on the mountains of Calabria at a great altitude.—*R. D.*

FLOWER SEED SOWING.

Under this heading (*see* p. 413) I dealt mainly with hardy flower seeds. I purpose giving a few leading hints as to raising what may be termed greenhouse seeds. Many persons are found asking, How am I to treat so and so? The best I can do is to lay down a few general directions, leaving your amateur readers to apply them in the best way in their power. Many things come under the heading of greenhouse plants: Cockscombs, Cinerarias, Calceolarias, Primulas, Begonias, Fuchsias, Pelargoniums, Cyclamens, Gloxinias, &c. As a matter of course such things as Cockscombs, Gloxinias, and the like require more heat induce them to germinate than do some of the others named. Seeds of greenhouse plants do well if sown in pots or pans half full of drainage, broken crocks or charcoal. This should be covered with rough siftings of the mould, and then a layer of fine soil and silver sand, which should be moistened by means of a fine rose, if necessary. The seed should be sown thinly and evenly over the surface, covering them very lightly, shading them from the rays of the sun until the plants show the third leaf, then be pricked off into seed-pans ¾ in. apart, keeping them close and shaded until established, and giving a little air to strengthen them. As soon as they begin to touch each other the plants should be potted singly into small pots and kept in a cool airy part of the greenhouse near the glass, re-potting them when necessary, and growing on into size by all proper means. Things that partake of the character of stove plants require a moist bottom-heat to raise them in and to bring the tiny plants on into size for a time before they are taken into the greenhouse.

Soil for greenhouse plants is a matter of the first importance, and especially for sowing the smaller kinds of seeds in; the success or failure of the crop depends largely upon it. Gardeners sometimes speak of a "mellow loam," and this is a loam of a desirable character, a medium soil between the extremes of clay and sand, made rich with leaf mould and thoroughly rotted manure that can be rubbed to a powder in the hands, and the necessary quantity of silver sand to keep it free and open. These ingredients make a light friable compost, through which the young plants can easily penetrate, and which will not bake in the sun after watering. If the compost should be thought too heavy, more leaf-soil and sand should be added. It must always be borne in mind that the soil should be so light that the delicate germs may force their way through. And now as to sowing.

As a general rule, seeds are sown too deeply. From this cause they will often fail to grow; the seeds are pronounced worthless, and the seedsman is unjustly blamed. We state here an important fact which should be borne in mind. We might lay down this as a good rule: Cover only to the depth of the thickness of the seeds, and with the finest soil. In sowing in the open ground, such large seeds as Sweet Peas, Lupins, &c., should be sown an inch deep; Asters, Balsams, a half-inch; Cockscombs, Petunias, and such like, a quarter-of-an-inch. In sowing the very finest seeds, the soil should be pressed down firmly, and the seeds scattered very thinly over it, then dusted over with some fine soil, and gently pressed down again. The soil must be kept sufficiently moist to aid germination, and as soon as the seeds come through the soil, shading from the sun must be provided. The soil, whether in pots or in the open air, should be kept free from weeds and stirred with care; in the open ground the earth should often be loosened so that the plants may have the benefit of the rains and dews. And when it is necessary to water, use it when it has been long enough exposed to the air to have acquired its temperature, whether in the house or the open ground; the water should be distributed from a watering-pot through a fine rose, so as not to disturb the soil over the growing seeds, nor injure the expanding foliage of the young plants.

Just a few words as to making up a hot-bed in lieu of a greenhouse. In doing this the preparation of the manure is of importance, and it should be well turned over and shaken loosely previous to being used, if the bed is to retain its usefulness for any length of time. If obtained fresh and found to be too dry, it should be well watered and thrown lightly together to ferment. This will take place in a few days, and from three to four days afterwards it should be completely turned, shaken, and mixed; a second turning may be required, although one is usually sufficient. When this is cleared of rankness, the bed can be made. A place for the bed should be chosen where it is dry underneath, sheltered from the north as much as possible and fully exposed to the sun. It should be built up from 2 ft. 6 ins. to 4 ft. high, and wider by at least 6 ins. every way than the frame to be placed upon it. The manure should be well shaken and mixed while being put together, and firmly pressed by the feet. The frame should be placed on this and kept close until the heat rises, and three or four inches of sifted sand or light soil be placed on the surface of the bed. In a few days it will be ready for use; but air should be given night and day while there is any danger from rank steam. If the sand or soil are drawn away from the sides of the bed, they should be re-placed. When the hot-bed is used for seeds only, nothing further is necessary. Seeds sown in pots or pans and placed or plunged in the bed, the heat of which will soon cause them to germinate, or this will, after some time, decline. A lining should be added, that is, fresh, hot, fermented, but not rank manure, applied about a foot in width all round the bed. This will renew its strength and assist its usefulness. Now, that seeds are being sown in large quantities, the foregoing remarks may be found of advantage to some of your readers.—*Quo.*

Linaria antarctica. — This interesting genus of Scrophulariads yields a rather large contingent of ornamental plants to our flower borders and rockeries, among which may be especially mentioned as eminently worthy of cultivation, the comparatively tall L. triornithophora with its singular bird-like blossoms, the brilliant L. spartea with bright yellow flowers, the striking L. triste with its pale sulphur-coloured corollas contrasting with the blackish-brown palate; the more recently introduced L. maroccana, and L. reticulata aurea, both of them valuable border annuals; the pretty but less effective L. multipunctata, and lastly, but by no means least worthy of notice, the elegant L. alpina, now tolerably well known and cultivated as a rock and wall plant. To the dwarfer section of the genus to which the last named species belong, the Linaria anticaria is a very recent accession. Like the L. alpina it forms tufts of procumbent shoots clothed with small linear, fleshy, greyish-green foliage, the stems terminating in short racemes of whitish flowers, tinged with lilac-purple and delicately veined, freely produced for some weeks. Its cultivation involves no difficulty, but light warm soils seem to suit it best. It is strictly of perennial duration, but being apt to perish in severe winters as well as in wet ones, will be better treated as an annual.—*W. Thompson.*

SEEDLING DENDROBIUMS.

PERMIT me to call your attention to a paragraph at p. 407, which I venture to think is not only misleading, but inaccurate in one or two vital points. The statement runs thus:—"Dendrobium splendidissimum comes of the same parentage as D. Ainsworthii, but from a cross made at Chelsea, and very closely resembles the hybrid D. Leechianum, *which came out of the same batch.* In D. Ainsworthii the sepals and petals are pure white, but in D. splendidissimum they are suffused with a rich shade of rosy purple." Now, in *The Gardeners' Chronicle* of February 21st, 1874, p. 254, it is stated that "a First-Class Certificate was awarded to Mr. G. Mitchell, gardener to Dr. Ainsworth, Lower Broughton, Manchester, for X Dendrobium Ainsworthii, a hybrid between D. heterocarpum (Lindley's D. aureum) and D. nobile, and strongly partaking of the character of both parents. The petals and sepals are pure white, the lip broader and flatter than in D. nobile, and the blotch on the lip of a rich amaranth colour." In the same volume, p. 443, there are two woodcuts of this novelty, when again the ground colour is described as white, with a large blotch of rich amaranth, feathered at the edge, occupying a conspicuous position on the lip. The same journal, on March 8th, 1879, contains this statement:—"D. splendidissimum, raised in 1870, sepals cream-coloured, with some light purple around the margin of the tip. Petals quite alike as to colour but much broader." The lip is described as regards form, &c., and then it is stated "this organ has a tint more of yellow than the sepals and petals, while the disk is dark Indian purple (viz., blackish-purple) at the base, and has many radiating lines running out from the great blotch of the disk. The mother is Dendrobium aureum (heteorcarpum) there is no doubt, but a doubt has been entertained whether it was impregnated with D. nobile, or D. macrophyllum (Hutton's). It was, however, thought to be macrophyllum, because of the size of the bloom, so much larger than either D. heterocarpum or D. nobile. Flowers of splendidissimum being compared with D. Ainsworthii, the latter were found to be smaller, have a distinct shape of lip, far more hastate, very acute petals and sepals. Whatever it may be in its origin, it is distinct from D. Ainsworthii, though just as profuse in its flowering.—*H. G. Rchb., f.*"

In *The Gardener's Chronicle*, November 19th, 1881, in a list of hybrids raised at Chelsea it is again stated that D. splendidissimum is a cross between D. heterocarpum, the seed parent, and D. macrophyllum, the pollen parent. In the same periodical, March 12th, 1881, the late Mr. Spyers writes thus of D. splendidissimum and D. Ainsworthii:—"Whatever botanical distinction there may be between these two hybrid Dendrobes, it is now certain that, from a gardener's point of view, they are one and the same thing. Up to this year D. splendidissimum was certainly a much finer thing than D. Ainsworthii; but the latter having now got over the weakening process of rapid propagation, is getting much stronger every year, and has this year bloomed in every respect up to the splendidissimum standard." *The Chronicle* of March 5th, 1881, contains a letter of mine accompanying some flowers of my seedling Dendrobium, then unnamed, and at the close a note from the editor is inserted, which runs as follows:—"The seedling is a great advance on D. Ainsworthii, the flowers being larger, the petals conspicuously undulated, and the lip larger and more prominent, not recurved at the tip. The colours are almost identical." The same journal, on February 25th, 1882, for the first time chronicles Dendrobium Leechianum, a hybrid between D. aureum, Lindl. and D. nobile Lindl., the last being the seed parent:—"It is well compared with D. splendidissimum, but it deserves a name of its own. The petals are narrower, more acute, very wavy; the lip is lobed, and this reminds me of D. aureum, Lindl.; the flowers bear the finest white of the best varieties of D. nobile, Lindl.; the tips of the sepals, petals, and lip are of a rich rose-purple, and this appeared to me most striking when I opened the box, though it contained but a single flower of this novelty. Both sepals and petals are nearly totally rose-coloured outside. The anterior disk of the lip is occupied by a very large toothed dark purple blotch. Towards the base runs a broad callous line, with fine purple stripes, and there are on each side radiating purple lines running outside. The column is quite green, with purple longitudinal stripes, not with an ochre foot as is seen in Dendrobium splendidissimum.—*H. G. Rchb., f.*"

During the spring of 1882 I sent flowers of D. Leechianum to many of the principal growers in the United Kingdom. I am not permitted to use their names, but a line or two will convey the opinion of several of them as to the merits of the last of the three: 1. "Your flower is larger than our D. Ainsworthii, which is identical with splendidissimum. Also I think it has more colour and broader across the lip." 2. "Very fine; much better than any I have seen before." 3. "It is decidedly better than D. Ainsworthii." 4. "Much admired. I think it a beautiful thing; similar to D. Ainsworthii, but larger." 5. "Much pleased with your seedling Dendrobe. I consider it superior in every respect to its relative D. Ainsworthii." 6. "I consider it a beautiful thing; much finer in substance and richer in colour than D. Ainsworthii."

I think I have shown that as the seed-bearing parent of D. Ainsworthii was D. nobile, and of D. splendidissimum the seed parent was heterocarpum, that there is here just a reason for thinking these forms may vary somewhat; but be that as it may, I feel sure I have conclusively shown that D. Ainsworthii and D. Leechianum could not have come out of the same batch (of seedlings, I suppose). And I think it will be readily admitted that, since there are forms of nobile that are much finer than others, and the same remarks apply to D. aureum, if a hybridist uses the best varieties he can secure, he is warranted in anticipating a hyprid of equally superior excellence. I think, too, I have shown that in D. Leechianum I have succeeded in obtaining a hybrid that will not only be permitted to stand amongst the other two, but that in a very short time will be readily admitted to occupy the premier position.

I am sorry the writer of the paragraph should have made the mistake of supposing that D. Ainsworthii and D. Leechianum could have come out of the same batch.—*W. Swan, Fallowfield, March 3.* [The writer was in error in using the words "out of the same batch," what he meant to say was "which came of the same parentage." He regrets the error, and is much obliged to Mr. Swan for the correction.—*Ed.*]

PERPETUAL CARNATIONS.

THESE are among the most useful winter-blooming plants we have, commencing to flower as they do in early autumn, immediately after the summer-border kinds are over, and continuing uninterruptedly until the border flowers are again obtainable, they are indeed "perpetual" in every sense of the word. To have these plants in the best possible condition, they should be struck from cuttings early in the year, small side shoots should be taken off the flowering stems during January, February or March, and be inserted around the edge of small pots and placed either on a bed of fermenting material which has been previously well prepared, by allowing it to heat and frequently turning it. In such a position I have found them to succeed best, placing a little saw-dust or cocoa-fibre refuse over the bed to set the pots on. If any steam is likely to accumulate, a little air should be left on the frame night and day. Attend carefully to the watering as required, and the cuttings will root in two or three weeks when more air may be given. They may also be successfully propagated under bell glasses in a warm structure, and also in a propagating frame, if a little bottom-heat may be insured.

Another plan of inserting the cuttings I have adopted with great success. It is to use 5-in. pots, in which I put one good crock and a few small ones, and then stand a 2-in. pot in the centre, filling the outside space only with compost. The cuttings are inserted in this, and when the soil has settled down the small pot is easily removed by inserting three fingers and giving it a slight twist upwards. This enables us to see when the cuttings have made roots without in the least disturbing them. The other advantages of this plan may be said to be, (1) the small amount of compost required; (2) the increased depth of soil for the cuttings to root in; and (3) the prevention of overcrowding.

When rooted and moderately hardened by allowing them more air and light, they may be potted off singly into small pots and assigned a light position near the glass, keeping them a little close at first to give them a start, after which, cold-pit treatment will suit them. About May or June, if early struck, the plants will be ready for a shift into 5-in. pots, using a compost of loam, leaf-mould and a small quantity of dry-powdered cow manure and a good portion of sharp grit or coarse sand. The plants should have the protection of glass until they have taken to the new soil, after which, if the weather is not too wet, they may be stood on a bed of ashes out-of-doors. One more shift into 7-in. pots must be given when they have filled their pots with roots and again be stood out, but if the weather is very wet, they should have protection from the rain for a time. At intervals, from the time the cuttings commence to grow, they will require their points removed to keep them dwarf and bushy, and to be supported with stakes, as they are very liable to be broken at the collar, and neat plants cannot be grown of the tree section without them.

Some of the plants at least should be allowed to grow on without stopping their points after about August, to afford early blooms. If housed in a light house and afforded a temperature of between 50 degs. and 55 degs., they will continue in flower the whole winter. The following are useful varieties:—Scarlets: Alegatierre, Lucifer, Vulcan; Pinks: Annie Williams, Magnificent; pale Pink: Miss Joliffe; Yellow: Andalusia; Whites: Glorie de Nancy, Catherine Paul, White Swan, L'Hermine, Louise Ashburton; Rose: Empress of Germany, King of the Belgians; Crimson: Valencia.

Perpetual flowering Carnations may also be raised from seeds, good strains of which, producing seventy-five per cent. of double flowers, may be obtained of our leading nurserymen. The seeds should be sown in March in sandy soil in a little warmth, and be dibbled into pans and potted up when large enough. These will make useful plants either for pots or for planting out, but when the best results are looked for, procure plants of the best-named kinds and grow them from cuttings as above described.—*C. Warden.*

CHINESE PÆONIES.

THESE now form a very numerous group, many new varieties having been raised of late years, notably by Messrs. Kelway & Son, of Langport. Really they are noble plants: it has been said that they compare favourably with the finest hybrid Rhododendrons, and there is much truth in the remark, for the flowers are handsome, they show great diversity of colour, variations in tint, and perfection and duration of bloom. With these qualities there is in combination a massive foliage, and an accommodating habit. Furthermore, as an additional reason for recommending them to the notice of lovers of flowers, they are of easy culture. They are found to do well in ordinary garden soil; but they may be said to especially delight in a good, deep, fertile loam. They are objects of great and conspicuous beauty in the open border, and we have seen them employed with great effect mingled with the dwarf subjects in the foreground of a line of shrubbery.

The first blooms of the Pæony are always very massive, of great size and perfect in outline. These are succeeded by secondary flowers which are smaller, but both neat and beautiful. It has a decided value for cutting purposes, it lasts well, it travels admirably; and if a general collection is grown, many shades are supplied—from snow-white to the most intense crimson.

But few cultural hints are necessary. It is essential that the ground be deeply trenched before planting, and at the time of doing this, adding a lot of well-rotted manure. It is the custom with some to mulch the surface with manure after planting. Pæonies are strong feeders, and if any one has at their command a supply of liquid manure, several doses during the summer will be found of great advantage. This encourages growth at the proper time, and it is scarcely necessary to remark that the larger a plant is the greater is likely to be its decorative value. In planting the Pæony it must not be forgotten that it is a subject that flowers early, and the best position to

give them is one where the sun would not fall upon them until eleven or twelve o'clock. I can well remember, when, forty-nine years ago, my father, who was very fond of his Pæonies, used to syringe the the flowers of a morning before the sun fell upon them; and, as a matter of course not until danger of the water freezing on the flowers had passed.

The following is a good selection of choice named varieties: — Adelaide de Lache, rosy purple; Alba-plenissima, pure white; Alice Julvicourt, blush, centre white; Amabilis, satin rose; Ambrose Verschaffelt, rich purple, sweet scented; Bossuet, magenta rose; Carnea, delicate flesh colour; Charles Binder, rich magenta rose; Dakrica plena, purple; Formosa, black; Gloriosa, purple crimson; Leonic, blush white; Madame Furtado, magenta and salmon rose; Madame Lebon, rich purple rose; Officinalis rubra plena, rich crimson, very large; Purpurea-superba, rich glowing purple; Sir Stafford Northcote, rose, changing to pink; The Queen, blush rose, very large and fine; and Versicolor, deep rose All the foregoing are double-flowered varieties. There are a number of single-flowered varieties also, but, charming as they are, they do not take the same rank as decorative agents as do the double forms; their culture is in all respects the same as that recommended for the latter.

I remember that Mr. W. Robinson once suggested beds of Pæonies, associated with Lilies and Gladioli, and edged with Plantain Lilies (Funkias); and of the latter he mentions such fine varieties as subcordata grandiflora, for light green; Sieboldiana, for a blue green; and ovata for a dark green foliage; and of the variegated leaved kinds, viridis marginata, silver edged; and aureo-maculata, golden variegated foliage. Really fine combinations might be worked out by the employment of such agents.—*Quo.*

NOTES FROM GARDENS.

Harefield Grove Gardens.—In visiting Harefield a few days since we found that very considerable additions have been made since our last visit, about two years ago, and that a large staff of men are at the present time engaged in building several new fruit and plant-growing houses, some of them of great size. When these are completed, and this will shortly be the case, there will be 102 hot-houses, greenhouses, vineries, and other glass structures. To give some idea of the rapid growth of this establishment, it may be stated that the following glass-houses have been erected, or are in course of erection, since May last:—Twenty-eight houses, respectively for Odontoglossums (Orchids), 30 ft. by 11 ft.; Cyclamens only, 103 ft. by 9 ft.; propagating-house, 40 ft. by 18 ft.; Eucharis only, 52 ft. by 18 ft.; Gardenias (Cape Jasmines) only, 132 ft. by 18 ft.; Bouvardias only, 90 ft. by 12 ft.; Camellia-house, 30 ft. by 18 ft.; a seed-house, 36 ft. by 11 ft.; three Cucumber-houses, one 331 ft. by 15 ft., and two each 150 ft. by 11 ft.; a house for Melons only, 331 ft. by 9 ft.; a Lapageria-house, 50 ft. by 12 ft.; three houses for Peaches only, respectively 250 ft. by 13 ft., 250 ft. by 9 ft., and 150 ft. by 11 ft.; a house for specimen plants, 40 ft. by 19 ft.; a vinery for Gros Colmar Grape only, 68 ft. by 17 ft.; two vineries for Gros Maroc Grape only, respectively 68 ft. by 14 ft. and 65 ft. by 20 ft.; two other vineries for Gros Colmar Grape only, one 74 ft. by 17 ft., the other 103 ft. by 29 ft.; two vineries for Black Alicante Grape only, one 70 ft. by 18 ft., the other 103 ft. by 31 ft.; a house for Cherries only, 70 ft. by 10 ft.; two houses for Tomatos only, one 130 ft. by 9 ft., the other 130 ft. by 15 ft.; also a range of forcing-pits, 200 ft. long and 6 ft. wide; and in this lot of glass-houses there are over 36,000 ft. in length of glass structures, all fully heated by hot water.

There are 21 acres of orchards, in which 12,000 fruit-trees, 50,000 Gooseberry and Currant-trees, and 20,000 Strawberry-plants are planted; 4,000 Roses are planted out in the gardens, and 20,000 Rose-trees are cultivated under glass; 12,000 Strawberry plants are grown in pots for early forcing under glass; and eight houses, ranging in length from 80 ft. to 330 ft., are devoted to Cucumbers, 800 plants being planted out in the larger house; 1,250 Cucumber plants are already planted out for early forcing, and 750 have yet to be planted for later crops. Melons are most extensively grown here, several houses being devoted to their culture, and requiring 1,500 plants to stock them. There are twenty houses used as vineries, some of them of great size, one now in course of erection being 210 ft. long by 30 ft. wide, in which 150 plants of that very fine late Grape, Black Alicante, will be planted; 350 vines are now in fruiting condition, and 300 more will be planted this spring.

Eleven houses, ranging from 34 ft. in length to 200 ft., are devoted entirely to Peaches and Nectarines, the trees showing an enormous crop of blossoms. Forced French or dwarf Kidney Beans find a ready sale in Covent Garden, and are grown on a most extensive scale here, with an anticipated almost certain crop of 400,000 pods between March 1st and May 1st. Tomatos, another crop for which there is a great demand in London, are cultivated here on the same equally extensive scale as Cucumbers, about 2,000 plants being planted out annually. Mushrooms, another article for which there is a great demand in London, are largely grown here, one Mushroom-house being 78 ft. long and 17 ft. wide, with two shelves and the ground floor devoted to their culture. This house produced lately 1,200 lbs. of Mushrooms, averaging 1*s.* 3*d.* per lb. in Covent Garden.

After supplying the wants of the proprietor's family, the surplus stock finds ready markets in Covent Garden, Birmingham, Manchester, Sheffield, and other places. Flowers for the cut-flower demand are grown on a very extensive scale, and, notwithstanding the enormous amount of glass devoted to flowers, Mr. Gough is unable at present to keep up a sufficient supply. London is the great outlet for these, and very big prices are sometimes obtained, especially at Christmas. Gardenias, for instance, fetch good prices, their lovely fragrant flowers being especially in request for wedding bouquets, and command from 12*s.* to 50*s.* per dozen blooms. A new house, 130 ft. long and 18 ft. wide, is now in course of erection purposely for these plants, and, as they require considerable heat, an abundant supply of hot-water pipes is being laid down. Arum Lilies are grown in great quantities, and 18,000 Lily of the Valley plants have been flowered already this winter. The Tuberose flowers find a very ready market, as the flowers are so beautiful and fragrant, and are wanted for all purposes; 2,000 of these are grown annually. Bouvardias, another lovely class of flowers for all purposes, are grown here, no less than 5,000 plants being flowered annually.

For next winter's supply, 30,000 Roman Hyacinths and 20,000 Paper White Narcissuses are already ordered. Of course, the Maiden-hair Fern is an indispensable article in the cut-flower trade, and 20,000 plants are grown here, but these really fail to meet the incessant demand. There are many other plants, such as Azaleas, in large quantities; Camellias, a great lot; Orchids, Tree Carnations, Primulas, some grand Cyclamens, and a host of other things, besides Palms, ornamental stove plants, greenhouse plants, &c., &c. The Eucharis amazonica, a most beautiful ivory-white flower, in great request, especially for wreaths and crosses, will form a special feature here, as a large new house is in course of erection purposely for this plant, blooms being always in request, and at Christmas last were sought for at 15*s.* per dozen. The Banana in a high state of cultivation is rarely met with in this country. At Harefield, a house is devoted to its culture, and its luxuriant health is remarkable. These were planted out last March, and are now of considerable size, all of them with magnificent umbrageous foliage, and some bearing enormous clusters of fruit under home growth. Three large houses are devoted entirely to the cultivation of Pine-apples, English-grown fruit still maintaining a superiority over imported kinds, and realizing higher prices. These, however, are grown for private use only. Vast as the glass structures and the fruit and vegetable gardens are in extent, the pleasure grounds are not the least interesting feature of the place. The mansion is situated in beautifully undulated and well planted grounds, with rich-wooded surroundings. The summer floral display is always good, and on a big scale; for instance, 30,000 Gladioli alone will be planted this year. Close to the mansion, an immense croquet and lawn tennis ground, one of the largest and handsomest in the country, has just been made and planted, and altogether Harefield Grove must now be placed in the foremost rank of our great English gardens, thanks to the generous spirit of its owner, George Webster, Esq., and the clever gardening ability of Mr. John Gough.—*Walsall Observer.*

NEW GARDENING PATENTS.

[*Compiled by Messrs. Lulman & Co, 8, Essex Street, Strand, W.C.*]

2,109. Folding and Adjustable (Garden) Chair.—The side-bars of the chair have several notches on the upper sides; a cross-bar stretching between the parts of the frame fit in these notches, and is prevented from coming out by brackets. By putting the cross-bar into different holes the height of the chair and the inclination of the back may be adjusted.

4,389. Vine-rod Fastener (E. Delataste).—This consists of a piece of galvanized iron pressed into the shape of a double gutter for attaching the vine-rods to the wires of glass-houses.

6,510. Storing and Preserving Grasses, &c., Ensilage (T. Marsh).—This is a portable silo tank. A short cover cylinder is placed over the top of the tank, and connected therewith by long screw-bolts. These being screwed up by spanner, greatly compress the fodder, &c., and short bolts fasten the tank or cylinder ready for cartage, &c.

6,962. Rabbit and Vermin Trap (McCormick & Thomson).—To the upper part of a flat iron bar, which serves as a base, the usual strong spring-blade is attached. This spring-blade has two slots or holes in it, one on each side of the platform for the bait, with two pillars secured below to the base, passing through them. Above the slots, when the trap is set, two bars, bent at right angles, are jointed to these pillars, one to each. The spring-blade is fastened down between the two halves of the platform by a catch, which is easily disengaged by an animal treading on either half of the platform. The animal is crushed between the spring-blade and the two bars which are bent at right angles.

9,188. Garden Trowel or Planter (M. E. Rochfort).—The trowel consists of a taper cylinder (almost like a spade bent round to the cylindrical form of a flower-pot). This is provided with a long handle, in which is a step for pressure to be applied with the foot in the same way that a spade is pressed into the ground.

9,483. Flower-Pot Saucer (J. Knight).—The saucer is made of the same material as ordinarily used. It differs only in shape. The centre of the saucer forms a platform raised slightly above the level of the edge, and an annular channel is left all round. This may be filled with water, and prevents wood-lice, slugs, and other insects getting to the plant; it also serves to collect the superfluous water. Since the raised part, which is of the same diameter as the bottom of the flower-pot is above the level of the edge, the pot never stands in water.

10,408. Garden Engines (E. Newton).—Relates to garden engines, water barrows, and other wheeled garden appliances, and the object is to cause garden engines, &c., to run more easily, and prevent them from cutting into the path or lawn. This is effected by substituting two rollers on the same axis, but turning separately, instead of the wheels ordinarily used. The bottom of the pail or barrow is curved to fit over the rollers.

The Spade.—This is to horticulture what the plough is to agriculture, by far the most important implement in the garden. So much is this the case that, furnished with a good spade, the expert cultivator needs few other tools. It is most important that spades and their handles should be light and strong, and of such good quality that they not only last long, but improve by the wear and tear of frequent and constant use. Spades are made of different sizes, from 16 ins. deep and 10 ins. broad to 9 ins. by 5 ins. A capital size for amateurs is 1 ft. deep by 8 ins. broad. The best spades mostly measures an inch or so less at the point or cutting surface than at the upper or treading part of the spade. All the best garden spades now are faced with steel, the back being iron; and this juxtaposition of two metals of such unequal hardness results in the iron wearing away first and leaving the thin steel plate almost as sharp as a knife for cutting its way through the soil. The top of good spades is furnished with a plate, called the treader, which increases the power of the foot in thrusting it into the ground, and also protects the shoes in doing so.—*Popular Gardening.*

The Amateurs' Garden.

THE GREENHOUSE.

Some of the earliest Camellias will now have done flowering, and if the plants of these, or any of the others that are without buds, are potted at once in equal parts of peat and loam, and then placed where they can get a little heat, with a moist atmosphere, they will soon start into growth, and make their young shoots, after which they flower naturally long before they otherwise would. Epacrises and Heaths that have been cut back, as well as Azaleas, Deutzias, and plants of that class, that have gone out of bloom, also require a little warmth to start them, and they should be syringed both morning and evening, but in doing this, care must be taken not to get them too wet at the root.

Tulips, Hyacinths, and other hardy bulbous plants, that have lost their beauty in the greenhouse, should not be thrown away when they are turned out, but saved for planting in any of the borders, where, next year, they will help to make a show and continue to improve in strength for a long time to come. The great point with them now is to take care of the foliage, and keep it fresh and healthy, which may be done by standing the pots under shelter in any cold frame. Pelargoniums, both Zonal and Show varieties, will need re-potting, but it is not advisable to give them over-much room, as they flower best when a little pinched at the roots; and it is an easy matter to feed them by giving liquid manure, made from guano or any of the inodorous compounds now sold for the purpose. The most suitable soil for Pelargoniums is fibry loam, mixed with a little bone dust or fertilized, in which the plants should be potted quite firm, and then placed on a shelf, up near the glass, sun and light being essential to enable them to make stout, short-jointed, wood that will send up fine trusses of bloom. The Zonals are not subject to insects, but the Show and fancy sorts are almost sure to be assailed by green-fly, which must be distroyed by fumigating as soon as it appears, or the plants will be crippled and spoiled.

Herbaceous Calceolarias are also liable to aphis, but being very tender in the leaf, they will not stand much smoke, and the only safe way is to give them a little, both morning and evening, for two or three days in succession. The situation that the plants like best is one that is partially shaded and moist, in which they will grow rapidly now, and if re-potted, soon fill the fresh pots with roots. Those who are so fortunate as to have a stock of Achimenes, Gloxinias, and tuberous Begonias, will find this a good time to start them, which may be done by placing them in a hotbed frame, and giving just enough water to moisten the soil. Gloxinias and Begonias may also be raised from seed, and got to a useful flowering-size during the summer if sown at once and the plants nursed on in warmth. As the seeds are very small, they must not be covered; but scattered over the surface of fine soil, made smooth and level in a pot or pan, over which should be laid a pane of glass to maintain a regular degree of moisture, or the plants will not come up.

PITS AND FRAMES.

If Cucumbers and Melons have been started, they will require a lining to keep up the heat which must be maintained regularly at or above 65 degs. by night, and 75 degs. to 80 degs. by day, to get the plants to grow and fruit well. Those who have not commenced operations will find a good time now to begin, as with more sun, and warmer days and nights, there is not much difficulty in managing a hotbed, and no place is more suitable for growing the Cucumbers, which revel in the steam arising from fermenting material. This may be of tan, or horse dung and leaves, whichever is most come-at-able, the first-named being perhaps the best, as it is more steady and lasting. For propagating and seed raising, nothing answers better, and even with a single one-light frame, much may be done, as besides cuttings being struck, many plants may be raised for the greenhouse or garden.

To grow for the greenhouse, there are Balsams, Celosias, Schizanthus pinnatus and Grahamii, Cyclamens, Begonias, Gloxinias, Solanums, Cinerarias, Primulas, Petunias, and many other things; and for beds and borders, Lobelias, Verbenas, Golden Pyrethrum, Single Petunias, and hosts besides, later on, when the heat is more spent, as it will be time enough in April for Zinnias, Asters, and most of the annuals. As soon as the seeds are up, they can be moved to the Cucumber frame to get more light and air, and from there, in a day or two, to a cooler temperature, and their places taken by others, or cuttings; these will now strike freely, and should be put in from day to day, or just when they can be obtained, as there is little time to lose if plants are to be got to a useful size for planting in May.

The best place for rooting the bedding kinds of Pelargoniums is a light shelf in a warm house or pit, where they will not damp, and should only have just water enough to keep the leaves fresh. Smaller and less succulent things, such as Lobelias, Coleus, Alternanthera, Verbena, Ageratum, Heliotrope, and others of that class, need a close confined atmosphere to induce them to grow, as flagging is fatal, for they seldom get up again. Excepting Pelargoniums, few, if any, of the other bedding plants need be potted, as they do quite as well, or better, pricked out in light leafy soil in pits or frames, from which they lift with large balls, and may be transferred to their summer quarters without feeling much check.

THE FRUIT GARDEN.

As the buds of vines are now on the move, those about planting young canes should lose no time in carrying out that operation, for, if deferred till later, there will be much danger to the shoots, which will then have started, and not only that but any disturbance after will cause a check to the plants. The preparation and making of the border was touched on some time ago, and, presuming this has been formed and ready, the thing now is to turn the vines out of their pots and shake the soil away from the roots which should then be carefully uncoiled, and, when this is done, spread out regularly in the new border and be there buried about 3 ins. deep, but on no account shorten the canes, or they will bleed at the cut, which will weaken them considerably and cause them to break feebly, instead of starting away strong as they ought to do.

To assist them in doing this, it is necessary to mulch over the soil above their roots with a layer of horse droppings or other manure, and to syringe the rods with tepid water, so as to moisten the buds, this damping being of great benefit during the afternoon of bright sunny days, when the lights or ventilators should be closed early to make the house warm. These latter remarks apply also to established vines, which ought now to be encouraged in the same way, and if this is done so as to get them to start early there will be no difficulty in getting the Grapes ripe at the end of the season.

If there are plants in flower on the stage that would be injured by the wetting, then the pathways, floor, &c., may be damped, which will make the atmosphere moist and genial and be productive of nearly as much good as the syringing.

Apricots are now showing colour and will quickly be open, and Peaches and Nectarines will follow quickly after, which being so, protectors should be in readiness to put up in case of frost or be hung at once to let down by night, and thus render the blossoms safe from the cold. If kept dry they will stand a good deal, and in connection with the covering it is a good plan to have a coping just above the heads of the trees, which coping may be a 9-in. board, as that, if fixed securely, answers as well as anything just for a time, but it should be taken off early, or, by excluding sun and light from the top shoots, it will injure them when they form. Sparrows and bullfinches are now busy with the buds of Gooseberries, Currants, Cherries, and Plums, and, if not killed or scared off, they will soon strip the bushes or trees, as their appetites seem voracious, for it is surprising how quickly they clear all the branches.

THE VEGETABLE GARDEN.

It will now be a busy time in this department, but before proceeding very far with manuring and digging it is better to decide on what is to occupy the ground, and to have a plan of cropping; as by a system of this kind much more may be got from the land, and the produce will be finer and better. A good way of managing is to have potatos 4 ft. apart, and then plant Brussels Sprouts, Broccoli, and such like between, and the same again with Peas, which never do so well, as they do at wide intervals, when they get full light and sun along both sides of the rows. Root crops, such as Beet, Carrots, Parsnips, and Turnips, require little or no manure if the soil is fresh and good; but Onions, Leeks, Cabbages, Cauliflowers, and Lettuces cannot well have too much, provided it is not rank, and is properly decomposed, in which state the plants can feed on it at once.

The way to get fine Onions is to deep dig the ground, and then make the surface firm by treading, and level and smooth and free from stones by raking, when the seed may be sown. This should be done at once, in drills, 10 ins. or so apart, and just deep enough to cover it, which covering may be accomplished by drawing the loose soil back into its place. Leeks can only be had with big blanched stems by sowing and raising the plants early, and then planting them out in trenches prepared after the same manner as those for Celery, and gradually earthing the Leeks up as they grow. The seeds to sow now are Parsley, Parsnips, Brussels Sprouts, a little Cauliflower, Lettuce, Spinach, early Milan Turnips, Radishes, Nantes or French Horn Carrots, Peas, and Broad Beans, the three first named sufficient for full crops, and small beds or short rows of the others, that more may be put in again for successions.

To keep finches off, the beds must be netted, or the seed protected; and a good easy way of doing this is to moisten it with milk, and then dust it with red lead before sowing, the greasy nature of the milk making the lead adhere, and when so coated no birds will touch it at all. Young plants of Cabbage, Cauliflower, and Lettuce that have stood the winter should be planted out at once, the two former in drills drawn 18 ins. or 20 ins. apart with the hoe, and the latter on level ground, but all in land that has had a good dressing of rotten manure. In planting, the great thing is to lift the plants with as much ball as can be secured by taking them up with a trowel, and putting them in again by the aid of the same tool, as then they suffer no check, but start off at once.

A few Myatt's or Ashleaf Potatos may be put in on a warm border, and the seed in store ought to be laid out thin in a light, airy shed, as so much depends on getting them to make good strong shoots, which, under such favourable conditions, they are then able to do.

EARLY SPRING FLOWERS.

Winter Flowers some of them may well be designated, for they are not content to wait till the more genial spring weather, but while the wind is still heavily charged with the icy cold of the north, they hasten to greet us, as if to say that spring is coming at last. And we welcome them right gladly; for however much we appreciate the pleasures which winter brings in its train, there is something desolate and melancholy in the face of nature at this period, and we soon grow weary, and look for the time when all will be smiling again.

Very impatient, too, some of these early flowers are to show themselves,—the Christmas Rose, for instance. We are hardly sure that it may not be one of last year's stragglers, until we remember that a period of rest has ensued, and that this early flowering is only a precursor of another season of growth. The Winter Aconite is perhaps the next on the scene,—unless, indeed, it be the Snowdrop. But what a charming little plant this Winter Aconite is! Quite a button-hole in itself, all ready to hand. A pretty little yellow flower with an elegantly-notched leaf surrounding it, without a particle of wire to secure it in position. Here is a little anecdote about this particular flower. The writer, when a boy, had completed a painting of the plant, and was viewing it with evident satisfaction;—the laws of perspective, it is true, may have been gloriously ignored; the subtleties of light and shade altogether neglected; but there it was, and who that knew the plant would not have recognized it? But alas! a more experienced hand appeared on the scene, and viewing the youthful artist's attempt, remarked, "Why, it looks like the moon in the middle of a tree."

But our object at the present time is not so much to prove that drawing is not in our line, as to

speak of a few of the more interesting hardy flowers met with in a stroll round the herbaceous border and open rockwork the other day. First, then, on a sunny corner of the rockwork we found quite a nest of those little gems, the early Saxifrages. There was S. sancta, and S. juniperina, with the little heads of yellow flowers, appearing from the centre of the rosette of leaves; S. Burseriana, with numerous solitary white flowers of ½-in. in diameter; and S. oppositifolia, with bright rosy purple flowers. S. ligulata and S. orbicularis were of course present in force. The Doronicums are not out yet, but the buds are already large and will make a brilliant show before long. Iberis gibraltarica is opening out well, and is unsurpassed in the genus for effect; while the hardier I. Garrexiana is clothing itself with a sheet of white. Draba aizoides much resembles one of the previously mentioned yellow rosette Saxifrages, and looks well on a rocky corner. The tiny Ionopsidium acaule will soon be covered with its pretty lavender flowers, as already they are opening. It is first-cousin to the Draba; also to the white Arabis alpina which will soon be a sheet of white, and a happy hunting-ground for the industrious hive-bees, who we are sure are not sorry to see these tokens of returning spring.

The Hellebores cannot be passed over,—the white H. olympicus; the tinted H. niger ruber; the green H. fœtidus and H. lividus; the dark, dull purple-coloured H. orientalis purpureus; and the group comprising H. purpurascens, H. atrorubens, H. intermedius, H. colchicus, and others, with flowers running through the various shades from rose to dingy-purple are welcome additions to the list of early flowers. We found, too, under the shelter of some large stones a plant of Geum montanum, with three of its large orange-yellow flowers expanded. Hepaticas red, white, and blue, and both single and double, were not wanting, and where they do well there is nothing more pleasing or effective. The pretty rosy-purple flowers of Cyclamen coum and C. vernum are also now seen to advantage. One or two bulbs cannot be overlooked, and first perhaps may be placed the lovely Scillas. S. bifolia and S. sibirica, which form such a pleasing contrast to the pure white of the Snowdrop. Then there is a very early Grape-hyacinth in full flower, Muscari lingulatum, the flowers being of a clear sky-blue,—a charming thing. The Crocuses are so well known, and so numerous that a passing mention is all that can be given, but we should like to say that they are nowhere more effective than where planted here and there among the grass.

The plants we have mentioned by no means exhaust the list of pretty things in flower that could now be compiled, but we have space only to mention some charming flowers sent us by Mr. Ware, and a few of which our artist has depicted in the accompanying illustration. The Hoop-petticoat Narcissus, one of the purest gems of early spring, will be recognized at once. Next comes a scarlet Anemone, not the wind-flower of English woods, but the dazzling Anemone fulgens; a pretty purple-stripped Crocus; then the light rose-tinted variety of Christmas Rose, called ruber, followed by the purple variety of Helleborus orientalis. The Iris is the exquisite I. reticulata, the beauties of which no artist in black and white can ever do justice to; and the Snowdrop is represented by a small flower of Galanthus Elwesii, the largest and finest of all the Snowdrops. Since the above came to hand we have had another handful of spring flowers from the rich collection at Tottenham; and which included the ever-welcome Water Hawthorn, Aponogeton distachyon, whose white forked infloresence, and delicious odour of "May," all appreciate; Crocus Imperati, and a variety with foliage about 2 ins. longer than that of the type species; the pale yellow-flowered Fumitory, Corydalis bracteata; the pretty, pale lilac-flowered Primula obconica or poculiformis; the Glory of the Snow, Chionodoxa Luciliæ, perhaps the prettiest hardy bulbous plant of recent introduction; the Snowflake, Leucojum vernum; and last, but by no means least in importance, the single Daffodil, Narcissus, Pseudo-Narcissus, and the double form of N. Telamonius.

HARDY SPRING FLOWERS.

DAVALLIA POLYANTHA.

A fine specimen of this beautiful fern is at present to be seen in excellent condition in the well-kept garden of T. J. Bolland, Esq., Broome House, Didsbury, near Manchester. This plant is in a pan nearly 3 ft. in diameter, and so freely has it grown that some of the stout rhizomes have come over the sides of the pan and hang down from 2 ft. to 3 ft.; and as the plant is well elevated on another high pot the rhizomes are perfectly safe from fear of bruising or rubbing against other plants; in fact, its size will not allow of its being often moved about.

The plant as it is raised up above its fellows measures 8 ft. across, and by measuring over the fronds from one side to the other 10 ft. scarcely covers it. Altogether it is the finest specimen of this species I have ever met with. Davallia Mooreana is also well represented in a healthy specimen measuring 8 ft. across. The different shades of green of these two Davallias is very noticeable, and when the young fronds appear the contrast is even more distinct The bright rosy pink of D. polyantha gives it a character that is only to be met with in a few species of ferns. Associated with these is a large plant of Brainea insignis, measuring 4 ft. across, one that I have known for a considerable length of time, and have always found it doing well under the management of the painstaking gardener, Mr. J. Fletcher.—*W. Swan, Fallowfield.*

PANAX MURRAYI.

This stately plant was obtained from the South Sea Islands for Mr. W. Bull, in whose establishment it flowered in May 1881, where it received the provisional name of Aralia splendidissima. But it has proved to be a genuine Panax, very closely allied to, and possibly identical with, P. Murrayi, of New South Wales and Queensland. A plant was sent to Kew by Mr. Bull, which is now said to be 4 ft. high, with a stem as thick as the wrist. A figure is given in the February number of *The Botanical Magazine.* The leaves are elegantly recurved, forming an umbrella-shaped crown, 8 ft. in diameter, and with about ten pairs of lanceolate leaflets, 3 ins. to 6 ins. long. The racemes are crowded at the apex of the stem, and bearing numerous greenish brown flowers, all of which are male. The Australian plant is said to be a splendid tree, 50 ft. to 60 ft. high, and trichotomously branched. Without fruits it seems impossible to prove the identity of the two plants.

FLORICULTURE.

Mr. Iggulden on the Chrysanthemum for Exhibition and Decorative Purposes.—On the evening of the 27th ult., Mr. Iggulden, gardener at Marston House, Frome, read a paper on the Chrysanthemum, at the Institution Hall, Yeovil. Mr. Iggulden dealt with his subject under the following headings:—(1), Exhibitions—their objects and results; (2), groups of plants and their arrangement; (3), trained specimen plants; (4), conservatory plants, with remarks on late displays; (5), cut blooms, and how to grow and show them; (6), general remarks; (7), selections by three of the most successful growers of the day. Although he could not lay claim to be included in the list of most successful exhibitors, yet he had been a close observer of the practice of other people, and could number among his personal friends many clever growers of the flower—four of whom, namely, Messrs. Molyneux, Orchard, Herrin, and Mease, had kindly assisted in arranging his lecture. One of the primary objects of the promoters of exhibitions should be to afford a stimulus to the production of high-class plants and flowers, and the providing of a display which would prove instructive, as well as attractive and interesting, to all classes of the community. If these aims were realized, the Show was almost certain to be a success.

After giving some sound advice with regard to the arrangements of the details of an exhibition, the lecturer passed on to the subject of "groups of plants." The groups of plants and the array of cut blooms were the greatest attraction of a Show. In fact, the formally trained specimen plants were fast becoming unfashionable, and he thought would soon become "things of the past." Although specimen plants required much skilful growth and preparation, yet he thought that they did not repay for the trouble, and that a good exhibition could be arranged without the assistance of a single trained plant. Groups of plants were the order of the day, and good groups were well worthy of imitation and encouragement. It was with groups more especially that local growers had the opportunity of distinguishing themselves, and very few employers would object to their gardeners exhibiting in this class. The pots containing plants for arrangement in groups should be limited to 9 ins. in diameter, but there should be no limit to the number of the plants to constitute a group. A good group of plants should comprise a considerable number of varieties, and every shade and colour procurable should be included and judiciously mixed. The front row should include comparatively dwarf sorts and Pompons; good medium-height sorts should be in the next row; while for the back row the tallest sorts only were suitable. He hoped that this branch of Chrysanthemum culture would be encouraged by the Yeovil Committee. Although at first sight it might seem a lot of trouble before particularly good results were achieved, yet a cultivator who prepared his plants as he had advised would have no difficulty in finding a few good blooms for competitions, without unduly weakening his group, and even those who did not compete at Shows would find much more pleasure in this mode of culture. Although trained specimens continued to find favour with some growers, yet he could not help feeling that they were monuments of misplaced zeal, and therefore ought not to be encouraged.

Passing on to cut-blooms, and how to grow them, he considered that growing plants for affording fine cut-blooms was the most interesting work connected with Chrysanthemum culture. The best blooms annually shown at the London Shows were those produced on untopped plants, some of which attained a height of 10 ft. and upwards. Chrysanthemum fanciers who had not seen a London Show could scarcely have any idea of the wonderful perfection of the blooms that now won the premier prizes. At any rate, he had not seen anything in the West of England at all approaching them for size and finish. The principal prize-winners at the Bath and Bristol Shows would have no chance at all either at the Southampton or London Shows. He hoped that the Yeovil district would in time make its name among Chrysanthemum growers, but it took more than one season to thoroughly master the subject. He did not say this to discourage any one, but he wanted to tell them that a careless grower would not be "in it," and that it was only the painstaking and industrious who would succeed. In the cultivation of plants for cut-flowers, he recommended the free use of bones and oyster shells both in the drainage and in the soil, a liberal sprinkling of soot, and a frequent supply of liquid manure until the colour of the flower began to show, when clear water only should be given. He gave detailed instructions with regard to disbudding, staking, &c., of the plants, and how to remove the side-shoots in order to concentrate the strength of the plant in the few buds intended to come to perfection. He also fully explained the process of "cupping" and "dressing" the flowers for exhibition, and gave a large number of the names of the flowers preferable for exhibition purposes. He held that Pompons were out of place among cut-blooms, unless shown in bunches, and disbudding those plants meant disfiguring. The lecturer then passed on to refer to conservatory-plants, showing that by careful culture it was a comparatively easy matter to provide a display of bloom from July till late in February, and pointed out the different modes of treatment of the late and early plants.

Under the heading of "general remarks," the lecturer gave the constituent parts of the soil congenial to the health of the plant—for the early pottings, two parts of good loam to one of leaf-soil, in addition to silver sand; while for later shifts the loam should be fibrous and roughly broken up, and a quarter of an inch of bones placed in the bottom of every 8-in. pot, together with an admixture of oyster shells. He also gave instructions with regard to the best means of destroying the insect pests which often attack the plant. In the course of his lecture, Mr. Iggulden exhibited photographic views of groups of plants in flower (lent by Mr. C. Orchard, of Coombe Leigh, Kingston-on-Thames), showing at a glance the general arrangement and the effect produced. He also illustrated, by means of late flowers which were still in bloom, the system of "cupping" and dressing. Mr. Iggulden read a list of sorts recommended by Mr. Herrin, of Gerrard's Cross, (who took the principal prizes at the last Show of the National Chrysanthemum Society); by Mr. W. Mease, Wyncote, another famous cultivator; and the following list recommended by that eminent cultivator, Mr. Molyneux, which we think of sufficient importance to Chrysanthemum growers to give in detail.

Incurved.—Empress of India, Golden Empress, Queen of England, Alfred Salter, Lord Alcester, Jean d'Arc, John Salter, Princess of Wales, Hero of Stoke Newington, Princess Teck, Mrs. Heale, Jardin des Plantes, Prince Alfred, Lord Wolseley, Barbara, Beauty, Venus (white), Nil Desperandum, Cherub, Baron Beust, Lady Carey, Mr. Bunn, Lady Hardinge, Emily Dale.

Large-Flowered Anemones.—Acquisition, Fleur de Marie, Georges Sand, Gluck, Lady Margaret, Madame Goderau, Mrs. Pethers, Marguerite de Telleville, Queen Margaret.

Anemone Japanese.—Fabias de Maderanaz, Mdlle. Cabrol, Madame Clos, Sœur Dorothee Souille, Madame Bertha Pigmy, Souvernir de L'Ardenne.

Japanese.—Mdme. C. Audignier, Meg Merrilees, Baron de Prailley, Fair Maid of Guernsey, Boule d'Or, Comte de Germiny, Marguerite Marrouch, J. Delaux, M. Astorg, M. Burnet, Val d'Audoire, Peter the Great, Thunberg, Mdlle. Lacroix, Fanny Boncharlet, Mrs. Mahood, Triomphe de La Rue du Chatelet, Golden Dragon, M. Ardenne, Criterion, Duchess of Albany (Jackson), Elaine, Japonais, Mons. Tarim.

Pompones.—Pygmalion, Madame Martha, Golden Marthé, Fanny, Mrs. Bateman, Nelly Rainford, Marabout, Pablo, Adéle Pressette, Golden Circle, Puisinante, Touisaint Maurissot.

Anemone Pompones.—Antonius, Mdme. Montels, Queen of Anemones, Marie Stuart, Calliope, Aglaia, Perle, Sidonie, Marguerite de Coi, Firefly, Mr. Astie, Perle Margaret.

Reflexed.—King of Crimsons, Golden Christine, Mrs. Forsyth, Cloth of Gold, Pink Christine, Phidias, Dr. Sharp, Cullingfordii, Sir E. Landseer, Felicity, Emperor of China, and Peach Christine.

The lecturer's remarks, and the discussion thereon, occupied nearly two hours and a-half, many questions being asked, and readily answered. A cordial vote of thanks to Mr. Iggulden was heartily given, and duly acknowledged.—*Condensed from Pulman's Weekly News.*

FLOWERS.

Seasonable Work in the Plant-houses.—In anticipation of bright sunny weather, which we may now expect, shading material should be got ready to hand. Having had so little sun lately plants will be all the more liable to damage when the sun does break through. Although we believe more damage is done by over-shading, than otherwise, yet it is necessary that some plants should have a slight protection through the middle of the day, but care should be taken that it is removed as soon as the direct rays of the sun are off the glass. Another point of importance just now is that plants should on no account be allowed to suffer for want of water, and, where ventilation has to be given, the houses must be closed early in the afternoon To open before the temperature has risen too high, and to close as soon as it begins to fall, is a rule that should be strictly enforced.

Pricking off Seedlings.—Various plants that are annually grown from seed, will soon be ready for pricking off, and this should be done in all cases as soon as the young seedlings are large enough to handle, in some cases, perhaps, before they are large enough to be picked out singly with the fingers, and in such cases it can be done with the point of a knife or a finely pointed stick. Gloxinias and Tuberous Begonias are among the things that should have the most careful attention in this respect, as if left too long in the seed-pots they are not only liable to damp off, but some of the most vigorous plants, which are often inferior in quality of flower, &c., will over-grow and destroy the weaker plants, which if saved will often prove to be of finer quality, especially in point of colour. We have particularly noticed this to be the case with Gloxinias, the blues and dull reds being the most vigorous, while the whites, bright reds, and spotted varieties are generally of weaker habit; and it will be found to be the same with the Begonias, that is that the dull colours are generally of the most vigorous growth. We believe it is from this cause that fault is often found with the strain when the seed is bought. We have always made a practice of saving as many of the seedlings as possible; and have often proved that had the weakly plants been destroyed some of the choicest gems would have been lost. In preparing the compost for pricking off seedlings, the greatest care should be taken that it does not contain any substance that is likely to produce fungus, and that it is free from worms. As leaf-mould is almost sure to contain worms, we like to bake it before using it for this purpose, and a sprinkling of soot in the drainage will prevent the worms from penetrating the bottom of the pots.

Euphorbia Jacquiniflora. — This, like the Poinsettia, can be propagated either from the old wood, as soon as the plants have done flowering, or from the young shoots in the spring. We prefer the latter method. To secure good cuttings the old plants must have a little attention to induce them to make good strong growths. We like to take the cuttings when they are about 3 ins. long, cutting them off close to the old wood; a little dry sand should be at hand to apply to the cuttings as soon as they are cut off to prevent their bleeding, and only those leaves that are quite close to the base of the cutting should be removed, and the cuttings only be put in deep enough to keep them firm; they require to be kept quite close, and to have a good brisk bottom heat, but must not be kept too moist.

Celosia pyramidalis aurea.—Both this and the crimson variety may be included among the most useful flowering-plants for summer and autumn use, and the present is a good time to sow the seed. Their cultural requirements are similar to those of the Cockscomb (Celosia cristata), the only difference being that instead of being allowed to stand in the small pots until they show flower, they should be potted on as soon as the pots are filled with roots, and every encouragement be given them to grow on vigorously; they will then branch out and form beautiful pyramids, and as they remain in perfection for a considerable time, they will deserve the little

extra attention, which they require to have them in really good condition.

Triteleia uniflora.—This pretty little hardy bulbous plant does not appear to be so generally grown as it ought to be. For chaste beauty, and freedom of blooming, it has not many equals; flowering as it does from Christmas to April in a warm greenhouse. To have it in bloom by Christmas, it should be potted in August in peaty soil, and the pots be plunged in a cold frame, where they may remain until the middle or end of November, when they should be shifted into warmer quarters; and then they will soon begin to throw up their beautiful blooms, not by ones and twos, but in dozens. We have some in 5-in. pots which commenced to bloom early in December, and which are still carrying some 2 or 3 doz. blooms to each pot. Bulbous plants that will flower for so long a time at this dull season of the year cannot be too widely known.—*J. W. L.*

The Night Flowering Stock.—I am tempted to ask whether Mathiola bicornis is generally known, because it is only during the last three years that I have any recollection of seeing the plant. To the eye the plant has little or nothing to recommend it, being a small growing plant by comparison with the ordinary stocks, but the odour given off by its dirty brown-coloured flowers during the balmy evenings of summer is most delightful. Those who are in the habit of spending some portion of the summer evenings in their gardens should certainly grow a few plants of this stock. During mild winters I know this plant will stand out-of-doors all the winter without harm, but when it gets about two years old it should be replaced by a young plant, which can be raised by means of cuttings inserted in sandy soil, and placed in a cold pit or frame, where, if kept a little, they will soon root. We usually put in a 2½-in. potful of cuttings every year, so as to have some plants always coming on. It is not necessary to stoop in order to inhale the odour of this plant, for it only requires to be within the bounds of a good-sized garden to be appreciated in any part of it.—*C. Warden.*

Clematis tubulosa var Hookeri.—Under this name we find a Clematis figured in the January number of *The Botanical Magazine.* It belongs to the erect group, and is closely allied to the handsome C. Davidiana; indeed Maximowicz considers them forms of one polymorphous plant. We, however, agree with Sir Joseph Hooker in considering Davidiana a distinct species, for not only is the habit distinct, but there are some other differences. The subject of our note flowered in the open-air, at the end of September, 1882.

Cyclamen europæum.—This beautiful little Swiss plant is just now one of the gems of the hardy rockwork. Its deep rose-coloured petals with purple base and prettily-marbled leaves are highly effective. It should be planted in a partially shaded airy situation, in a light soil, and, when established, it is one of the prettiest of early spring flowering plants.

Asparagus medioloides.—This pretty climber is now flowering well in the Cactus-house at Kew. It is hardly like an Asparagus at all, at least not like the beautiful A. plumosus, nor yet like the better known esculent of our tables. The stem rambles for several feet and the leaves are ovate, more than 2 ins. long, and over 1 in. broad. The flowers are white, three-eighths of an inch long, and arranged in little panicles, with which the plant is crowded. The effect produced is quite elegant.

Phillyrea Vilmoriniana.—The Phillyreas have been favourites in the gardens and shrubberies of England for nearly three hundred years. In the January number of *The Botanical Magazine* is a figure of this fine new species, said to be a far more beautiful shrub than any of the others. From the above source we learn that the numerous forms which have received names are considered by botanists to be forms of one variable species which inhabits the whole Mediterranean region. The present plant, however, is altogether distinct, and has large dark green leaves, which are compared by Boissier, who first described it, to those of a Portugal Laurel. The flowers are white, and are borne in axillary fascicles. The plant was discovered by Bourgeau, at Pontus, in Asia, in 1866; the precise locality in mountains in the Province of Lazistan, on the south-east shore of the Black Sea, at an elevation of 3,000 ft. The figure was prepared from a specimen which flowered in April, 1884, in the Knap Hill nursery of Mr. Anthony Waterer. It appears quite hardy, as a plant which has been four years in the open-air at Kew has been uninjured, though it has not yet flowered.

Iris fimbriata.—This beautiful Iris, which requires the protection of a greenhouse, is just now very effective. The flower is of a bluish-lilac shade, the segments elegantly fringed, and the large outer segments with orange markings in the centre and some violet markings outside of this. It is a native of China.

Coccocypselum discolor.—As a basket-plant this elegant stove-trailer is just now very effective, by reason of the numerous clusters of metallic indigo-blue berries with which it is covered. The basket should be well mossed, and the inside filled with a lightish rich compost, in which the plant luxuriates. It should be well supplied with water during the growing season, and not allowed to get dry at any time. The berries last in perfection for a long time and a well furnished plant is very ornamental.

FRUITS.

Fruit Culture under Glass: Vines.—Eyes which were inserted in 3-inch pots and afterwards attended to as recommended at p. 347, will by this time have developed into little plants 2 ins. or 3 ins. high, and be pushing their fleshy roots towards the side of the pots as an indication of their requiring more scope. The plants, therefore, should be shifted into 6-in. pots, potting them in soil of about the same nature and temperature as that in which they are growing. Then put a little stick to each plant for support, water to settle the soil about the roots, and put them back in heat near the glass to insure a sturdy growth. After this potting the plants will not require any water at the roots until the latter have pushed well into the fresh soil, but they should be syringed gently overhead with tepid water morning and afternoon.

That portion of the Vines which are intended for fruiting in pots next year, should not be allowed to become anything like pot-bound at the roots, until they are in their fruiting-pots. Neither should the roots of those which are intended for planting in new borders towards the middle or end of April next as permanent and temporary fruiters, be allowed to approach that state before being planted, when the roots should only be showing through the soil. If there should be any doubt as to the Vines in the early house not being thoroughly moist at the roots, give them a good soaking of tepid liquid manure. Maintain a night temperature of 60 degs. to 65 degs. and 70 degs. by day, running it up to 85 degs. or 90 degs. with sun-heat and plenty of atmospheric moisture at closing-time. Keep the evaporating troughs of the hot-water pipes filled with strong liquid manure as much with a view to the ammonia arising therefrom preventing the spread, if not the attack, of red spider on the foliage of the Vines as of benefiting the latter.

Successional Houses.—Attend to the disbudding, stopping, and tying down of the shoots to the trellis, and the removing therefrom of all the bunches but one to each shoot as soon as they appear; and, after those left have set their fruit, the number should be reduced to eight or nine bunches to each rod, leaving more or less according to the length and strength of the individual vines. The process of bringing the laterals into a horizontal position must be effected gradually and carefully until the shoots have become more firm and woody, when they will be less liable to snap. Stop the shoots at two joints beyond the bunches, and remove all sub-laterals at the first joint. Those which may afterwards be produced should be pinched close back.—*H. H. Ward.*

VEGETABLES.

The Kitchen Gardener's Calendar.—Asparagus beds should have the couple of inches thick of short dung that was laid on them last October, as a winter dressing, covered with the soil from the alleys which was drawn from the surface of the beds prior to the dung being laid on them. Young plants of Cauliflower, Cabbage, Savoys, Brussels Sprouts, Snow's Superb Winter White Broccoli, Leeks, and Lettuce, resulting from seeds sown on a warm border towards the end of January, should be pricked out a few inches apart in a like situation to that in which they are growing before they become crowded in the beds. Make a small sowing of Gilbert's Chou de Burghley, Dwarf Curled, Scotch and Cottager's Kale; also sow another pinch of Lettuces, Brussels Sprouts, and Radishes. Make good plantings of autumn-sown Lettuces to supplement the supplies which earlier plantings will yield, and attend to the watering and hardening off of young plants of Cauliflower, Cabbage, Lettuce, &c., which were raised in heat early in January, and subsequently pricked out in frames, &c., preparatory to finally transplanting them in the open as soon as they are large enough for that purpose.

Forcing Department.—Plants of Tomatos which were raised from seeds or cuttings late in the autumn will now be showing flower, and in order to secure a good set of fruit these should have a camel's hair brush passed over them every day when the pollen is dry until that object is attained. After this the plants should be shifted into their fruiting (12-in.) pots, using a compost consisting of three-parts loam and one of horse-droppings and lime-rubble. When the roots have pushed well into this give them liberal supplies of weak tepid liquid manure, with a view to securing the best possible results from the plants. When the latter are put into their fruiting pots before the fruit is set they do not show flower so freely nor set so well as when the roots are confined to smaller pots. Stop the shoots one joint beyond each cluster of fruit; also the leaves should be considerably reduced so as to expose the fruit to the full influence of light and sunshine, and in securing the fruit-bearing shoots to the stick supporting the individual plants in an upright position see that due allowance is made for their development. Damp the plants overhead morning and afternoon on bright days with tepid water, and aim at a night temperature of 60 degs., 65 degs. to 70 degs. by day, and fire, running it up 10 degs. or 15 degs. with sun-heat, and plenty of moisture at closing time. When the roots have pushed well into the soil in the fruiting give copious and frequent supplies of tepid liquid manure to the roots to enable the plants to swell a crop of large fine fruit.—*H. W. Ward, Longford Castle.*

Pea-Walkers' Perpetual Bearer.—I take this to be one of the most valuable tall Peas grown. It is a selection from Veitch's Perfection Pea; it has a singularly robust, branching habit, and it is a continuous bearer, producing large quantities of fine green pods. Now, in sowing this Pea, the seeds should be placed 9 ins. or a foot apart. Because of its free-branching habit it requires ample space in which to grow. Another feature is that the branches remain green until the end, resisting the mildew with wonderful vigour. It will continue in bearing until the middle of October.—*R. D.*

Wright's Grove Pink Celery.—I have seen several varieties of Celery mentioned at different times in the gardening journals, but I do not recollect to have seen Wright's Grove Pink alluded to. This variety is the best I have hitherto tried both for hardiness, crispness, and size.—*J. W. L.*

Callipsyche aurantiaca.—We notice in the stove at Kew a remarkable Amaryllidaceous plant under this name. The scape is 1 ft. high and bears an umbel of pale yellow flowers about 2 ins. long. Each flower is curiously compressed on the side as if it had been pinched between the finger and thumb, and the pale green stamens are pushed out beyond the petals for nearly 3 ins., giving the flower a rather odd appearance.

THE

Orchid Growers' Calendar.

The Work of the Month.—The present month will be found one of the best in the whole year for repotting any of those plants which by their growth indicate that they are in a proper condition to shift, and which have not been directed to be repotted before. As a rule, and a good one too, it may be said that when new roots are pushing from new growth, it is a good time to repot most Orchids, provided they require it, but care should be taken that in no case is a plant shifted unless it does require it Some growers have almost a mania for potting, and their plants never establish themselves and flower so well as they do with those who leave them until there is good reason for disturbing them.

Cattleyas and Lælias are particularly impatient of being unnecessarily disturbed. At the same time it is not easy to overrate the health-giving properties of a bit of fresh stuff supplied to shaky or unhealthy plants, and it cannot be supplied to them too often even should it be several times a year, until they are firmly rooted and established.

One of the most important matters, from henceforth, will be to carefully keep in check the heating apparatus in mild or tolerable weather, as nothing works greater mischief on the health of the plants, or is so favourable to the spread of insect pests, than keeping the heating apparatus going at winter rate whilst the temperature outside is mild. It is a good plan at this season and onwards, morning and noon, to damp the walls and under the stages in each of the houses, but this should be done without raising a steam from the hot-water pipes. Nothing acts so well as a check against undue artificial heat being unwittingly given than keeping a thermometer in each house with a label attached to it marked with the temperature at which it should be kept. Many of the Phalænopsis will now be starting into growth, and will require to be kept in the warmest and shadiest part of the warm-house (see p. 245).

THE TEMPERATURES FOR THE MONTH of March should be:—

WARM-HOUSE, East Indian, 65 degs. to 70 degs. by day, 60 degs. at night.

CATTLEYA or INTERMEDIATE-HOUSE, 60 degs. to 65 degs. by day, 55 degs. at night.

COOL or ODONTOGLOSSUM-HOUSE, 55 degs. to 60 degs. by day, 50 degs. at night.

These temperatures should be aimed at by the adjustment of the fires and the ventilators, but should 5 degs. or so more be registered by reason of sun-heat it is of no consequence so long as proper moisture and ventilation is kept up. It is fire-heat that is to be dreaded when employed in excess.—*James O'Brien.*

Bocking Place, Braintree.—Every year does the neat little collection of Orchids belonging to Sydney Courtauld, Esq., show marked improvement on the preceding, and as one after the other the stubborn subjects have been conquered, so has the whole become more uniformly good. At the present time the occupants of the neat and roomy new houses seem all to have settled down to enjoy a good steady run of prosperity, a few of the specimens being almost matchless. In particular, we noted a high plant of Dendrobium Falconerii, growing over a large stump placed in a pot, which is a marvel of thriving luxuriance and far superior to any of the species we have ever seen. It stands in a sheltered corner of an intermediate house, where it will form a splendid object when in bloom.

In the Cattleya-house there is a good show of C. Trianæ in all shades, several of them being of more than average merit, whilst two grand specimens in full bloom are each in its way beyond anything in their class. The one bears eleven large flowers of perfect form, the sepals and petals being bright rosy lilac, and the labellum of the richest maroon, with a bright mauve glow over it; it is of the C. T. Normanii section, but far superior to that variety. The other specimen bears twenty-five blooms of great size and substance, their general appearance being more that of a good C. Mossiæ than a Trianæ, the expansion of the lip and its frilled margin being very distinct. Both these prizes and other good things came out of a lucky purchase made at Messrs. Jas. Veitch & Sons, in 1883, of which importation all who purchased are only sorry they did not get more. Cattleya amethystoglossa is also finely in bloom.

In the cool intermediate house a great display is made with specimens of Cœlogyne cristata, three or four feet across in bloom, and smaller plants of the Lemoniana and Chatsworth varieties, arranged with well-flowered masses of the scarlet Sophronitis grandiflora, good pans of Odontoglossum Rossii majus and O. Cervantesii, and many fine Lycaste Skinnerii, good specimens of Lælia anceps, Dendrobium, Jamesianum, D. Ainsworthii, D. Kingianum, Cypripediums, Oncidiums, Odontoglossum pulchellum (one of them being a grand form), Restrepias and the showy old Dendrobium speciosum. In this house, grown in shallow pans and suspended near the glass of the roof where they are kept moist, the pretty little Odontoglossum Oerstedii, which puzzles so many to keep healthy, is growing and flowering remarkably well. The cool-houses are in fine order, but not showing with blooms yet of course, although the bristling flower spikes tell of the good time coming. The true Odontoglossum Chestertoni, as shown by Baron Schroder at the last Royal Horticultural Society's meeting, and lovely forms of O. Andersonianum lobatum and O. A. obtusatum, as well as other interesting things are in flower among the hybrids.

In the other houses in bloom are some fine specimens of Cymbidium eburneum (one with twelve spikes), C. Lowianum, Vanda Cathcartii, Ærides Leeanum and many fine specimens of Cypripedium, as well as a most extraordinary new species of Catasetum with long spikes of claret-coloured insect-like flowers, and the now conquered Phalænopsis which used to be troublesome here, are giving in their house a good show of P. Schilleriana and P. grandiflora. The Masdevallia-house, too, which contains a very fine collection, will be a pleasant sight to behold in the flowering season.

Many other good plants beside Orchids are well-grown at Bocking Place, and all who are interested in the now numerous species of Nepenthes, would be delighted with the collection of Pitcher plants there, as all the kinds are grown well. The end of the summer, however, is a better time to see them than now.

ORCHID NOTES.

Lælia harpophylla.—Who could fail to admire this striking Orchid when in flower and in good health? On the other hand, when sickly or badly grown, as is more often the case, who would not think the rubbish-heap the most suitable place for it? In the autumn of 1881 a dozen newly-imported plants of medium size were placed under my care, and not one failed to grow. Most of them are now good, strong, healthy plants, some in bloom, and others showing their flower-buds; the strongest bulbs are producing six to nine flowers upon a spike, and, as is the case with most Orchids, the colour varies, some flowers being of a dull red, others a bright orange-scarlet; the largest flowers measure 3 ins. across. Last year these plants flowered equally well, and I do not see any reason why they should not continue to do so annually if properly treated.

This Lælia likes more water, more shade, and less air than any other. I grow them in an intermediate house, hip-roofed, and facing south, and these plants stand in a snug corner on the north side, a spot I selected for them on their arrival, and one that I should be sorry to remove them from. I may mention, for the benefit of those who do not succeed very well with this Orchid, that some of its companions in the same corner are Dendrobium Jamesianum, various varieties of Chysis, Arundina bambusæfolia, with growths about 4 ft. high, and Houlletia Brocklehurstiana and H. chrysantha.

At the time Lælia harpophylla was imported, we were told that in Brazil they made twelve or more flowers upon a spike! It would be interesting to know whether possessors of the largest plants in this country have been rewarded with a like number of flowers upon a spike.—*T. Simcoe, The Gardens, Lake House, Cheltenham.*

Cirrhopetalum picturatum.—A pretty Orchid is figured in the January number of *The Botanical Magazine* under this name, which was collected in Burma, by Richard Curnow, a collector for Messrs. Low & Son, of Clapton. The pseudo-bulbs are tufted; the leaves linear-oblong and dark green; the scape 8 ins. to 10 ins. high, and bearing a ten-flowered umbel of 5 ins. diameter. The flowers are 2 ins. long, the lateral sepals pale green, the upper sepal similarly coloured, but with blood-red spots and a purple appendage; the petals pale green with blood-red spots and the lip blood-red. The original species was cultivated some forty-five years ago by the Messrs. Loddiges, and the present is referred to it with some hesitation, on account of its larger size and other divergencies.

Propagation of Phalænopsis by the roots.—In answer to Mr. Philbrick's note in your last issue, in reference to the propagation of Phalænopsis by the roots, I now give you the details regarding the plant I mentioned in *The Garden* of December 13th, 1884. My plant is a small P. Stuartiana, in fair vigour, and grown in a teak basket. It flowered in March last year, and has now a nice branched spike with eighteen flowers. It started into growth in May last, at the same time, two of the old overhanging roots threw out very minute points on both sides of the roots, they were too small for root branches, and consequently I watched them closely. In a month's time they developed into leaves, and now some of the young plants are attached by their own roots to the spars.

In November last, I traced one of these old roots that had two young rootless plants on it, up to the parent plant, and found the portion of the root that was buried in the growing sphagnum was entirely decayed, and had evidently been so for some time. I then laid this root on the top of the basket, and on examining it to-day, I found one of the young plants has a root fully ½-in. long, and the other one just starting to root. The other old root with four plants on it is quite fixed to the spars, and I find it has again thrown out two more young points, that I am sure will develop into plants.

As Sir Trevor Lawrence has never seen such an instance, I shall be much pleased to send him the detached root with the two plants. It will be interesting to see what they will come to, and I am sure they will get more justice in his hands than in mine. I may also mention that I have a Cypripedium concolor with a nice young plant growing from a root that happened to grow out of the sphaguum. It is quite 4 ins. from any portion of the rhizome.

With this post I send you a flower of what I think is an extra rich coloured form of Phalænopsis Luddemaniana.—*W. Macdonald, Woodlands House, Perth.* [It is an extraordinary fine variety; certainly the best we have ever seen.—*Ed.*]

Propagating Orchids by the Roots.—In reference to the root propagation of Phalænopsis mentioned in your paper of February 14th, I should like to know if it is usual for other species of Orchids to do the same, as I have a plant of Masdevallia Schlimii with two small plants on one of the old roots.—*T. H.*

HORTICULTURAL SOCIETIES.

Scottish Horticultural Association.—The annual general meeting of this Association was held at 5, St. Andrew Square, Edinburgh, on Tuesday night, Mr. Alexander Mackenzie presiding. The following office-bearers were elected:—Honorary president, Professor Dickson; president, Mr. Wm. Thomson, Clovenfords; vice-presidents (in room of those who retired by rotation), Mr. John Methven, Edinburgh, and Mr. Robert Lindsay, curator, Royal Botanic Gardens; secretary, Mr. Robertson Munro, Abercorn Nursery, Piershill; and treasurer, Mr. Alexander Mackenzie, Warriston Nurseries, Edinburgh.

Five councillors were elected in the place of those who retired by rotation. The annual report of the council stated that the objects of the Association

had continued to receive every care and attention from the members. During the year eighteen new members had been added to the roll, the total membership being now 431. Forty-four exhibits had been laid before the members, four certificates had been awarded for meritorious productions, and thirteen papers had been communicated from members. The treasurer in his report stated that the income during the year, including a balance from the previous year of £15, had been £33 7*s.* 6*d.*; while the expenditure had been £24, leaving a balance in hand of £9 7*s.* 6*d.* The reports were adopted.

SPECIES OF CROCUS.

Probably the beauty and the variety of the forms of Crocus vernus, found just now in our gardens in all the fullness of their spring charms, serve to divert the attention of lovers of flowers from a contemplation of the attractions of not a few of the species, and yet they are very beautiful and worthy of all attention. Take the beautiful autumn-flowering C. speciosus, for instance, which puts up its lovely large purplish-blue flowers, finely striped interially with deep purple lines, in autumn, succeeded in spring by its foliage. Why, even in the smallest garden, there are odd but suitable nooks and corners where some bulbs of this beautiful species can be permanently planted and where the bulbs can establish themselves and renovate as they do naturally. We have no variety of C. vernus having such a lovely hue of blue as this. And in early spring there is C. Imperatonious or C. Imperati, the forerunner of the C. vernus varieties and exquisitely beautiful. This has been charming on the rockwork at the Chiswick Gardens of the Royal Horticultural Society, where Mr. Barron has naturalized fine clumps of it. It is a lovely species, with buff, dark striped, sepals, and the inner petals of a delicate shade of lilac-rose. This is now flowering with me in pots in a cold frame, and should not be disturbed for two or three years.

C. aureus, the true form, is a charming species also, earlier to flower than the ordinary yellow spring Crocus and of a deep golden colour. C. aureus sulphurius striatus has sulphur striped on the golden ground, and is both distinct and attractive. C. biflorus is not so attractive as some others, but it is very pretty, the flowers are creamy-white, with dark lines on the sepals. It is a little earlier in flowering than the ordinary spring Crocuses and very free. This species was largely imported from Holland under the name of the Scotch Crocus, and the bulbs had a peculiar appearance, being destitute of the outer covering of loose skin characteristic of the varieties of C. vernus, and very hard and smooth. C. Sieberi or nivalis is an autumn and winter-flowering species, producing pale violet coloured flowers; it also is a perfect gem. I had forgotten C. biflorus argenteus, with a distinct and pleasing silvery hue; C. Susianus, or more properly C. reticulatus, is the Cloth of Gold of seed lists, the golden yellow flowers have the sepals heavily marked with deep lines; C. nudiflorus, which is known also as C. multifidus, is not unlike C. speciosus, but has taller and redder purple flowers that are not striped, it is very handsome and attractive. Lastly, I must name C. pusillus, a species bearing medium-sized flowers, white, with a delicate suffusion of blue, and three distinct bands of bluish-purple externally. This is also a charming Crocus.

My purpose is to impress upon amateurs the value of some of these pretty Crocuses for flowering in pots in autumn, winter and spring. How often in getting about the suburbs of London does one see small greenhouses being built to villa residences, but almost invariably without means of artificial heating. What is the use of trying to keep tender plants through the winter in such structures by the aid merely of a petroleum stove? How often such efforts result in dismal failure. On the other hand there are many early flowering hardy plants that can be grown in pots and make of floral service during the winter and early spring that will thrive without the necessity of fire-heat. There are these Crocusses, Hepaticas, Auriculas, Primroses, Polyanthuses, Cyclamen coum, Saxifrages, species of Primulas, and things too numerous to mention that are objects of great beauty when well managed. During summer I stand such subjects as these in an open frame on a bed of cocoa fibre, and place some over the surface of the soil also. One great thing is to keep them well watered in dry weather. It is also necessary to have on hand some good yellow loam, leaf-mould, a little peat, some silver sand, and pieces of sandstone for the alpine plants. Such things yield an immense amount of pleasure: try them and see.—*Quo.*

CROTONS.

Among fine-foliaged plants these are quite unrivalled, as besides their many forms of leaf their markings and colouring are unique, especially when seen under artificial light, as then they show up splendidly, which makes them of great value for table decoration, a purpose for which they are well adapted; and more particularly is this so with the spare-habited pendulous kinds, such as C. angustifolius, C. majesticum, and C. interuptum, which are remarkably graceful and light in appearance. To keep up a good supply of small neat specimens it is necessary to put in cuttings frequently, and discard any that have got large or that have been frequently used, as they are worthless, after they have received a check through losing or getting their young roots chilled, and it is better to throw them away than attempt to grow them on again after that.

The easiest way of propagating Crotons is to take off the tops of any of the half-ripe shoots and insert them separately in small bottles of water without removing the leaves, and if they are then stood in a close place where they can get a brisk moist heat, they will soon root and be ready for potting. To keep the water pure and sweet, fresh should be poured in frequently; and it is a good plan to have pieces of charcoal in the bottles, as when confined under a high temperature it quickly becomes tainted, and the cuttings then fail to strike, as they rot at the base. So readily do Crotons root in water, that quite large pieces may be taken off safely, as they do not flag if kept syringed, but remain fresh and make plants at once, feathered down to the pots with nice healthy leaves. The soil best adapted for growing them is a mixture of peat and loam, in about equal parts, or they will do well in either separately, if fibry and good. As they require a great deal of water, it is important that the pots be properly drained, and as the plants do not require much root room, these may be small, to fit any vases, and thus save risk in turning them out.

If fine specimens are needed, they must be potted on, and have the ends of the leading shoots stopped occasionally to cause them to break back, and keep well furnished below. What prevents them remaining in this desirable state is crowding the plants, instead of which they should be stood thin and elevated, that they may have full light and air round them; besides which it is essential that they be kept clean, or the foliage soon suffers, and remains shabby after. The insects that affect Crotons most are mealy-bug, thrip, and red spider, the former of which is very troublesome and most difficult to get rid of by any known remedy without hurting the plants. The way I have been most successful with it is by laying these on their side, and well washing them frequently by using water with great force from the garden engine, and thus knocking them out of the ends of the shoots. Red spider may be vanquished in the same manner, as they cannot stand water, and thrip may be destroyed by fumigating with tobacco, but to do this it is necessary to smoke the house daily four or five times in succession.

To keep the plants in a high state of health, the atmosphere cannot well be too moist, and the more they are syringed during the growing season the better they do. This being so, the leaves should be well wetted, both above and below, every night and morning, and if done with highly clarified soot-water, that will be a great help in making them clean, as it is obnoxious to all the parasites mentioned above. Besides being of great value for syringing on overhead, clear soot water is one of the best stimulants the plants can have, as it not only helps them in their growth, but it improves the foliage greatly by giving more colour. This is often spoiled by too much shade; and though it is necessary to break the force of the sun in summer, the blinds should only be down during the heat of the day, when the solar rays are fierce, as it is light that gives the tints so much admired in the leaves of these very beautiful plants. The temperature requisite to grow Crotons well is from 65 degs. to 75 degs. during winter, with an increase of 5 degs. to 20 degs. after. If gradually hardened, plants will stand well in a warm conservatory or greenhouse by the middle of June, but they must not be left there longer than two months or so if they are to be kept, or the roots will suffer, and when the plants are returned to heat again they will shed many leaves.

In addition to those referred to as being very elegant for table decoration, the most distinct sorts are Wiesmanii, Queen Victoria, Disraeli, Mortii, Lord Derby, Nevilliæ, Hawkeri, and Rothschildii. The leaves of the first-named are long and narrow, deep green, mottled and barred with rich yellow. Queen Victoria has leaves about a foot long and an inch-and-a-half wide, mottled throughout with yellow and green, the midrib and veins being crimson when they attain a little age, at which time this fine variety is very effective. Disraeli has rather short leaves, broad at the base, and deeply lobed above, the points being highly coloured with a mixture of crimson and yellow. Lord Derby somewhat resembles the last-mentioned in the form of its foliage, but is not so bright, and Nevilliæ partakes of the form and habit of Queen Victoria, the midrib being banded with orange, and the leaves splashed and marked with the same, which gradually becomes suffused with red, when the green deepens with age. Hawkeri has ovate lanceolate leaves, margined with green, and the midrib banded with yellow. The leaves of Rothschildii are from nine inches to a foot long, two inches or so wide, and beautifully veined with deep crimson.—*Alpha.*

THE GLOBE FLOWER.

The common name of the Trollius is derived from the globular form of the blossoms. Trol is also the German name for round, hence Trollius, globular or round flowered. The group comprised in this genus represents a charming collection of spring-flowering border perennials allied to the Ranunculus; in their habit of growth forming tufts of large handsome foliage, from which issue branching stems bearing many large globular flowers, varying from creamy-white to deep orange. T. europæus is, as its name implies, a native of Europe and Britain. It is common in gardens, especially in the midland and northern districts of England, and grows wild in the mountains of Scotland, Wales, and the north of England. It may be likened to an aristocratic Buttercup, but the petals, though larger and more numerous than those of any of the Buttercups are of a paler hue. They are cupped, and meet in the centre, so as to enclose the stamens and carpels in a perfect globe. This will grow in almost any soil or situation, but in a moist shady spot it flourishes and forms luxuriant specimens.

Some of the working men of Lancashire are keen botanists, and in searching for wild-flowers they have come upon natural seedlings from T. europæus, with flowers of deep yellow and even deep-orange colour, and they can be seen in their gardens. This species can be increased by means of division of the roots. According to Kalm, a decoction of the whole plant is said to cure scrofula. There is a white-flowered variety of this, but it appears to be somewhat scarce. T. asiaticus is a native of Siberia, and is known as the Asiatic Globe flower. The character of the plant is somewhat similar to that of T. europæus, but the flowers are of a deeper yellow colour, the petals are somewhat more open and fewer than those of the common species; while the leaves are more deeply divided and cut larger and of a paler green. It requires similar treatment, and can be increased by root division.

T. japonicus flore pleno is a highly ornamental border plant, a native of Japan, and produces bright orange flowers. T. napellifolius, is the napellus-leaved Globe flower, a native of various parts of Europe; it is more showy than either europæus or asiaticus, the flowers are orange-yellow, and it is of strong growth. By some, this is considered to be a variety of T. europæus, from which it appears to differ in its colour, in not being quite so tall, and in having a greater number of lobes in its leaves. It does well in good moist sandy loam, and is increased by division

of the roots. There are a few other varieties, but the names of the best of them will be found among the preceeding.

It is necessary we should observe that none of the Globe flowers should be planted on light dry soils, as they become roasted up in summer and in not a few cases perish outright. They are really moisture-loving plants, and should be planted, if possible, in the Southern parts of the country, where they can enjoy some shade during the hottest part of the day, and they are well worthy of, and will repay some extra attention.—*Quo.*

Letters to the Editor.

GARDENERS' BENEFIT SOCIETIES.

Your kindly remarks in reference to the United Horticultural Benefit and Provident Society will be appreciated by all who take an interest in its work and desire to see its influence extended. It is an admirable institution, and it is in good hands, being officered, and its affairs conducted and administered by its own members; but when you state that it is far too modest, while you announce what is quite true in one sense, it should be known that it is compelled to be modest in spite of itself. And it is accomplishing a great deal of quiet practical good—as much, in all probability, as the Gardener's Royal Benevolent Institution, with the aid of the frequent notices it gets in the gardening papers.

The Society has no means at its disposal for advertising itself, being in this respect quite unlike the more pretentious institution just named. The subscriptions of the members of the United Horticultural Benefit and Provident Society are divided into three parts, a certain proportion goes to the Benefit Fund, another to the Provident Fund, and a very small one to the Management Fund. The total amount of the last amounted last year to about £26. Of this sum, hire of meeting-place, printing and circulation of annual report and balance-sheet, convening meetings, postages, and a few other small charges absorbs nearly the whole.

The Secretary, Mr. J. F. McElroy—to his credit be it stated—is an honorary officer, he is not even a member of the Society, and derives no benefit from it beyond feeling that he is doing a good and necessary work on behalf of his brother gardeners. All the remuneration he receives is a free present from the members at the end of the year of the balance of the management fund, which this last year amounted to about £3 16*s*. Compare that with the high salary paid to the Secretary of the Gardeners' Royal Benevolent Institution, and then one can see what a labour of love the work of the Secretaryship is with Mr. McElroy. And the work is very heavy—only those who can look over the books of the Society, which are admirably kept, can understand this.

I wish more of those who have the means would assist so deserving a Society by becoming honorary members, or by making a small donation to the funds. It is a pity the columns of the horticultural press are not more utilized in the interests of this excellent Society. But among the Committee of Gardeners there are very few indeed who wield the pen. Modest as the Society is, it is yet satisfactory to know that the list of members is gradually extending. On behalf of the Committee, I thank the Editor of The Gardening World for the publicity given to the work of the Society.—*R. D.*

REMOVAL OF LARGE TREES.

Allow me to supplement my remarks on this subjec at p. 374, with a few observations that ought to have been made with reference to the removal of the shrubs mentioned, during intense frost. I omitted to state that after the plants were placed in proper position, the whole surface was thickly mulched so as to defy the continued action of the frost, and also to assist in conjunction with the warmth of the earth below, to reduce the balls of the plants to their proper condition. It will appear obvious that this kind of treatment was, I may say, of paramount importance when the successful issue of the operation is taken into consideration. Of course the application of water when required was duly attended to throughout the following summer, and until the plants became established by new root growth.—*G. F., Lewisham.*

ANONYMOUS AND SIGNED PAPERS.

I think you have set an estimable example in the conduct of your journal in so far as practicable attaching the name of the contributor to the papers published, because great force must, I think, be given to your paper thereby, especially to correspondents upon particular subjects, inasmuch that those who are interested, say, for the sake of argument, in Orchids, would attach infinitely more importance to whatever may be written when they know that the writer is a specialist, or, at any rate, in a position to be well informed upon that particular subject. There is no doubt in my opinion that your paper will reach a high position of popularity if this admirable innovation is continued and carried out to the fullest extent.—*C. H. Sharman, 237 & 238, High Holborn.*

NOTES AND QUERIES.

Compost for Fruit Trees.—I have about fifty loads of earth, the clearings of a parish drain, which I want to put in a heap and mix with something that will make it a suitable compost for top-dressing fruit trees. Our soil is strong clay, and I want to get the roots nearer the surface than they are now, so that, I take it, the compost should be rich. Will some of your practical readers give me the benefit of their experience?—*X. X.*

Grass-land.—Can any of your readers tell me what to do with a piece of grass-land, one part of which is covered with moss? It is strong clay-land, and I have some earth out of a ditch at hand, but as that will not be rotted down before autumn I cannot use it now. I thought of bush-harrowing it. It is mown every year, and fed off afterwards with a pony.—*X. X.*

Cheaply grown Annuals.—Will you please kindly inform me what annuals I can sow now for a long border at the foot of a wall facingSouth. I am fond of gardening though I do not know much about flowers. I want a cheap, long and early display for this summer.—*Nelly.*

Cropping a Garden-plot for Competition.—May I ask the advice of some of your correspondents? I want to show my plot this year—the Show is in the second week in August. All the plots are about the same size, 20 yds. by 30 yds.; or eight to an acre. Only Vegetables are allowed. The prize is for "the neatest and best cropped plot on the Show day." What must I grow, and what must I sow and plant?—*A Cottager.*

Planting Strawberries.—I beg to thank your kind correspondents who so readily gave me the advice on growing Leeks and Onions for exhibition. If not asking too much, may I now inquire through your columns "whether it is too late to plant a patch of Strawberries?" and if not, how I shall proceed to work, and what variety is the best? Will they be likely to fruit this year?—*An Anxious One.*

ANSWERS TO CORRESPONDENTS.

Gun Licence.—*X.*—If your employer has either a gun or game licence, you need not take out a gun licence in order to scare birds on his property, but you are not otherwise exempt.

Tree Carrying Machine.—*Weardale.*—The manufacturers are Messrs. Brangwin, Ridley & Co., Paragon Works, Hackney, E.

Names of Plants.—*R. H. F.*—1. Blechnum occidentale. 2. Asplenium flaccidum. 3. Polypodium phymatodes, we believe. 4. Lastrea decomposita. 5. Anemidictyon Phyllitidis. 6. Nipbobolus rupestris.

Books.—*S. J.*—Mr. B. S. Williams' *Choice Stove and Greenhouse Plants*, Vol. I., 3rd Ed., will suit you. Mr. Williams publishes his own books.

Crinums.—*Con.*—They are all stove plants, requiring a mixture of loam, peat, and sand.

Pampass Grass.—*G. B.*—The Gynerium argenteum likes plenty of water while growing in summer, but a damp place in winter does not suit it, hence you should be careful in selecting a site for it to consider the matter of drainage. A good deep loam on a gravelly subsoil suits it well.

Communications Received.—J. W. L.—J. C. & Co.—J. W.—L. & Co.—W. S.—G. B.—W. C.—G. B.—T. C.—J. E.—J. McI.—G. P.—W. W.—J. C. M.—J. W., Sheffield—H. B.—A. B.—Autbentes.

LONDON SEED TRADE.

March 4th, 1885.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report that the market to-day is dull. Red Clover in small demand, White and Alsike Clover the same as last week's report. Trefoil is steady. Tares are in good demand. Bird Seeds unchanged.

COVENT GARDEN MARKET.

March 5th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6– 5 0	Kent Filberts and Cobbs, per 100 lb.	55 0–
— Nova Scotian, per barrel	10 0–15 0	Pine-apples, Eng., lb.	1 0– 2 0
— Extra samples	18 0–21 0	Pears, French, p. doz.	6 0– 9 0
Grapes, per lb.	4 0– 8 0	St. Michaels	3 0– 8 0

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0– 4 0	Herbs, per bunch	0 2– 0 4
Beans, French, per lb.	– 1 0	Horse Radish, bundle	3 0– 5 0
Beet, per dozen	2 0– 3 0	Lettuces, Cabbage, per dozen	2 0–
Brussels Sprouts, p. lb.	0 4–	— Cos, each	0 2–
Cabbages, Spring, doz.	1 6– 2 0	Mushrooms, p. basket	1 0– 2 0
Carrots, per bunch	0 6–	Onions, per bushel	3 0– 5 0
Cauliflowers, English, per dozen	4 0– 6 0	Parsley, per bunch	0 6–
Celery, per bundle	1 6– 2 6	Radishes, per dozen	1 6–
Cucumbers, each	1 0– 1 6	Small salading, per punnet	0 4–
Endive, French, per dozen	2 6– 3 6	Spinach, per strike	2 0–
Garlic, per lb.	0 6–	Tomatos, per lb.	1 6–
		Turnips, per bunch	0 6–

Potatos.—Kent Regents, 80*s*. to 100*s*. per ton; Kent Kidneys, 80*s*. to 100*s*. per ton; Champions, 70*s*. per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0– 4 0	Marguerites, 12 bun.	4 0 –9 0
Arum Lilies, 12 blms.	3 0– 6 0	Narciss, Paper White	1 6– 2 0
Azalea, 12 sprays	0 6– 1 0	Pelargoniums, per 12 sprays	1 0– 1 6
Bouvardias, per bun.	1 0– 1 6	—scarlet, per 12 sprays	0 9– 1 0
Camellias, 12 blooms	1 0– 3 0	Pinks, various, 12 bunches	–
Carnations, 12 blooms	1 6– 3 0	Primula, double bun.	1 0– 1 6
Chrysanthemums, 12 bunches	–	Primulas, Chinese, bun	4 0– 6 0
— large, 12 blooms	–	Pyrethrum, 12 bun.	–
Cyclamen, doz. blooms	0 3– 0 6	Roses, outdoor, 12 bunches	–
Cineraria, per bunch	0 9– 1 0	Roses, indoors, p. doz.	2 0– 6 0
Epiphyllums, 12 blms.	0 4– 0 6	Roses (French), per doz.	1 0– 3 0
Eucharis, per dozen	3 0– 6 0	Stephanotis, 12 spr.	–
Gardenias, 12 blms.	4 0– 8 0	Tuberoses, per dozen	–
Heliotropes, 12 sprays	0 6– 1 0	Tulips, per doz.	0 9– 1 0
Hyacinths, Roman, doz. sprays	1 0– 1 6	Violets, doz. bun.	0 6– 1 0
Lapageria, white, 12 blooms	2 0– 3 0	— French, per. bun.	0 9– 1 6
Lapageria, red, 12 blms.	1 0– 2 0	— Parma, per. bun.	3 0– 4 0
Lily of the Valley, doz. sprays	1 0– 2 0	White Jasmine, bun.	0 6– 1 0

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0–24 0	Ferns, in var., dozen	4 0–18 0
Arum Lilies, per doz.	9 0 18 0	Ficus elastica, each	1 6– 7 0
Azalea, per doz.	18 0–42 0	Foliage Plants, various. each	2 0–10 0
Begonias, per dozen	4 0–12 0	Genista, per dozen	9 0–15 0
Bouvardias, dozen	9 0–18 0	Hyacinths, doz.	6 0– 9 0
Chrysanth., dozen	–	Lilium, various, per doz.	–
Cineraria, per dozen	9 0–15 0	Marguerites, per doz.	9 0–18 0
Cockscombs, dozen	–	Palms in variety, each	2 6–21 0
Cyclamens, doz.	9 0–18 0	Pelargoniums, scarlet per dozen	4 0– 6 0
Cyperus, per dozen	4 0–12 0	Petunias, per dozen	–
Dracæna term., doz.	30 0–60 0	Poinsettia, doz.	–
— viridis, per dozen	12 0–24 0	Spirea, per dozen	12 0 18 9
Epiphyllums, doz.	18 0–24 0	Solanums, dozen	–
Evergreens, in var., per dozen	6 0–24 0		

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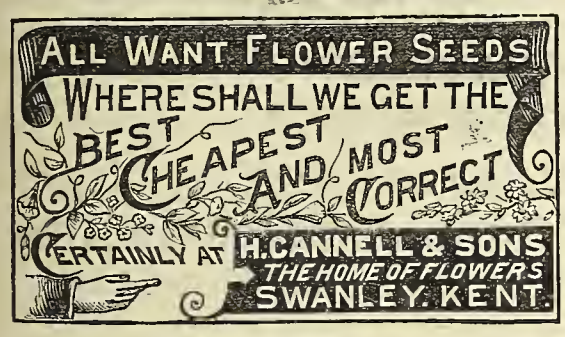

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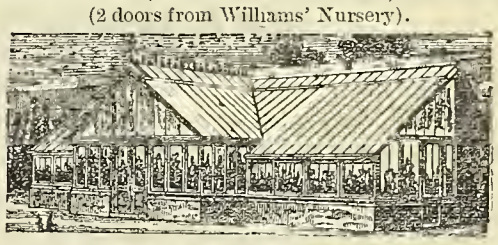

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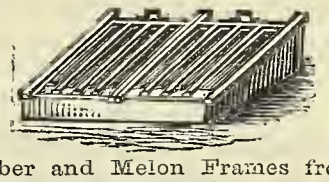

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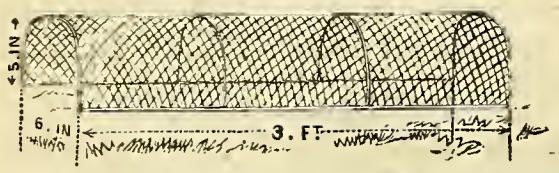

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Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex, Saturday, March 7th, 1885.

THE GARDENING ILLUSTRATED WORLD

No. 28.—1885. SATURDAY, MARCH 14TH. { Registered at the General Post-Office as a Newspaper. } ONE PENNY.

THE GRAND INTERNATIONAL POTATO EXHIBITION will be held at the Crystal Palace, Sydenham, on October 7th, 8th, and 9th. For Schedules apply—
Mr. P. McKINLAY, Headley Lodge, Croydon Road, Anerley, S.E.

ASPARAGUS.—This delicious Vegetable does not require half the expense often incurred; for directions see Seed List, free. Strong Roots, 2*s.* 6*d.* per 100; extra strong ditto, two years old, 3*s.* 6*d.* per 100; forcing, 12*s.* 6*d.* per 100.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

Garden Seeds.

R. B. LAIRD & SONS (successors to Downie & Laird), will have much pleasure in posting their descriptive priced List of
GARDEN, FLOWER and AGRICULTURAL SEEDS free on application.
17, SOUTH FREDERICK STREET, and ROYAL WINTER GARDEN, EDINBURGH.

ROSES, ROSES, ROSES.—Wonderfully cheap Roses, 100,000 Rose-trees to select from. Best sorts and true to name. 20 Choice Standards, 12*s.* 6*d.*; 24 Choice Half-Standards, 12*s.* 6*d.*; 50 Choice Dwarfs, 12*s.* 6*d.*; 24 Choice Teas and Noisettes, 12*s.* 6*d.*; 12 Choice Climbing, 5*s.*, my selection. Cash with order. Hundreds of Testimonials. Catalogues free.—JAMES WALTERS, Rose Grower and Nurseryman, Mount Radford, Exeter.

ROSES.—ROSES.—ROSES.—Fifty choice Perpetuals sent on receipt of remittance for 21*s.*; purchaser's selection from 400 best varieties. List of names on application. Twenty-four choice Standards, or Half-standards, 21*s.*—JAS. WALTERS, Mount Radford Nursery, Exeter, Devon.

CARNATIONS and PICOTEES, a speciality for over 40 years.—I can offer unusually fine Plants of above, in all the leading exhibition varieties, true to name, my selection, carriage paid for cash, as follows:—Six of each, in 12 varieties, 6*s.* 6*d.*; 12 of each, in 24 varieties, 12*s.* 6*d.* List of varieties, penny stamp.
ROBERT LORD, Holebottom, Todmorden.
"Mr. Lord's plants are the finest I get from any source; finer cannot be had."—E. S. DODWELL, Stanley Road, Oxford.

Mary Morris, Border Carnation.

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6 CAMELLIAS or AZALEA INDICA, full of buds, 10*s.*, large healthy plants of either in 5½ pots, all different choice sorts and colours. Packing gratis, and extra plants for carriage.—E. VAN DER MEERSCH, Queen's Nursery, Selhurst, S.E.

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600 SPECIES and varieties, duly named and labelled, at moderate prices, carriage paid. Adiantum Capillus-Veneris, Ceterach in variety, and Asplenium marinum, Polypodium Semilacerum, and Lastrea æmula, all large and well rooted plants, at 6*s.* 6*d.* per 100, post free.—P. O'KELLY, Botanist and Fern-dealer, Ballyvaughan, co. Clare, Ireland.

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COLLECTIONS, 12 named varieties, separate, 7/6
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Begonia Growers, Forest Hill, S.E.

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ROOTED CUTTINGS, from a choice collection, guaranteed true to name. My selection, 2*s.* per doz. Purchaser's selection, 2*s.* 6*d.* to 4*s.* per doz.
Early-flowering varieties. The best for out-door cultivation. Rooted cuttings ready shortly, 2*s.* per doz.
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12 Pinks, distinct sorts	3	0
12 Pyrethrums, single and double	6	0
12 Carnations and Picotees, named	6	0
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12 Iris, all distinct	4	0
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12 " standards " "	12	0
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GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 ozs. to the gallon of soft water, 4 to 16 ozs. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*
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TO GARDENERS and AMATEURS.—When you order from your Seedsman be sure and include TEBBS'S FUMIGATOR, a useful addition to the Greenhouse.

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COCOA-NUT FIBRE REFUSE.—Reduced price. The same as supplied to the Royal Horticultural Society of England. Truck-load, loose, of 2 tons, 20*s.*; Larger quantities contracted for. The same in sacks: ten, 8*s.*; twenty, 15*s.*; forty, 25*s.*, sacks included. Delivered free on to Rail. Cash with all orders. Established 1872.—J. STEVENS & CO., "Greyhound Yard," and 153, High St., Battersea, S.W

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OUR OWN UNRIVALLED VARIETIES.

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Named Sorts, per dozen, Singles: A, 42*s.*; B, 36*s.*; C, 30*s.*; D, 24*s.*; E, 18*s.*; F, 12*s.* Named Sorts, per dozen, Doubles: R, 63*s.*; S, 48*s.*; T, 42*s.*
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Sales for Next Week.

MR. J. C. STEVENS will SELL by AUCTION at his Great Rooms, 38, King Street, Covent Garden, during the ensuing week, as follows, at half-past twelve precisely each day:—

WEDNESDAY.—A choice and extensive Collection of ORCHIDS in Flower, including many rare species.

WEDNESDAY.—GREENHOUSE PLANTS from Ghent, ROSES, FRUIT TREES, BORDER PLANTS, BULBS, &c.

THURSDAY.—Importations of two new white forms of LÆLIA ANCEPS, ORCHIDS from the Roraima, &c., from Mr. F. SANDER.

SATURDAY.—First-class ROSES, FRUIT TREES, SHRUBS, BORDER PLANTS, LILIUMS, GLADIOLI, &c.

On view mornings of Sale, and Catalogues had.

STOKE PARK, SLOUGH.

Stove and Greenhouse Plants, Orchids, &c.

MR. J. C. STEVENS has received instructions to SELL by AUCTION, on the premises as above, without the least reserve, on MONDAY and TUESDAY, March 16th and 17th, at half-past twelve precisely, each day:—The Collection of STOVE and GREENHOUSE PLANTS formed by E. J. COLEMAN, Esq., comprising fine Standard, Half-Standard, and Pyramid Azaleas, Camellias, Orange Trees, Eucharis, Crotons, Dracænas, Greenhouse Rhododendrons, &c. Also the Orchids, including many specimen plants of Dendrobium nobile, Cattleyas, Lælias, Odontoglossums, Phalænopsis, Cælogynes, and other species. A quantity of Callas, Fuchsias, Primulas, Pelargoniums, Bouvardias, Strawberry plants, &c.

On view Saturday prior and mornings of Sale, and Catalogues had on the premises, or of Mr. J. C. Stevens, 38, King Street, Covent Garden.

TUESDAY NEXT.

Lælia anceps, white type. Odontoglossum Alexandræ.

MESSRS. PROTHEROE & MORRIS are instructed by Messrs. SHUTTLEWORTH, CARDER and Co., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY next, March 17th, at half-past twelve o'clock precisely, fine masses of the White Lælia anceps and Odontoglossum Alexandræ of the best type in splendid condition. Trichopilia suavis, Chysis aurea, Masdevallia Harryana, M. chimera, M. racemosa Crossi, M. Shuttleworthi, Oncidium Krameri, established Odontoglossum Pescatorei, and Alexandræ, a few established Orchids including a large plant of Lælia anceps with over 100 bulbs. Terrestrial Orchids and fine bulbs of the rare Plagiolirion Horsmani, and Callipsehye aurantiaca.

On view morning of Sale and Catalogues had.

WEDNESDAY NEXT.

Lilium auratum, Roses, Plants, &c.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on WEDNESDAY next, March 18th, at half-past twelve o'clock precisely, 6,000 unusually fine and sound bulbs of Lilium auratum and 30 varieties of Iris Kempferi, just received from Japan in fine condition, 1,000 Standard, Half-Standard, and Dwarf Roses of the best sorts from an English Nursery, English-grown Camellias, Palms, Arums, Gardenias, Rhododendrons, Pinks, &c., African Tuberoses, 3,000 Berlin crowns Lily of the Valley, and an assortment of hardy English-grown Lilies and bulbs, Gladioli, Dahlias, Begonias, Gloxinias, &c.

On view morning of Sale, and Catalogues had.

FRIDAY NEXT.

Very Valuable Importations.

MESSRS. PROTHEROE & MORRIS are instructed by Mr. F. SANDER to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY next, March 20th, at half-past twelve o'clock precisely, a grand importation of Cattleya Mossiæ, and the beautiful Vanda Sanderiana, Aërides Lawrencæ and Leeana, Phalænopsis species, a splendid lot of Mexican Orchids, and other Orchids of value.

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A. McINTYRE (late of Victoria Park) is now at liberty to undertake the FORMATION and PLANTING of NEW GARDEN and PARK GROUNDS and REMODELLING existing GARDENS. Plans prepared.

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Lovely Lilies and Iris.

WM. GORDON has still the finest Collection of these. Buy of the Importer the lovely Lilies, Szovitzianum, each, 1*s.*, 1*s.* 6*d.*; Eximium, 1*s.*; Brownii, 2*s.*; Californiana, 2*s.* 6*d.*; Krameri, 1*s.*, 1*s.* 6*d.*; Album Krætzerii, 1*s.*; Tenuifolium, 6*s.* per doz. Over thirty varieties of Japanese Iris, all Hybrids, in all hues and beautifully marked, perfectly hardy, greatly admired last season. Six varieties, 9*s.*; twelve for 15*s.*; the thirty varieties for 30*s.* Lilium auratum, finest possible Bulbs, 4*d.*, 6*d.*, 9*d.*, 1*s.*, and 1*s.* 6*d.* each. Double African Tuberose flowering Bulbs, 2*s.* 6*d.* per doz. Tuberose, The Pearl, 4*s.* per doz.—Address: Twickenham, Middlesex.

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12	,, ,, ,, 1884	3*s.* 6*d.*
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12	Splendid Tuberous Begonias, single	2*s.* 6*d.*, 3*s.* 6*d.* and 5*s.*
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12 Cuttings of above, 6*d.* less.

Choice Flower Seeds:—Begonia, 1*s.* 6*d.* single, 2*s.* 6*d.* double; Abutilon, 1*s.* 6*d.*; Primulas, from 20 varieties, 1*s.* 6*d.*; Cinerarias, 1*s.* 6*d.*; Single Dahlia, 1*s.* 6*d.* Large Packets of each.

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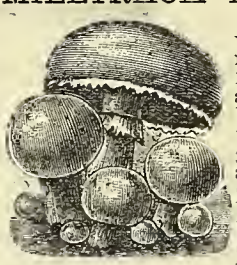

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Apple-shaped, very prolific.

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Rich coral red, very handsome.

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Early and prolific.

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Special offer per ounce or per pound of above five varieties of Tomato on application.

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Unequalled for exhibition or for general use. The stems are entirely covered from top to bottom with large, firm, solid sprouts, which are of remarkably fine quality.

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The largest and best self-folding variety in cultivation, of superior quality, very crisp and fine flavoured.

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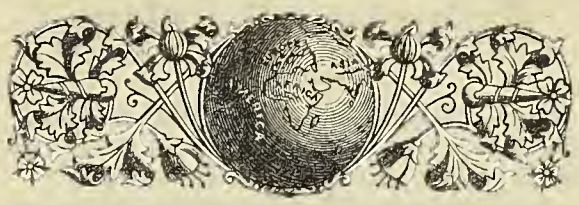


Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 14TH, 1885.

THE TRAINING OF GARDENERS.—With considerable regularity there crops up in discussion, in the gardening papers, the subject of the training or education of our gardeners. In assuming that some technical and even scientific form of training has now become essential to the production of good gardeners, it is not thereby intended to imply that the present race of gardeners are lacking in ability and knowledge; but those who take the pessimist view in the discussion, seem to feel that, as in other trades and vocations, some special scientific and technical training is found essential in order that the workers in such trades may hold their own in the world's competitions, so is it assumed that gardeners in the future must be as fully qualified to hold their own, if English gardening is to be that valuable and profitable avocation it has been in the past. Optimist writers, on the other hand, argue that we have been able in the past to create a first-class body of gardeners from out of our ordinary methods of culture and education. They say that our nurseries, our private and public gardens, and our market-growing establishments, offer admirable training institutions, and that the production of capable gardeners through the instrumentality of these affords ample evidence that we are doing very well as we are. So far so good, on either side, and so far the answer is full and complete if gardening is to remain what it is now, and what it has been for many years.

To tell the truth, we have proceeded but in a slight degree upon any scientific basis; our practice has mostly been either haphazard, or by rule of thumb, and the why and the wherefore has troubled us little. As our fathers have done, so have we, only improving a little upon their methods, just as new necessities arose, but still departing from their ways only to an infinitesimal degree. Perhaps, it may be asked, and that too with some aptness, why depart from those old methods if they have, through many long years, been proved to be good practice; and the answer would be hard to find, because from out of that practice have come very splendid successes. If slowly, at least surely, our gardening knowledge and practice has gone beyond that of our fathers, and therefore we have some things to be grateful for. Then there remains the question how far that improved practice might have been farther aided and benefited, if our garden workers enjoyed special rather than haphazard training. Certainly any such technical training, as it is suggested should be given, could hardly be afforded anywhere but in a few favoured centres, and through subsidized institutions. These must of necessity be available only to the comparatively few after all, and generally they could hardly expect to materially leaven the entire body of gardeners.

A good deal has of late been written as to the part the Royal Botanic Gardens, at Kew, should play in this work of training gardeners. Those who urge that Kew should be such a training institution, seem to over-look the fact that it is essentially a botanic garden, and that its real work is rather scientific than general or practical. Kew, no doubt, turns out many able and talented botanists, and not a few qualified to take charge of botanic and similar gardens. It also turns out a few prigs and pedants, who rather assume brevet rank amongst gardeners, because of their Kew associations, but these soon find their level. Certain it is that to have this national Botanic Garden utilized as a national training institution for horticulture is an absurd notion, and one which cannot be too soon dismissed.

If we are to set up a national training school or college of horticulture, it is certain that its object must be wider and far more practical than can be those of any botanic garden. Of necessity, it must train its students in book-keeping; in physical geography, that a thorough knowledge of the native habitats and habits of exotic plants may be acquired; in the Latin tongue, so that the principles which guide the nomenclature of plants may be obtained. A smattering of botany, a fair knowledge of chemistry, especially as relating to soils, manures, and the constitution of plants; and, not least, such practical subjects as drawing, mensuration, and the principles of construction of glass erections, heating them, &c., must be taught, in addition to actual labour in all the best branches of gardening. A good study of gardening in other countries would also be of exceeding value. Some four or five years of such training as an institution like this would give to any intelligent young man who took into it with him some previous knowledge of gardening, should turn him out really a first-class man, one, indeed, far beyond the average of gardeners of the present day.

But the question arises, when such an one is produced, would he be willing then to take an average gardener's situation. The prizes of the profession are few, and these have almost always been well filled by men trained entirely in private gardens and in nurseries, and as a rule they have well served their employers. No doubt there is ample room for increased intelligence amongst gardeners; but these are the products of lack of early education rather than of practical training. There is room, too, for more of polish; for there is too much of the rough-and-ready element, which it is hoped time and education will eliminate. A gardener will be none the less a respected and trusted servant that is somewhat of a gentleman, and assuredly he will be none the less a good gardener. The entire profession derives honour and strength from those of its members who show that, though but gardeners, they can be gentlemen also. Where it is purposed in early years to put a lad into the profession of gardening, certainly it is well he should have as much special instruction as he can obtain in drawing, mensuration, chemistry, book-keeping, and similar useful subjects, as these will certainly prove of immense value to the neophyte in time to come.

Still, into his mind must be strictly inculcated the principle of humility, for any novice in gardening must not hesitate to begin his practical learning at the very bottom of the ladder, hoping to rise from round to round as he ages, until finally he shall reach the topmost one, proud indeed that he began his ascent from the very bottom, and not, through some meretricious aid, half-way up. There is hardly an element in our present educational curriculum which will not prove of some value to a gardener. Still wiser is it to get a thorough grasp of a few specific subjects than to waste time over a dozen, none of which may be fully gripped. Boys who are to become gardeners want no time wasted over them in technical training whilst they are in school. They can pick that up fast enough when they get into a garden, and the better school education

hey have received the better students of practice and in practice will they prove. On the whole, we have, perhaps, no better schools of general horticulture than are found in good private gardens, and the training there received may well be supplemented by practice in leading nurseries, and in some of our best market establishments.

Protecting Wall-Trees.—Without doubt few matters create just now more anxiety in the mind of the gardener than does the protection of the bloom on his wall-trees. Really all kinds of protection are but evils, still, necessary ones. We may take the option of the lesser evil, involved in providing some form of protection, or the greater one of providing none, and letting the bloom take its chance. On the other hand, though it may seem paradoxical, yet it is a fact that, should the spring-time prove mild and genial, the greater evil of one season would prove the lesser one then, and to omit protection altogether would be the wisest course. But then, such is the uncertainty of our climate that we can be certain of nothing for twelve hours at a time, and the warmest of spring days may be followed by the coldest of spring nights. In such case it is wise to exclude some of the sun's power as it is well to exclude all that of the frost. Could we certainly foresee the climatic nature of our springs, how easily we might deal with genial ones, by letting well alone, or with cold and dangerous ones, by establishing for our wall-trees ample protection. Of course the best policy is to be fully prepared for all eventualities, but especially for frosty ones. A season of continued dullness and low temperature, though not absolutely frosty, is perhaps the most dangerous season of all, for so long a spell of cold will do mischief which the frost might have been prevented from doing. With the shelter of walls, the culture of wall-fruits should be easy enough, but such is not the case. Still, all experience shows that the gardener who can secure good hard ripened wood in his trees has more than half won the battle with nature in the spring.

Cupressus Lawsoniana erecta viridis.—This is one of those great acquisitions which are only produced a few times in a century, and for giving a character to garden scenery is hardly to be approached by any known tree. We meet with it everywhere—in pots in the market, in window-boxes in town, and all over the country in gardens it is the most prominent plant; but nowhere does it appear in such splendour as in its home, the Knap Hill Nurseries of Mr. Anthony Waterer, at Woking, where the specimens, 20 ft. in height, show it to great advantage. Knap Hill was the cradle of the original C. Lawsoniana, which is the great favourite with landscape gardeners, and its variety erecta viridis is in every way before it in merit. Cedrus atlantica glauca, one of the most telling of coniferous plants, and the glaucous-leaved form of the common Spruce Fir, which is one of the most beautiful as well as the hardiest of the tribe, are also worthy of note at Knap Hill.

Saxifraga ligulata.—This early-blooming, large-leaved Saxifrage is now a conspicuous feature in my cold-house. I have two large plants, one in a 12-in., the other in a 16-in. pot, well established, and now charmingly in bloom; plenty of large spikes of flower rise up from among its leathery heart-shaped leaves. This species flowers so early in the open ground that it is often cut off by frost. On the warm sunny slopes of Belvoir Castle, Mr Ingram uses it largely, and with striking effect, but finds it necessary to cover it up at night when frost is imminent. My plants go out of doors as soon as they have done flowering, are kept well watered, and are taken within doors late in the autumn.—*E. W.*

Gardening Miscellany.

The first exhibition of the season of the Manchester Botanical and Horticultural Society will be held in the New Town Hall, on Tuesday and Wednesday next.

On Wednesday and Thursday next the Preston and Fulwood Horticultural Society will hold its spring Show.

The grand Quinquennial Exhibition of Bulbs, organized to celebrate the fourth centenary of the Haarlem Society of Bulb Growers, will be opened at Haarlem on Friday next. The exhibition will close on the following Tuesday.

Mr. Andrew Jamieson, gardener, Haigh Hall, Wigan, read a paper of a good practical character at the meeting of the Liverpool Horticultural Association, on Saturday last. Mr. J. Smith, of Waterdale, St. Helen's, the well-known grape grower, also read an excellent paper on the Vine at the same meeting.

The Council of the Royal Horticultural Society have appointed a small committee to organize a Primula Conference for the spring of 1886, and which it is presumed will take place on the same date as the National Auricula Society's exhibition.

Mr. William B. Bridgford, head of the old-established firm of Thomas Bridgford & Sons, 48, Lower Sackville Street, and Spafield Nurseries, Ball's Bridge, Dublin, died on March 1st.

At the Sale of the new Lælia anceps Schroderiana, at Protheroe and Morris's Rooms, on Tuesday, nearly 50 lots in all, were disposed of at prices ranging from 20 gs. to 40 gs. each for the larger pieces.

The rare Phajus tuberculosus, which has only twice before flowered in this country, once with Sir Trevor Lawrence, and more recently with Mr. Dorman, has just flowered with G. F. Wilson, Esq., F.R.S., who showed a spike of 10 flowers on Tuesday, at the meeting of the Floral Committee.

At the last meeting of the Chambre syndicale des horticulteurs, at Ghent, Certificates of Merit were awarded to Mr. Ed. Pynaert, for Begonia sceptrum; to Mr. Aug. Van Geert, for Korthalsia robusta; to Mr. F. J. Spae, for Imantophyllum Ambroise Verschaffelt; to the Compagnie Continentale d'horticulture, for Odontoglossum Edwardi, Phalænopsis Stuartiana, and Camellia General Stewart; and to Mr. James Bray, for Cattleya Trianæ, Popyan var.

On Monday and Tuesday the collection of plants belonging to E. J. Coleman, Esq., will be sold by Mr. Stevens, on the premises at Stoke Park, Slough.

The stock of the fine new Violet Wellsiana, which was raised by Mr. Wells, of Winkfield, and certificated by the Floral Committee last year, has passed into the hands of Mr. Turner, of Slough.

The Spring Show of the Glasgow and West of Scotland Horticultural Society is fixed to be held on March 25th; and the Autumn one will be held on September 2nd.

At a general meeting of the Royal Horticultural Society, held March 10th, at South Kensington, Dr. M. T. Masters, F.R.S., in the chair, the following candidates were elected Fellows of the Society:—Samuel Deards, William Glover, Alfred Harley, Rev. G. B. Haydon, Enoch Harvey, William B. Head, James Flood, Robert B. Lemon, Ernest Mathan, E. J. Painter, J. Potts, T. W. Rudston Read, D.L., Charles F. Shaw, Henry Smith, Mrs. Frederick Tantz, Charles Temple, William Vanner, and Alfred Williams.

The quantity of cut-flowers now being imported from France may be estimated from the fact that one of the largest dealers in Birmingham is now readily disposing of 700 dozen bunches five days in the week. They consist chiefly of white Lent Lillies, Narcissus in varieties, White Stocks, Marguerites, Anemones, and Violets. Surely the love for cut-flowers in our great centres of industry is looking up.

A New Use for Moss.—In Norway and Sweden accumulations of moss, often more than a foot thick, and half decomposed, serve to make paper and mill-board, as hard as wood, blocks of which, formed by the hydraulic press, may even be turned in the lathe and polished. This substance is said to possess the good qualities of wood without the defects, such as warping and splitting, so that it is suitable for making doors and windows.

ON WARMING POTTING COMPOSTS.

From this time onwards for a month or two much potting is done, and sometimes it has to be performed under very adverse circumstances. Where a number of plants require shifting from one pot to another in one house, probably the simplest method is to have a temporary bench erected in the same house, and to have the soil carried in to warm some hours before it is wanted for use, but more often it has to be performed in a cold potting-shed. To place plants from warm houses into cold soil would be to invite failure, so that if we are compelled to remove plants from warm houses in order to pot them, we should at least make the soil into which they are put congenial to their requirements; and if returned to their proper quarters with as little delay as possible, no harm will accrue.

We have adopted several methods for getting the soil into a proper state for the reception of the plants, such as making it up the night before, and putting it in a warm house till convenient to use; and by heating some sand on a fire, and mixing it with the compost when making up the same, which also answers very well; but the plan we most frequently adopt is to put some bricks on the fire and make them very hot, then bury them in the soil we wish to have made warm for half an hour or so, when the whole is turned over and thoroughly mixed. By this simple means it is an easy matter to get soil in the best possible order for potting in little more than an hour, while to warm the same amount of soil by standing it in a warm structure it would take twelve times as long.

Where first-rate accommodation is not provided for storing composts under cover, and the same has to stand out-of-doors, exposed to all weathers, it will frequently get too wet for present use, and to wait for the same to get dry in the ordinary way would mean, to say the least, a great delay, and here again the bricks made very nearly or quite red-hot, and buried in a heap of soil, will be found of immense service. Three bricks buried in a barrowful of wet mould, and allowed to remain there until the whole gets cold, would be found to have brought a saturated soil to a workable state, and, if anything, the charring will do the whole good. Often success or failure depends upon a proper state of the soil at potting time, and too much attention cannot be paid to the preparation of the same, for if not properly carried out then, ills may be brought about which no after-treatment will remedy.—*C. W.*

HERBACEOUS PHLOXES.

Permit me to offer a few remarks respecting these extremely useful and showy perennials, to which your correspondent "D." alludes at p. 420. It is evident that your correspondent has experienced some difficulty in raising Phloxes from seed, and judging by his observation further on, where he says, "perhaps the coating of the seeds hardens so much by exposure and drying, that germination cannot result," it would appear that the actual seeds had never been removed from the capsules. There is no better time for sowing the seeds of these Phloxes than the late autumn months, or as soon as they can be collected and dressed; and by being dressed I mean the removal of the capsule which contains the seeds. This done, sow in the ordinary way, regulating the surface covering of the soil according to the size of the seeds; in the present instance a quarter of an inch covering will be ample. If sown in the open ground, place some slates over the seeds, to maintain the soil in an uniformly moist condition, and to prevent it from being dashed from the seeds by heavy rains. The slates will also prevent any interference from birds, cats, or other intruders. Seeds may, however, if placed in air-tight vessels, be kept till February or March, and then be sown in slight heat; no system, however, can surpass that of sowing the seeds as soon as they are ripe.

It may be mentioned that self-sown Herbaceous Phloxes are a rarity, the reason for this being that the flower stems, if allowed to remain on the plants, will retain the capsules intact for several months, indeed I have known instances of plants in shrubberies or cottage gardens that have retained them till several inches of new growth have been made; but the flower stems in most cases being removed the seed goes with them to the rubbish heap. Another reason why self-

sown plants are rare is the unusual hardness of the capsules, which may be buried for months with impunity, and the seeds being uninfluenced by light and heat will remain dormant. Your correspondent will have no difficulty in flowering his seedling Phloxes in the autumn if they are pricked off into a bed of rich loamy soil, and liberally supplied with water in case of dry weather. It would not be wise, however, to discard any until the second flowering, as they will then have gained ample strength to produce good heads.—*E. Jenkins.*

FLOWER SEED SOWING.

How Seeds Germinate.—It was once remarked that gardeners, as a rule, are, generally speaking, strangely indifferent to the why and wherefore. They procure seed, sow it, and wonder why its production should only be a very limited number of plants. And then in some instances they sit down and write a passionate letter to their seedsman, reviling him for sending seeds that do not grow—jumping to the conclusion that he, and he alone, is at fault. But how few ever consider how many causes there are, and how many really physical properties are required in the proper development of the plant. Professor Gray, referring on one occasion to the Convolvulus, said:—"The seed first imbibes some moisture through its coats, swells a little, and, as it feels the warmth, the embryo gradually wakens from its long and deep sleep, and stretches itself, as it were, that is, the embryo lengthens and its end bursts through the coats of the seed; at the same time the two leaves it bears grow large, straighten themselves, and so throw off the seed-coats as a loose husk. This allows the seed-leaves to spread out, as leaves naturally do, and so the seedling plants stand revealed. At the very beginning of its growth the end of the little stem which first comes out of the seed turns downwards and points into the earth. From it the root is formed, which continues downward, branching as it grows, and burying itself more and more in the soil. The other end of the stem always turns upwards, and, as the whole lengthens, the seed-leaves are brought up out of the ground, so that they expand in the light and air, which is the proper place for leaves, as the dark, damp soil is for the roots.

"What makes the root always grow downwards into ground and the stem turn upwards, so as to rise out of it? We no more know for certain than we know why newly-hatched ducklings take to the water at once, while chickens avoid it, although hatched under the same fowl and treated just alike. But the fact is always so. There are powerful determining forces operating to control these things, though we know not how. But the why is evident enough, for the root is thereby at once placed in the soil, from which it has to absorb moisture and other things, and the leaves appear in the air and light, where they are to do their work.

"It is worthy of notice how early the seedling-plant is complete, that is, becomes a real vegetable, with all its parts, small as the whole thing is. For it already possesses a root to connect it with the ground and draw up what it needs for that; a stem to elevate the foliage into the light and air, and leaves to take in what it gets directly from the air, and to digest the whole in the light. It already has all the organs of vegetation, all that any plant has before blossoming, so that the little seedling can take care of itself and live just as any large plant lives upon the soil and the air. And all it has to do in order to become a full-grown plant, is to increase the size of its organs, and to produce more of them, namely, more stem with more leaves above, and more roots below. We have only to watch our seedling-plants a week or two longer, and we shall see how this is done.

"The root keeps on growing underground, and sending off more and more small branches or rootlets, each one adding something to the amount of absorbing surface in contact with the moist soil. The little stem likewise lengthens upwards, and the pair of leaves on its summit grow larger. But these soon get their full growth, and we do not yet see, perhaps, where more are to come from. But now a little bud, called the plumule, appears on the top of the stem, just between the stalks of the two seed-leaves; it enlarges and unfolds into a leaf; this soon is raised upon a new piece of stem, which carries up the leaf, just as the pair of seed-leaves were raised by the lengthening of the radicle or first joint of stem in the seed. Then another leaf appears on the summit of this joint of stem, and so on. And so the plant grows on the whole summer long, producing leaf after leaf, one by one, and raising each on its own joint of stem arising from the summit of the next below.

"Growth requires food in plants, as well as in animals, to grow into a plant. The embryo in a seed must be fed with vegetable matter, or with something out of which vegetable matter can be made. When a plant has established itself, that is, has sent down its roots into the soil, and spread out some leaves in the air, it is then able to change mineral matter, which it takes in, into vegetable matter, and so to live and grow independently. But at the beginning, before its organs are developed and established in their proper places, the growing plant must be supplied by ready-made vegetable matter, furnished by the mother plant. On this supply the embryo germinating from the seed grows and feeds just as the new-born animal does upon the mother's milk, or as the chick developing in the egg does upon the prepared nourishment the parent laid up for the purpose in the yolk.

"Take a fresh Convolvulus seed and tear it open, or cut a dried one in two, and this supply will be seen in the form of a rich and sweetish jelly-like matter, packed away with the embryo, and filling all the spaces between its folds. This is called the albumen of the seed, and this is what the embryo feeds upon, and what enables its little stemlets to grow and form its root downwards, and carry up and expand its seed-leaves in the air, and so become at once a plantlet, with a root, stem, and leaves, able to take care of itself, just as a chicken does when it escapes from the shell. The moist, nourishing jelly would not keep long in that state, so when the seed ripens and dries, it hardens into a substance like thin dried glue or gum, which will keep for any length of time; and whenever the seed is sown and absorbs moisture, this matter softens into a jelly again, or gradually liquifies, and the seed-leaves crumpled up among it drink it in

MR. B. S. WILLIAMS'S CROTON AND DRACÆNA HOUSE (*see* p. 440).

at every pore. A portion is consumed in their growth while the rest is carried into the growing stemlet, thence into the root forming at the end of it, and into the bud, which soon appears at the other end of it, supplying the materials for their growth."

We thus see how the innate energy stored up in the seed-pod acts and ministers to the necessities of the embryo plants. What can the gardener do? There are two things he can supply that will greatly assist the development of the plants; one is suitable soil according to the requirements of the plant; the other is a suitable temperature in which these forces can operate in the most satisfactory manner. We have tried to teach amateur gardeners by imparting to them a knowledge of certain facts regarding the physiology of the plant. Let them assist the struggling embryo in such a way as to enable it to develope into a sturdy and perfect plant.—*Quo.*

THE LATTICE LEAF PLANT.

The lattice-leaf plant of Madagascar, Ouvirandra fenestralis, is at present in a very flourishing state in two of the water tanks in the stoves at Tatton Park, Knutsford. For a number of years they have been successfully grown here. And as I can remember them for nearly twenty years, it is just possible that a plant of the first importation was secured, and ever since it has been healthily represented at Tatton. A few days ago, admiring them with Mr. J. Atkins, who last summer took charge of this fine and extensive establishment, in answer to my request, he willingly gave me a couple of perfect leaves, which to-day I have measured, and found one to be 13 ins. long by 5 ins. broad, the other 12 ins. by 4 ins. These are by no means exceptional leaves, as there were hundreds on the plants, and whilst a large number would be similar in size to those mentioned above, others would have been even larger still.

The conditions under which they are grown may perhaps form the subject of a note from Mr. Atkins on some future occasion. One thing, however, deserves mention, there are no white, shining glazed tiles about the tank to show the beautiful skeleton formation of the leaves. There is just a possibility that these white surfaces are far more injurious—not only to plants such as these under water, but even to many others on the stages that are compelled to endure reflected light the whole of the seasons through—than is sometimes admitted.—*W. Swan, Fallowfield.*

OMPHALODES VERNA.

I met with this lovely creeping Forget-me-not last spring in a Kentish farmhouse garden—one of those old-fashioned, delightful, bewitching gardens that was planted fully fifty years ago, and which is frequently and many of the old-fashioned biennials and perennials garden must have been planted fully fifty years ago, met with in the more remote country districts. This remain to this day, extending themselves by root-growths, or maintaining an existence by seeding themselves, and the seeds germinating where they drop. From time to time this garden has been enriched by the bestowal of some new occupant from a neighbour, and I imagine that it was in this way Omphalodes verna had come to find a place in it, though it is old enough to be in every garden in the kingdom, for it was introduced from Southern Europe as far back as 1633. It had been planted in a moist sandy loam on a north border, and here it had spread, thrusting out its creeping shoots until they availed themselves of the grateful protection and shade of some shrubs, and here it was flowering as one would always desire to see it—freely and finely. In some old gardening books, it is known as the Blue Navelwort, though the common Navelwort is represented by Cotyledon umbilicus. This is called the Navelwort from the shape of its leaf, but Omphalodes is composed of two words signifying like the navel, referring to the seeds and not the leaf.

Though the Omphalodes greatly resembles the Forget-me-not, the flowers are larger and of a more intense blue. I never saw it in such perfection as on the genial sunny slopes of Belvoir Castle, where every choice spring-plant appears to flourish in a remarkable degree, and where that king among spring gardeners —Mr. William Ingram—uses it to such excellent purpose. There it grows profusely, and flowers early and freely, affording patches of lovely blue, preceding the Forget-me-nots, but prophetic of their later floral service. This, Myosotis dissitiflora, Anemone appenina, Scilla siberica, and the deeper violet-coloured Aubrietias all yield varying shades of blue, diversified by tints of this same colour afforded by other serviceable subjects. Last spring I brought from Kent, and planted under a west wall, where it could have some shade during the hottest part of the day, a patch of the Omphalodes. I was afraid the hot summer would have roasted it up, though I almost buried it by using a deep covering of cocoa-fibre, but it is growing freely to my great delight, and has extended itself, and will I hope bloom well. But except it is in very favourable situations it cannot be expected to flower freely. It is a plant requiring a cool, shady spot, and one fairly moist. There is a white variety of it, but for spring work it is scarcely so valuable as the blue type.—*R. D.*

PERPETUAL FLOWERING CARNATIONS.

I have received the following communication, which, with your permission, I should like to answer through the medium of The Gardening World.

"As an amateur I am passionately fond of Carnations, but I find great difficulty in striking the cuttings at this time of year. The plants from which my cuttings were taken, are some in flower and others coming on; they are kept in a temperature of about 53 degs. to 60 degs. The cuttings were formed of the young side-growths about 1½-in. long, and were inserted, one in the centre of a 2-in. pot in sandy soil. They were placed in a propagating-case and get bottom-heat at night, but little (if any) by day, for if sunny the fires are stopped, so as not to run the temperature up too high by means of both sun and fire, but I find my cuttings keep going off; would you oblige me by answering the following questions:—

"1. What ought to be the condition of the cuttings when taken off?

"2. If they should be kept quite close, plunged in a dung-bed day and night?

"3. If gently syringed daily, and at once closed up again—or should they, after their dewing over, be allowed to dry and then be closed up and kept close?

"4. Is a dung-bed the best to strike them in, or a propagating-case such as mine are in?"

It does not seem quite clear as to what is the cause of failure in striking the cuttings. The temperature in which my correspondent's plants are kept is rather high, but that would be beneficial, rather than otherwise, for the production of suitable cuttings for propagating purposes, provided they are clean and healthy. The cuttings as described appear to be about the right stamp, but the method of placing one in the centre of each 2-in. pot, I think, is not common, as it is well known that most cuttings root more freely when they feel the sides of their pots, and my experience with the Carnation teaches me that it is no exception to the rule. I think that a regular bottom-heat night and day is better for the cuttings than shutting it off part of the time. Is it possible that "Amateur," after draining these small pots well, placed the heel of his cuttings upon that drainage. If so, they will not root, or at least are very slow in doing so, and are very liable to go off.

1. Small side-shoots taken off the sides of flowering-stems, from 1½ ins. to 2 ins. long, with a heel, make the best cuttings.

2. Great care is necessary in the preparation of beds of fermenting materials, for if not well fermented the rank steam is liable to injure almost any vegetation. Carnations dislike a stuffy and close atmosphere, so that it is necessary to leave a chink of air on night and day to let off superabundant moisture and steam. I never plunge cutting-pots on dung-beds but very slightly. They should remain in this situation till rooted.

3. I never damp my cuttings of Carnations except when watering them, which is done through a fine rose-pot in the morning, and then water is only given to such as are dry. As before stated, the frame is seldom closed up, owing to the steam generally rising from dung-beds.

4. I certainly do consider a dung-frame, when properly managed, the best place for propagating these cuttings, and one which is sometimes adopted by some growers, when every other convenience is at hand. I would recommend "Amateur" to try the plan of putting his cuttings around the side of 5-in. pots, with one 2 ins. or 2½ ins. in diameter plunged in the middle, and place them at the foot of a frame in which either Cucumbers or Melons are being grown. Of course, now that the sun has greater power, more care must be taken as to shading, &c., than when put in during the months of January or February, but if I were asked what month to choose for getting the greatest percentage of cuttings to root I should choose March, and a dung-frame as the situation. A few squares of glass laid over the cutting-pots, and resting on the labels above the plants, assist in keeping the cuttings a little closer, quite early in the season, but they are not necessary at this time of year.—*C. Warden.*

USEFUL AMATEUR'S PLANTS.

I propose drawing attention to a few of the less seldom grown, though very useful cool greenhouse plants, that any amateur who has tried his 'prentice hand on Geraniums, Fuchsias, and Ferns, can succeed with. These are Diplacus, Coronilla glauca, Eupatorium, Crassula coccina, Tropæolums, Hermine Grasshoff and others; Lantanas, Libonia floribunda, and Cupheas. I am not going to say that these all require simple, or even similar treatment. All plant-culture is simple when it is thoroughly understood; and if groups that can be propagated and grown under similar circumstances are classed together, it may assist the amateur in becoming acquainted with more varieties.

In one feature the group named above are in accord, and that is that they all root readily from shoots or slips taken off with an heel. Slips from these plants in the best condition for rooting should be "slipped off" by the base from old plants that have been rested, shaken-out, re-potted, and started afresh in a little bottom heat. The rooting process should be carried on in a bottom and top heat 5 degs. or more higher than that in which the old plants made their start. Should a hot-bed or a plunging bed be at the command of the operator (a useful one can be made up in a corner of the cool greenhouse), he will be able to root these things readily, either in thumb pots, or pricked round the edges of cutting pots.

A plan that I have found successful in getting up a small stock quickly is to put each cutting separately in a thumb pot, and to place all the pots in a plunging box, having a sheet of glass large enough to cover it. I pack the pots in cocoa-fibre and shade them with a newspaper for a few days. I find that by using the pane of glass and the plunging-box, there is less risk of damping off, as one good watering when the slips are put in, will carry them through the rooting stage. A light sprinkling overhead may be required occasionally, but a flooded state is objectionable. Lift the glass every day or two and wipe it dry. A good soil for rooting these plants in may consist of three parts turfy loam, not too fine, and one part each of leaf-mould, sharp sand, and finely broken lime-rubbish — rejecting the fine dust. One crock fitting loosely over the hole in the pot and a good pinch of moss will be sufficient drainage in the first instance.

There is not so much hurry in potting on these plants if raised in thumb-pots, as when the cuttings are placed in cutting-pots, as they turn out and re-pot better if the roots are allowed to get a good hold of the soil in the thumb-pots before being disturbed. If these plants are wanted to bloom early in a small size, pottings into 3-in., and afterwards into 5-in. pots will be all that they will need; and pinching back to two or three joints will—except in the case of the Crassula which will be as well unpinched—form a nice head. The Diplacus will require slender stakes 12-in. or 15-in. long; so will the Eupatorium. The Tropæolum may be allowed to droop downwards on the front of the plant-shelf, or it may be trained to a ladder. The others will require a centre-stake. In re-potting use plenty of crocks, pot firmly, and add one part of well-decayed manure to the compost.

For larger specimen plants 8-in. pots will be required; and the shoots must be kept pinched back till ready for the last shift. But the amateur will have some difficulty in getting a show of bloom the first

season—at least with the Libonias, Coronillas and Crassulas, in this size pot. The second year they will make splendid specimens, requiring once shaking out, and starting in a smaller sized pot. These things all bloom freely when they have filled their pots with roots, and most of them last a long time. They require when in bloom weak liquid manure twice a week.—*Authentes.*

SPRING-FLOWERING CROCUSES.

At p. 429 of the last issue of The Gardening World, we find a paper on the "Species of Crocus," by "Quo," in which it is remarked that the beauty and variety of the forms of Crocus vernus, found just now in our gardens, serve to divert attention from some other very beautiful species of Crocus. This no doubt is the case. All the species are more or less handsome, and they now number about seventy. In The Gardening World for November 8th, p. 151, a list of the autumnal species was given by me, with a brief description, and the wild habitat of each species. A reference to that paper shows that of the twenty-four autumnal species, twenty-two are in cultivation, some of them being not less beautiful than their spring cousins.

The position in which they are seen to most advantage is in clumps amongst the grass, which forms a lovely background. Coming now to the spring-flowering species, which, according to Mr. G. Maw's enumeration, number forty-three, we may notice that nearly forty of these are also in cultivation. It would perhaps be rather tedious to give an account of all these in your columns, so I will confine myself to mentioning a few additional species to those mentioned by "Quo." I must, however, demur to C. Sieberi being an autumn-flowering species, for it is now in flower, and must undoubtedly be classed as an early vernal species. Of yellow-flowered species, beside C. aureus, with its numerous varieties, we have C. chrysanthus, also C. Olivieri, a free-flowering species, with fragrant, orange-coloured flowers. Then C. garganicus is of the same colour, but with brown stripes on the outer segments. C. Balansæ is one of the most striking and pretty species of this group, for the outer segments are often uniformly suffused with bright chestnut, of a shade extremely difficult to describe.

Of the group with purple-feathered markings on a light ground, there is beside C. Imperati and C. biflorus, the very handsome C. versicolor, with its primrose-scented flowers. It is heavily feathered with rich purple, some of the forms being almost suffused with this colour. C. nevadensis and C. etruscus also belong to this striped group. C. Tommasinianus and C. ærius have lavender-purple flowers, the latter being an especially charming plant. For a deep purple we have C. banaticus, an extremely rich-coloured flower. The whole of these notes have been taken from plants now in flower, but do not nearly exhaust the list. Several species have recently been introduced, but are still rare, though a few of them look very promising. In the herbaceous border the position for the species of Crocus is undoubtedly the margin of the border, for they can easily be avoided in digging when so planted, but of all positions there is none perhaps, in which they show to more advantage than when planted in clumps in the grass of the wild garden.—*X.*

TUBEROUS BEGONIAS.

These will now require attention, and, if not already commencing to grow, should be placed in heat to give them a start; where they have been stored away in the pots that they were gown in last season, and room can be spared to start them in the same pots, it will be better not to disturb them until they begin to grow. They should then be shaken out and potted back into smaller pots, and any of the large corms that are throwing up several shoots may be divided. For cutting the corms through, a good sharp knife should be used, so that a clean cut may be made, and a little dry sand should be applied to the parts that have been cut. In any case where the corms have been cut, it will be better to withhold water for a day or two after they are potted.

Where the corms have been turned out of the pots before they have started into growth, or, in the case of those taken up from the ground, it will be a good plan to start them in pans or boxes; the corms may be placed nearly close together, and should have only a slight covering of light sandy soil; the corms can then be taken out and potted as they commence to grow. The objection to potting them while they are quite dormant is, that they are very liable to get over-watered, and the soil then becomes sour before the plants have made a start. After the plants are potted, they will require a little warmth, and should be kept quite close for a few days until they have taken root in the fresh soil. A good position is a heated pit; air can then be given as they require it, and after they are well started into growth, artificial heat may be dispensed with. Plants that are to be grown on for flowering in pots should be potted on into their flowering-pots as soon as the smaller pots are well filled with roots. Plants that are to be grown on as specimens should on no account be allowed to get pot-bound before they are potted on.

Compost for Potting.—They will thrive in any good, rich, porous soil; but what we recommend as the most suitable is, fibrous-loam, leaf-mould, and well-rotted stable manure in equal portions, with a liberal addition of sand, and a little horu or bone manure, and the pot should be well drained.

Watering.—Few plants are more sensitive than this class, either in regard to over-watering or in being allowed to become too dry; therefore the greatest care should be taken that they are regularly attended to, a slight syringing overhead occasionally will be beneficial, and this may be done when the plants are in flower without damaging the blooms.

Shading.—Although they require a slight protection from the bright rays of the sun during the hottest part of the day, yet it is a great mistake to shade too much. We may add that the flowering-season may be considerably prolonged if the plants are regularly supplied with weak manure-water, from the time the pots are well filled with roots.

Varieties.—In no class of plants has so much improvement been made by the hybridist as with the Tuberous Begonia, and as fine varieties may now be obtained from seed, it would be useless to give a list of named sorts, especially as these are so numerous, and are being constantly superseded by improvements. Therefore, we should recommend that anyone wishing to add to their collection should either leave the selection to any of the nurserymen, who make these a speciality, or make their own selection from plants in flower.—*A. Hemsley.*

BALSAMS AND BALSAMS.

"The Balsams raised from the seed I had last year were perfect rubbish," said a gardener to me the other day. I was a little taken back at first by this statement, because another person had told me, only a few days before, how good his were raised from the same lot of seed. The last was able, being neighbours, to qualify the statement of the first; he admitted that the seeds were put into a hot Cucumber-bed, and that the seedlings were allowed to remain there until they became so drawn and attenuated that it was impossible they would ever make good plants. Is it, then, to be wondered at, that the flowers were unsatisfactory? The one who had succeeded gave me his method of culture in the following words:—

"About the middle of April the seed was sown thinly and evenly over the surface of a shallow box, and enough of fine soil sprinkled upon the seeds to cover them up; they were put into a dung-bed, and as soon as up air was given, but without lowering the temperature below 60 degs.; as soon as the plants were strong enough to handle they were pricked off round the sides of pots of rich light soil, about 2 ins. apart, with the seed-leaves about an inch above the surface; as soon as strong enough, they were potted singly into sixty-sized pots, placing them so deeply in the soil, that the first leaves almost touched the surface, and as they grew the pots were plunged into a tan bed of moderate heat. As soon as the plants had grown strong enough, they were re-potted into 4-in. pots, and raised from the tan bed, so that the plants did not quite touch the glass; and as soon as the roots had reached the sides of the pot they were again re-potted in others, fully 6 ins. in diameter, and again lowered in the soil, for it is found that Balsams throw out roots from the stem."

Then followed another shift or two, because the cultivator was desirous of having large, robust, and well-managed specimens. A rich soil was used: good loam, leaf-mould, and well-decomposed manure. The buds were picked off until the plants had reached the required size, and then they were allowed to flower. Any that promised to be inferior—and some of these will come among the best strain of Balsams—were hardened off and placed in the open ground. As soon as the plants were too large for the frames they were placed on the front stage of a greenhouse, and turned round every day or two, so as to secure a symmetrical head of bloom. In this mode of treatment was seen all the difference between plants drawn up and lanky, and shifted only once, and those properly tended and grown on into good specimens.

Now, a few words as to the treatment of Balsams for exhibition purposes. By constant re-potting, as the roots reach the sides of the pots, and keeping the plants near the glass, they can be grown very large, and flowers will cover the stems all round; if the buds are picked off from the middle stem until there are buds on the side shoots, and thinned out, so as to leave them nearly of a size, 2 ins. apart all over the plants, a good head of average blooms can be secured. The plants will be benefited by an occasional syringing, but not when in bloom. By keeping the stage about the pots moist, the plants shaded from the sun, and well watered, the best of exhibition Balsams can be secured.—*E. W.*

NEW GARDENING PATENTS.

[*Compiled by Messrs. Lulman & Co., Patent Agents, 8, Essex Street, Strand, W.C.*]

10,004. Preparing and Applying Lime for Agricultural Purposes (J. Brown, Edinburgh).—Anhydrous lime, as taken from the kiln, is finely divided or pulverized, and is caused to be covered in or well-mixed with the soil.

11,127. Manures (J. Mactear, Glasgow).—This relates to the manufacture of chemical manures. The manure, as discharged from the mixing-trough, is received upon a drying-bed formed over a horizontal furnace-flue. Above the drying-bed are two or more endless chains, having cross-bars to which prongs are fixed, these prongs serving to break up the manure materials as the chains are driven by pulleys. The finished manure is conveyed by a screw along a pipe or duct, provided with a number of outlets or delivering-mouths fitted with slides.

11,662. Fences (B. Scarles, Massachusetts, U.S.A.)—In fencing, consisting of vertical pickets with horizontal wires, the pickets are supported by hitching the strands of the wire round them. The wire may be composed of two or four strands, and one or more of these strands is hitched round the picket in single or double hitch. A cap is secured to the top of the picket, fastened to a flange, through a hole made for the purpose.

4,805. Ornamental Window Boxes, &c. (G. Sutton Lancaster).—The surfaces of the articles are ornamented by printing designs upon them. The printing-surface used being made of elastic material, in order to obtain an even impression upon the hard surface of the window-box.

3,819. Roses of Watering-Cans, &c. (J. Ludlow, Birmingham).—The front perforated part of the rose is made of copper. The back conical unperforated part of zinc. The edge of the copper is spun round a bead of zinc.

4,348. Anti-Fouling, Anti-Corrosive and Preservative Paint (H. J. Haddan, London).—This is a composition containing iodine, powdered carbon, spirits of turpentine, carbolic acid, red ochre, and linseed oil. Driers, and additional linseed may be added before use if necessary. It is applied with a brush like ordinary paint.

4,352. Rakes (W. R. Lake, London).—Relates to hand-rakes for garden or field use. The rake-head consists of two narrow strips of rolled metal, with semi-circular depressions, having edge-flanges, or mid-ribs, which, when brought together, form slightly-tapered circular receptacles for the teeth. These teeth are tubular, having the upper ends slightly drawn in to form a taper thereon, while the lower ends are drawn down to a round or pointed shape. The teeth are secured to the rake-head by burring down their upper ends thereon. The handle socket has a V shaped recess to fit over the central rib of the rake-head. The bow-brace is formed of semi-tubular or inverted U shaped metal, flattened where it is rivetted to the handle and rake-head.

The Amateurs' Garden.

THE GREENHOUSE.

While the weather is gentle and mild, no fires will be needed, but should it change, it will be necessary to exercise much care to keep frost out, and in ventilating, as March winds are often very cutting, and unless air is given cautiously, much harm will result to the plants. These will now dry fast, and should be looked over frequently to see that they do not suffer from want of water, which, when the ball is dry, ought to be given in sufficient quantity to wet it thoroughly through, and especially is this important in the case of hard-wooded subjects, such as Heaths, Epacris, and Azaleas, to make sure of which being properly soaked, it is a good plan to water them a second time, filling the pots as full as they will hold, when they should stand without more till they become dry again. Treated in this way plants cannot fail to be healthy, as the soil they are in remains sweet and good, thus favouring root-action and a corresponding free growth of the top.

Soft-wooded things like Cinerarias, Pelargoniums, Spiræas, Calceolarias, and others of that class that are now flowering, or growing freely, can hardly be kept too wet, especially if they are pot-bound, and the drainage is free, as the more limited the soil the greater the quantity of water they want. One of the showiest and best plants for amateurs, as mentioned in our last, is the Imantophyllum miniatum, which has fine, dark, thick, narrow leaves, about 18 ins. long, and sends up magnificent heads of large Lily-like flowers of a bright orange-scarlet, which last a long time in perfection. Gladiolus Colvilli is so lovely that no greenhouse should be without it, as it is very early, and affords great variety in the lovely colouring of their petals, and there is a pure white kind, The Bride, which, as well as the others, is valuable for cutting, and all form charming pot-plants. As the bulbs are small, they should be potted, six or so in a 7-in. pot, the soil most suitable being fibry loam, in which the bulbs should be just buried, and have but little water till they come well into leaf. Gladiolus byzantinus is also a fine thing for pot culture, and the tall kinds, seedlings of G. Brenchleyensis and G. gandavensis also make a fine show.

BEDS AND BORDERS.

The pruning of Roses ought now to be no longer delayed, as every day's growth at the ends of the shoots weakens the back buds, which require all the sap now to make them push strongly. To prune Roses properly some little knowledge of sorts is required, as Teas only need a little shortening back of the large shoots and a thinning out or cutting away of the weaker, and the climbing sorts, such as Maréchal Niel, Gloire de Dijon, Solfatérre, and the Banksians, must not be cut in at all, but simply thinned nd have as many of the best shoots laid in or left as breast-wood as there is room for, when they will send out flowers along their entire length and make a magnificent show. Perpetuals, either standards or dwarfs, may, as a rule, be pruned back to two or three buds, and the weak shoots cut out, that the others may be left regular with plenty of room to send out the young growths. If the plants are dug between or around, the ground should only be just pricked over or broken up shallow, or the roots will be injured, and to give these every chance it is better to top-dress with rotten dung or droppings of stable manure, either of which may be hidden by sprinkling a little soil over and leaving it to be washed down by the rain.

Herbaceous plants of all kinds will now be starting in the borders, and in cases where they have become large, or are spreading too far, may be divided or reduced, and the pieces taken off transplanted elsewhere, as at this season they can be moved with perfect safety and soon get strong hold again. The best way is to cut the crowns right through with a sharp spade and dig the portion up bodily, leaving the other to grow on again where it stands, but, to give this part every encouragement, the hole made by the side should be filled in with rich soil, and this pressed firm to the roots. For making a fine display there are few things equal to Gladiolus, and, though the named kinds of these are dear, seedlings almost equally good may be had cheap, as plenty are offered at about 20*s*. per 100. Brenchleyensis, that grand old sort which sends up brilliant spikes of scarlet flowers, may be had for even less, and with care in planting and storing when once purchased the stock may soon be increased, as they form other corms at the side. To have the plants in bloom early no time should be lost in planting, and it is a good plan to put more in later on to keep up a succession.

The way Gladiolus look best is in clumps of three, the bulbs or corms being put in triangularly, at about 6 ins. apart, or they may be dotted singly among dwarf Roses, or other low-growing plants, in which positions they raise their bold heads and make a fine show. The right depth to plant is about 4 ins., the soil most suitable being that which is rich and sharp, and if not the latter, the bulbs should be covered with sand, which will drain off the water from them and keep them more healthy.

With the beds and borders in trim, attention should be directed to the walks and lawn, as well as verges or edgings, that they may be put in proper order, the first-named of which, if weedy, discoloured, or uneven, had better be broken up, and re-surfaced with fine binding gravel, and if this is then rolled down, after rain, it will soon become firm, and look fresh and well for the season. To have a lawn or grass verges in good condition, they must not only be level, but free from weeds, which are a great disfigurement, especially such as Plaintain, Dandelion or Daisies, all of which may soon be destroyed or eradicated by wetting their crowns with vitriolic acid, or spudding them out. The first method is the quickest and easiest, and will therefore commend itself, but the use of the acid requires care to keep it from the clothes, which it burns where it touches. The way to apply it to the weeds is to carry it in a wide-mouthed bottle, suspended by the neck with a piece of wire, when, by having a stick in the right hand, it may be dipped rapidly into the acid, and then on to the weed, till the whole are doctored, soon after which they will turn black and die away altogether.

To put the grass-plots or verges right where they are unlevel, the turf must be cut and raised where the depressions are, and have soil put under, and hills lowered by taking some of the earth away, or ramming them when in a soft wet state, at which time the high parts will press down, after which a few heavy rollings will put a good face on the whole. In cases where the grass is thin, some fresh seed should be sown, but before doing this it is necessary to give the surface a raking to break up the soil, and again, after the seed is on to harrow or cover it in. The proper seeds to get are the lawn mixtures, which nurserymen select and sell for the purpose, as they are a blending of fine grasses, and small-growing clover, which make a close bottom and look well all the year round.

FRUIT AND VEGETABLE GARDEN.

The buds of Vines will now be swelling fast, and should have every encouragement afforded them by syringing the rods with tepid water every afternoon, on sunny days, shutting up early, at the same time that the solar heat may be made use of for raising the temperature and helping to keep it up during the night. If the outside border is not already mulched over, it ought to be done at once, nothing being better for the purpose than horse droppings, or short fresh manure, the juices of which will be washed down by the rains and feed and nourish the roots.

To afford a chance of a crop of fruit on Peaches and Apricots on open walls, it will be necessary to protect the trees, as otherwise, in the early state the blossoms now are, they are almost sure to be cut off by frost, or destroyed by the cold rains dashing against them. To prevent this, it is a good plan to put a board to act as a coping at the top of the wall, from the front of which board, old fishing net, two or three times thick, may be strained and let down, and made fast to stakes in the ground, in which way an excellent shelter is formed. If less open material than net be used, it must not be left on by day, as the partial exclusion of light, sun and air, tends much to weaken the flowers. As Strawberries make their fresh annual roots from the stems just below the crowns, it is always advisable, at this season, to draw some soil up round the plants so as to cover these parts, which may be done quickly with a hoe, after which the spaces between the rows should be mulched with half-rotten manure.

In the vegetable department a busy time is opening as all late kinds of Potatos ought to be planted at once, for, in ordinary seasons, much depends in getting them in early, as then there is a greater chance of their escaping disease, which generally shows itself towards the end of July, and if the haulm and tubers are not at that time in a forward state, the crop is seldom much good. Myatt's, and other early kinds, are best out of the ground till April, when, the earth being so much warmer, they come up stronger and make a more rapid growth. The seeds to get in now, if not already done, are Onions, Parsnips, Spinach, Milan Turnips, Short-horn Carrot, Radishes, a small bed of Snow's Broccoli, Early London Cauliflower, Brussels Sprouts, and a border or row of Parsley.

MR. B. S. WILLIAMS.

We have to-day the pleasure of presenting our readers with the portrait of Mr. B. S. Williams, of the Victoria and Paradise Nurseries, Upper Holloway, whose fame as a cultivator and exhibitor of Orchids and other plants, combined with the great success he has achieved in his business as a nurseryman and seedsman, has for years past rendered his name as "familiar as household words" throughout the horticultural world. As an exhibitor—a constant exhibitor—of plants of the highest merit, for over forty years, at the leading Shows in this country, and at most of the international exhibitions on the Continent, as a sound writer on the cultivation of stove and greenhouse plants, orchids, and ferns, and as an enthusiastic supporter of every movement that has for its object the advancement of the art of gardening, it can honestly be said, to Mr. Williams's honour, that few other men can show such a record of splendid services rendered to horticulture, whilst for his thorough good nature, and genial *bonhomie* he is universally respected and esteemed.

Mr. Williams came of a good gardening stock, being the fourth son of Mr. James Williams, of Hoddesden, who now in his eighty-ninth year is still hale and hearty, and still gardener in the service which he entered sixty-eight years ago. The subject of these remarks was born on the 2nd of March, 1824, and leaving school at the age of fourteen years, commenced that gardening career, which all will hope he may continue for many years to come, under his father in the famous garden of Mr. John Warner. At seventeen years of age Mr. Williams left the garden at Hoddesden for another situation, which he retained for some six years, and it was while in this service, and at the age of twenty years, that he entered the competitive arena, his first favourite—as has been that of many a famous florist—being the Pansy. After a short term subsequently in the nursery of Messrs. Adam Paul & Son, at Cheshunt, Mr. Williams returned to Hoddesden, and again under his father had charge of the fruit and vegetable gardens. He subsequently entered the service of Mr. C. B. Warner as Orchid grower, in which position he proved such an adept cultivator that he was soon able to make his appearance as an exhibitor at Chiswick and Regent's Park, in the palmy days of those famous places. For several years Mr. Williams continued in Mr. C. B. Warner's employment, and each year added something to his reputation as a skilful plantsman. In 1856 he commenced business as a nurseryman in the Seven Sisters Road, Holloway, and some five or six years afterwards removed to his present position at the foot of Highgate Hill, then an open spot, but now entirely surrounded with bricks and mortar.

Mr. Williams first became a writer on the cultivation of plants in 1851, when Dr. Lindley, recognizing his skill as a grower, induced him to contribute a series of articles on "Orchids for the Million" to *The Gardener's Chronicle*, and which was the foundation of *The Orchid Grower's Manual*, published in 1842, by Messrs. Chapman and Hall. Subsequently Mr. Williams undertook the publication of his own works, and edition followed edition, until of "The Manual" the fifth was called for a year or two ago, and the sixth is in the press. His *Choice Stove and Greenhouse Plants* in two volumes, one devoted to flowering and

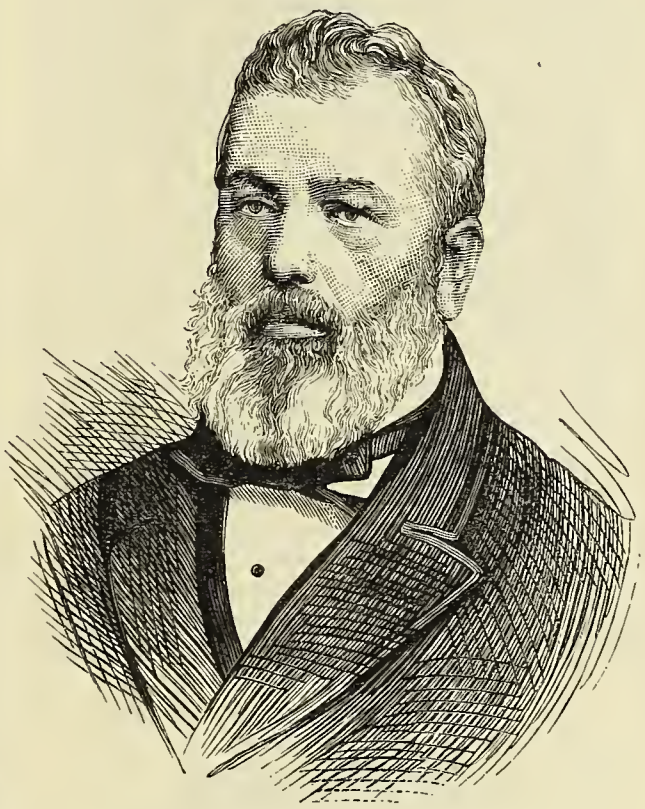
the other to fine foliaged plants, has run into the third edition; and his *Select Ferns and Lycopods* promises to become equally as popular. Mr. Williams also contributed the cultural notes to Mr. Robert Warner's handsome publication, the *Select Orchidaceous Plants;* and in 1881, in conjunction with Mr. Warner, commenced the publication of *The Orchid Album*, the fourth volume of which is in course of completion.

Mr. Williams's nursery is one of the most extensive in the Metropolis, and as regards the main subjects cultivated, viz., Orchids and stove and greenhouse plants, it is also one of the richest. It is impossible, in the limited space at our disposal, to give anything like a detailed description of the contents of the fifty houses, large and small, of which the nursery is now comprised, but we will endeavour to give a summary, brief though it must be. First, then, comes the large conservatory, full of handsome specimen Palms and Cycads, and noble Tree Ferns, with a brilliant show of flowering-plants on the front and side stages. The next structure to be visited is a fine three-quarter span roofed structure, one division of which is devoted to Stove Palms, large and small, all choice and in fine condition; and the second to Stove Ferns, of a like character. Then comes a series of long span-roofed houses, well built, and admirably designed, the first of which is devoted to small Ferns (which are just beginning their season's growth), and which also includes a very choice assortment of Filmy Ferns. The second is a Cattleya-house, which contains a fine lot of thrifty plants, and which is now gay with many varieties of C. Trianæ, some good examples of that old favourite, Dendrobium nobile, and the beautiful Cœlogyne Lemoniana. The third is also a Cattleya-house, in which may be seen, amongst other good things, the white-lipped variety of the rare Lycaste Plana, and an exceedingly fine form of C. Trianæ, called splendens; and here also may be noted some hundreds of sheaths of Cattleya Mendelii, which will make the house gay indeed, by-and-bye, as well as a splended lot of plants of Lælia purpurea; and a Phalænopsis Schilleriana, which may be mentioned as having been grown in the coolest Cattleya-house for some years, and which has leaves like boards, and bears a spike of flowers which will shortly prove that if this lovely Orchid does like heat, it does not always resent "cool" treatment.

The Vanda-house is well filled with good specimens of the leading members of this fine genus. The plants are strong and vigorous in growth, so that one is not surprised to see so many strong spikes pushing up. On the side stages some good examples of the pretty Dendrobium Devonianum have been carrying a fine lot of blooms, as also have numerous plants of the showy D. Wardianum and Phalænopsis Schilleriana. Succeeding the Vanda-house comes a similar structure filled with a mixed collection of flowering and fine-foliaged stove plants, in which Crotons and Dracænas are a strong feature (see illustration on p. 437). Among the flowering subjects, perhaps the leading plant just now is the Amazon Lily, Eucharis amazonica, of which we noted a number of large well-filled pots.

At the bottom of the nursery is a large three-quarter span which used to be devoted to Camellias and other cool greenhouse plants, but which Mr. Williams has now filled with greenhouse Rhododendrons, a most useful race of plants which are rapidly being improved in habit, and increased in great numbers. On the Junction Road side are the Camellia and Azalea houses, large span-roofed structures, connected on the nursery side by a house filled with stove-flowering plants mostly. The Camellia-house is just now one of the attractions of the establishment, all the neatly-grown, healthy specimens, large and small, carrying a good head of bloom. The Azaleas are, of course, still at rest—their turn to make a display coming on a month or two later.

Between this block and the Rhododendron-house before mentioned, are several very useful structures devoted to mixed collections mostly, and in which we noted good batches of Ixoras, Gardenias, full of buds, Dipladenias and Allamandas, noticeable amongst the latter being a good stock of young plants of A. grandiflora, maintained by grafting a batch every year. In the frames near at hand amongst other hardy plants, are a large quantity of strong young plants of Carnations and Picotees. The Heath-house, to us at all events, is one of the most interesting in the nursey, so few in the trade now keeping up such a good collection as is here to be seen. The half-specimens of Ericas and the usual class of New Holland plants, are models of cultural skill, the Heaths in particular astonishing us by the beautiful growth they make so near to London. At the present time, the house is redolent with the perfume of Boronia megastigma, a plant which though of somewhat insignificant appearance should be grown for its perfume alone by every gardener whose houses are frequented by ladies.



BENJAMIN SAMUEL WILLIAMS.

The latest addition to the plant-houses is a large and most substantially built span-roofed structure in two divisions, erected specially for the cultivation of the Amaryllis, a plant with which Mr. Williams's name has been for some years associated as an improver and raiser of new varieties. The first compartment at present contains a grand batch of Cyclamens and numerous other flowering subjects, which must expect to be eclipsed in a week or ten days' time, by the Amaryllis in the next division. The large house is crammed full of strong bulbs which are showing for flower with unwonted vigour. The most conspicuous varieties in bloom at present are Harry Williams, a plant with three spikes bearing nine large well-formed flowers of a deep crimson colour, shaded with purple, and light centre; and Masterpiece, an improvement on Dr. Masters, deep scarlet in colour, and possessing every good quality.

The cool Orchid-houses, as usual, contain a nice lot of Odontoglossum Alexandræ and other species in bloom, including the pretty little O. Oërstedii and a distinct form of O. nebulosum.

At the rear of these houses is a block of conveniently arranged structures, opening out of a warm and comfortable potting-shed, which are devoted to the trial, cultivation, and propagation of choice new and rare plants, of which Mr. Williams annually sends out a batch in May, and which, with his recommendation, generally become popular subjects in gardens. Another house claims attention, and then we must conclude. This is the Nepenthes-house (see illustration on p. 445), which contains a large collection of all the leading species and garden varieties, and which is at all times worthy of inspection, though of course more so in the autumn than at the present time. The house has lately been improved by the removal of the glass partition which formerly stood in the centre.

PINKS.

These are among the most hardy and most beautiful of garden flowers. Many of the varieties are most useful for supplying cut-blooms in spring if brought along in a little heat. The majority of these plants are perfectly hardy, and will succeed where the Clove or Carnation will grow. They enjoy a rich soil, or that in which plenty of manure has been added, indeed, the best plants I ever saw, and which produced the greatest abundance of flowers in a given time, were grown almost exclusively in manure, the plants and the bed for their reception being prepared as follows:—

To obtain good plants with plenty of "grass" or flowering-growths by autumn there is nothing like an early start, so we will suppose that we have a stock of useful plants now in their flowering pots ready to introduce into a little warmth about the end of February, or the beginning of March. Place them on a shelf near the glass, and do not let the temperature exceed that of an intermediate greenhouse; take care also that green-fly does not harm them, but fumigate with tobacco on its first appearance. Plants under this treatment will usually unfold their sweet and delicate blooms during April and May, and about the time the plants are in flower is the best time to take off the pipings or cuttings, dibble them in pots, in sandy soil, and place them on a slight hot-bed, or in a propagating frame till rooted. When rooted they should be gradually hardened off until they are placed out-of-doors.

A bed should now be prepared as follows:—Select the site, on which place a good coating of manure, that which has been used for a hot-bed answers well, if it contains a good portion of leaves well decomposed. The whole should be slightly forked in, and the bed will then be in readiness for the reception of the young plants, which should be planted with a dibble from 15 ins. to 18 ins. apart all ways, taking care that the ground is not hollow about them. After being planted, they should receive a good watering, and also have water whenever they require it during the summer. Under this treatment, I have known plants of the commoner kinds make specimens nearly a foot across, and produce between twelve and twenty flowers on one plant in 5-in. and 7-in. pots.

Pinks are perhaps more adopted for border culture than for forcing, and certainly are more generally grown for that purpose. If a few early pipings can be procured by the above means, even for border or beds out-of-doors, they will be most acceptable, as it is late before they can be obtained out-of-doors, and the plants necessarily do not grow to so serviceable a size the first season. Where it is not thought desirable to grow them to their largest size, or when it is not convenient to do so, they may be readily propagated either under a hand-glass kept close, and in a sandy soil out-of-doors, or in pots in a frame or cold pit. Cuttings taken off out-of-doors should never be

subjected to heat for the purpose of propagation. The following will be found most useful varieties for general purposes, Anne Boleyn, Clove Pink, Derby Day, Fimbriata alba, Mrs. Moore, and last but not least Mrs. Sinkins. This is one of the most beautifnl creamy whites I know of, almost equalling in size many of the Carnations. It has also the great advantage of being perpetual. These are by no means all the varieties that are worthy of cultivation, but space for those named could at least be found in most gardens. Anue Boleyn and Lord Lyons are very large flowering varieties, but are neither so dwarf nor so floriferous as some of the other kinds named.—*C. Warden.*

FRUITS.

Fruit Culture under Glass.—The Vines in the Muscat-house, which were started the second week in February, should now have their shoots tied up to the trellis in their proper position, and afterwards be disbudded, leaving the strongest and best-placed shoots at from 15 ins. to 18 ins. apart diagonally on either side of the main stems. Discontinue the syringing of the Vines, but damp the surface of the border, pathways, and walls two or three times a day, to promote a genial, growing atmosphere, and at the same time to keep red-spider from attacking the foliage. The shoots showing on the main stem, between the ground and the trellis, should be reduced to five or six and be stopped at one joint, as also should be the sub-laterals, and those which afterwards appear should be pinched close back. These remarks are applicable to Vines of every age, and should be observed from the time the Vines are planted, so as to insure that part of the stem below the trellis being as thick as that furnished with shoots above it. Vines now swelling their crops will be considerably benefited by being top-dressed with Beeson's Manure, at the rate of 3 lbs. to a bushel of compost, the virtue of which will be washed down to the roots when the border is watered.

Strawberries.—In order to maintain a regular supply of ripe Strawberries from this date, until they can be gathered out-of-doors, a good batch of plants in various stages of growth must be at hand, as well as a suitable place to grow them in. Bearing this in mind, every week or ten days a couple of hundred plants (more or less according to circumstances) should be taken to the potting-shed to have the bad leaves and a little of the surface-soil removed, and some pulverized horse-droppings and loam added as a top-dressing. The pots then, having had the drainage made efficient, shonld be plunged in a bed of leaves, within a few inches of the glass, in a pit from which frost can be excluded. They should then have some water to settle the new soil, after which further applications will probably not be needed more than once or twice before the flower-stems appear, as they will do in a week or two if the pit is kept close. The pots should then be washed and placed on the shelves in one of the forcing-houses, where a somewhat airy and dry atmosphere should be aimed at until the fruit is set, when these conditions should be reversed.

Peach-trees.—Syringe the trees in the early-house morning and afternoon with tepid water, and raise the day-temperature a few degrees, but 50 degs. at night will be ample for the present. As soon as the shoots have attained the length of a couple of inches, tie them down a little, and see to the disbudding of those in successional-houses, in the manner set forth at p. 378. Give daily attention to the Grape-room, with a view to removing forthwith any bad berries that may be in the bunches.—*H. W. Ward.*

Well-kept Apples.—At the meeting of the Fruit Committee on Tnesday there was quite a remarkable display of Apples for the second week in March. That well-known exhibitor, Mr. Sidney Ford, gardener, Leonardslee, Horsham, sent a collection of some fifty dishes of such a character as is seldom seen at this season, every sample being as fresh and sound, and the colours as bright, as though it were only September or October. Specially fine were his samples of Barcelona Pearmain, Mère de Ménage, Norfolk Beefing, Emperor Alexander, Wadhurst Pippin, Blenheim Orange, Golden Noble, Alfriston, Bedfordshire Foundling, Bess Pool, Ashbridge Pine Apple Pippin, Scarlet Nonpareil, Cornish Gilliflower, Cockle Pippin, and Golden Reinette. Messrs. T. Rivers & Son, Sawbridgeworth, sent a fine collection of about eighty dishes, amongst which were conspicuous several American varieties, such as The Baldwin, King of Tomkin's County, and South Carolina Pippin, and fine examples of such well-known good kinds as Cox's Orange Pippin, Reinette du Canada, Lord Burghley, Wadhurst Pippin, Cornish Aromatic, Nelson Codlin, Herefordshire Pearmain, and Yorkshire Greening. A handsome seedling Apple, resembling the Golden Spire in form, but of a rich crimson colour, was shown by Mr. A. Outram, 7, Moore Park Road, Fulham.

Planting a patch of Strawberries.—In reply to "An Anxious One" (p. 430), I may say that it is not too late for planting Strawberries, though I would not advise him to let the young plants bear fruit this year. He had better cut off the flower spikes as soon as the first flowers are open, as that will greatly strengthen his plants for a good crop next year. Vicomtesse Héricart de Thury is generally a favourite variety, being a heavy bearer of large richly-flavoured fruit. The best soil for Strawberries is a rather firm, brown, or yellowish loam; hot light soils do not suit them so well. If the ground has any manure in it and has been recently dug, it will be better not to dig it again. Stretch the line across the plot, and, with the spade thrust in straight down, turn out the soil on one side, leaving the other side firm and upright; make the holes 15 ins. apart. In laying in the plants spread the roots out, and keep the crown of the plant just on a level with the surface, return the soil and tread in firmly. Move the line 15 ins. and proceed as before. Afterwards give a good mulching all over the plot of well-rotted dung. After these plants have borne one crop, every alternate plant may be removed, and the next year every other row can also come out, which will allow them a good distance apart for bearing heavily and standing for several years. Keep down weeds with the hoe, but never disturb the roots of the plants by digging. Trim off the runners as early as possible in the autumn, and mulch over again with fresh littery manure. If the soil suits, the following crop will be a good one, and "show fruit" may be obtained. Strawberry ground must be firm, and good strong plants should be secured.—*Antherica.*

FLOWERS.

Seasonable Work in the Plant-houses: In the Stove.—If due regard is paid to the arrangement of plants after they have been potted, not only may the space be economized, but the plants will get the positions best suited to their requirements. We like to keep each subject as much to itself as possible, and to take care that those requiring the highest temperature are placed in the hottest part of the house, while those requiring to be exposed to the sun are so arranged that they can get the full benefit of it, without having to expose other plants that require more shade. As there is generally a greater variety of subjects grown in the stove than in any other department, it is there that it requires the greatest consideration, if the most is to be made of the space, and especially if the plants are to be grown so that they can be used as table-plants, or for any other pnrpose which demands that each plant should be perfectly symmetrical, and fit to staud by itself.

In keeping each class of plants as much together as possible, there is also the advantage of being able to water and syringe each group according to their requirements, which is impossible when different subjects are intermixed. Poinsettias should be looked to, and, as soon as they begin to start into growth, should be placed in a position where they will make good strong growth for cuttings, but it will be better to keep them dormant for some time yet, if possible. Thyrsacanthus rutilans:—As soon as these have done flowering, the tops may be taken off for cuttings, which will root freely in light sandy soil, if kept close, where there is a little bottom-heat. As soon as they are ready, they should be potted on and kept growing freely through the summer.

Mignonette for Winter-flowering.—Many of your readers may like to know how to grow Mignonette so as to have it in flower at Christmas, I therefore send you a note on my practice. First of all I obtain my seeds from a first-class seedsman, and the sorts I grow are Miles' Hybrid Spiral, and the variety of Reseda odorata called Matchet. The seeds are sown on July 24th in the following manner:—I select two dozen 16-sized pots and wash them thoronghly clean, then put in a depth of 2½ ins. or 3 ins. of crocks for drainage, and fill up with a compost made of three parts of good maiden loam to one of leaf-soil, with a good sprinkling of silver sand, the rougher portion being put in first. The soil is then rammed down as firm as possible with a potting stick, the pots being filled to within an inch of the top. The surface is made smooth the seeds sown thinly, and covered with about a qnarter of an inch deep of the finer portion of the compost. The pots are then watered and put on a bed of ashes in a cold frame, which is shaded while exposed to bright sunshine. In abont nine or ten days the seeds will germinate, when air should be admitted freely, especially at night to indnce a good steady growth. If the seeds come up too thickly, thin them out to about eight plants in each pot, and put a small stick to each for support. Give air freely when the weather is favourable, and remove to the greenhouse on the approach of frost.—*Geo. Jones, Eversfield, Grove Park, Lee, Kent.*

A Neat Edging of Annuals.—During the past summer I was much struck with the neatness and floriferous character of a simple edging to a border about 200 ft. long, composed of the following popular hardy annuals:—Nemophila insignis; red and white Virginian Stock; Clarkia integripetala nana alba; Saponaria calabrica, and Saponaria calabrica alba. The seed of these was all mixed together and sown in a broad drill, the seed just covered, the last week in March. In May the entire row was gay with the pink and white flowers of the Virginian Stock for about a month, this was succeeded by the blue and white of the Nemophila, the Stocks being pulled up as soon as they became past their best, and this bloomed on through June, when it was removed and the Clarkia came into flower through July, and this in turn was succeeded by the charming compact edging of deep pink and white of the two Saponarias, which were in full bloom up to November, when the frost cut them down. Sufficient seed for a border 100 ft. long of the six annuals named can be procured for eighteen pence, and an edging of continuous bloom secured from the middle of May until frost sets in.—*J. Knight, Bilston.*

Hardy Primroses.—While the markets have been so abundantly supplied with Violets, it seems strange that Primroses, up to the present time, should have been so scarce. Yet there are plenty in bloom in the Primrose gardens, if we may judge from a delightful sample we have received from Mr. Caudwell, The Ivies, Wantage. This enthusiastic florist has long made the Primrose, and other hardy florists' flowers, a speciality, and by careful selection during many years, has acquired in every respect a first-class strain. The charming blooms before us show a wide range of colour, from pure white, through various shades of yellow, rose, mauve, and crimson, up to maroon. Some are parti-coloured, others of the hose-in-hose form, and all are of good size and substance.

Cheaply-grown Annuals.—If "Nelly" (p. 430) can get two old soap-boxes, a few panes of glass, or an old window, and a load of fresh stable-manure, she may raise a lot of tender aud half-hardy annuals, which will make her border gay till late in autumn. Knock the sides and bottoms out of the boxes, and join the two together to form one large box or frame. Set this on the top of the dung, which must first be made up into a bed about 1 ft. wider all round than the size of the frame. Fill the frame about half-full of soil—common garden-soil will hardly do alone—and, if leaf-mould or turfy loam cannot be got, road-

scrapings mixed with garden-soil may be used. Mix a spadeful or two with as much sand to spread over the surface.

A penny to sixpence per packet will purchase enough seed of the following good sorts of annuals:—French and African Marigolds, Chrysanthemum and Victoria Asters, Ten-week Stocks, Zinnias, Pyrethrum, Phlox Drummondi, Single Dahlias, Larkspurs, Prince's Feather, Single Petunia, and two or three sorts of Everlastings. Sow the seeds thinly in rows in the frame; lay the panes of glass over the top (placing two or three thin laths or wires to support them), and keep the frame rather close till the seedlings begin to come up. Afterwards give air, gradually at first, till they will bear all the glass off all day, except in stormy weather and during cold winds. A loose covering to throw over at nights will be useful. These seedlings, as they become large enough to handle, must be pricked off into boxes, or into a sheltered bed, where they can be covered up at nights and protected from the cold winds, till they are fit to plant out; but the Single Dahlias would do better in small pots than in boxes.

More hardy annuals to sow now are:—Sweet Peas, White and Crimson Candytuft, Cornflower (blue), Virginia Stocks, tall and dwarf Nasturtiums, Mignonette, Godetias, tall and dwarf Convolvulus, and Indian Pinks. The seed packets will give the height and colour of the plants, and their positions in the border can be arranged accordingly. The tall growing climbers will require sticks, or they may be trained up the wall. A Larch or Spruce top cut off and stuck into the ground with all the twigs on, makes a pretty object covered with Sweet Peas and some of the showy Convolvuluses.

Sow the very small seeds on the surface when it is dry, and just sprinkle a little sandy soil over and press down with a flat board or a spade. Larger seeds sow from ¼-in. to ½-in. deep, not more. As the seedlings come up thin them out to 6 ins. apart if you want good plants, and transplant the thinnings in another place. It is a bad plan to try to save too many plants of a sort. The heap of spent manure can be dug into the ground next autumn, or if freshened up with some fresh litter or a barrow-load of short grass will heat up again and the frame may be further utilized for a Cucumber plant.—*A. B.*

Calendula "Meteor."—To those who have not grown this popular modern annual, allow me to recommend it. For a golden-yellow bed from 1 ft. 6 ins. to 2 ft. high, or for planting out in the mixed border, I know of nothing better. Being a true "pot Marigold," it will grow anywhere and in any soil, and its beautiful large double flowers cannot escape notice. The length of time it continues in flower, from June to November, renders it all the more useful. Seed may be sown now, either in pots or in the open border.—*J. Knight, Bilston.*

Propogating by Root-cuttings.—The pretty, though not very common, Verbena venosa, is an almost hardy plant, at least I have known it stand out of doors all winter when no very severe frosts have been experienced. If there are any old plants that have been planted out, they will be found to have made long stolons, or under-ground shoots, which if cut up into lengths of 1½ ins. or 2 ins. and laid over the surface of a pan prepared in the same way as for seeds, strewn over with a little sand, and then slightly covered with soil and placed in a warm pit, they will soon throw up shoots, which should be gradually hardened off and treated in all respects the same as seedlings.

Anemone japonica alba and rosea are amendable to precisely the same treatment. If desirable to increase the stock of these favourite flowers, and a good sized plant is available, lift it carefully and proceed to cut off all long and stoutish roots, which cut into lengths as recommended for Verbena venosa, and treat the same in every respect.

Bouvardias of different kinds may also be propagated in a similar manner. Where there are good-sized old plants that have been cut down, the thinning out of some of the strongest roots will do the plants no harm, and if treated to a little more warmth than the foregoing, but in other respects similar, they will yield a batch of nice plants.—*W. C. C.*

VEGETABLES.

The Kitchen Gardener's Calendar.—Seeds of Connover's Colossal Asparagus should now be sown in drills 2 ins. deep and 12 ins. asunder, in a border where the soil is of a light, rich and sandy nature, for transplanting the following year. Seakale seeds should also be sown, either in a nursery-bed, in drills 2 ins. deep and 12 ins. apart, in patches (about three seeds in each patch, which subsequently should be thinned out to one, 6 ins. apart in the row), or in the situation in which the plants are ultimately to be forced, in rows 18 ins. apart, and 10 ins. to 12 ins. asunder in the rows, in light rich soil from 2 ft. to 3 ft. deep.

Plantations may also now be made from cuttings, which, if cut into lengths of about 4 ins. and placed in a box, intermixed with sand when the plants were taken up for forcing, last November, should be dibbled in from 10 ins. to 12 ins. in the rows, which should be 18 ins. from each other. These thongs, or root-cuttings, will furnish plants to be taken up for forcing next winter, or they may be forced in their permanent situation by the aid of long narrow boxes (see p. 363) and fermenting material, and these should be set about 1 in. under the surface of the soil. This method of working up a stock of Seakale (where the thongs can be obtained) is far preferable to that of doing so by seed.

A sowing of Chervil should now be made in shallow drills; also another breadth of Turnips, Nantes Horn Carrot and Spinach; another sowing of Carter's Leviathan and Broad Windsor Bean should also be made in sufficient quantities to supplement the supply which previous plantings and sowings will yield. Draw a little soil up to early plantings of Cabbage and Cauliflower and advancing crops of Peas, which latter should then be staked—always placing the sticks close to the haulms on either side the row to prevent them from swaying, and with this object in view, put some small sprays between the sticks close to the ground. This will also be a good time to lay on a good mulching of rotten dung on either side of the rows of all Peas that are staked. This, in the meantime, will protect the Peas and the roots from sustaining injury from frost and cutting winds, and later on, when the labour necessary for doing the work will be even more in demand than it is now, it will conserve the moisture at the roots, thereby prolonging the gathering of Peas ten days or a fortnight in dry weather.

Forcing Department.—Sow seeds of Tomato, Ridge Cucumber, Vegetable Marrow, Capsicum, Celery, Bush and Sweet Basil, and Marjoram, and pot off and prick out in frames as soon as large enough to handle; water and afterwards harden them off prior to being finally planted in their respective situations. Earth up successional plantings of Potatos in pots and frames by putting about 4 ins. thick of soil between the rows, and those that indicate dryness at the roots should have a good watering of tepid water sufficiently early in the day for the haulms to get dry before putting the mats and shutters, or other protecting material, over them in the evening. Make another sowing of French Beans in pots, or pits heated for the purpose, and top-dress plants resulting from earlier sowings as soon as they have grown 2 ins. above the rim of the pots, with soil about the same temperature and nature as they are growing in. Pinch out the points of the shoots to make them branch, and syringe the plants overhead morning and afternoon to keep them free from the attacks of red-spider as much as to promote a genial atmosphere.—*H. W. Ward, Longford Castle, Wilts.*

Cropping a Garden-plot for Competition.—"A Cottager" (p. 430) will require some or all of the following vegetables:—Peas, Dr. McLean and Hundredfold; Broad Beans, Seville long-pod; Runner beans, Champion; Beet, Dell's Crimson; Cabbage, Enfield Market, Drumhead, and St. John's Day; Carrot, James' Intermediate; Cauliflower, Walcheren and Autumn Giant; Celery, Sandringham Dwarf white and Manchester red; Leek, Henry's prize; Lettuce, Paris White Cos; Onion, Bedfordshire Champion and White Spanish; Parsnip, Student; Turnip, Orange Jelly; Marrow, Moore's Cream; also Parsley, Radishes, Mustard and Cress, and Potatos.

Supposing the plot to have been well trenched or deeply and roughly dug up in the autumn, "A Cottager" must now proceed to get in his manure—pig-dung or night-soil dug down into the spit is good for Cabbages, Cauliflowers, and Broad Beans. Rich well-rotted manure dug in the top spit is good for Onions. The Onion beds when ready should be heavily trodden, and the seed sown and raked in at once, either broadcast or in drills; drills generally please the judges best. Carrots, Parsnips and Beet—sown early in April—will do best on ground that was manured last year; but very rotten short dung may be well worked in for them now, forking the ground over and over to mix it thoroughly, or the roots will fork. Sow these in drills 12 ins. apart. Peas and Runner Beans require plenty of good dung working in a spit deep; and Leeks and Celery the same, but more of it, and shallow trenches must be left open for them.

The ground for the latter can wait till May, and seed of Leeks be sown at once in a box of rich soil, and grown on in a warm sheltered place, to be transplanted later on. I would advise "A Cottager" to buy his Celery plants, as they require a hot-bed to raise them well. Turnips will do best without manure if handsome shape is to be a consideration, and the tops will be finer too. Potatos should not occupy more than one-third of the plot, and I would not have more than two or three varieties — Schoolmaster, Magnum Bonum, and Snowflake are suitable kinds. They should be planted about the end of March, and if the ground was not manured in the autumn, some dung should now be spread in the bottom of the trenches.

Peas, sow two rows in the third week of April, and two more in the third week of May. Broad and Runner Beans, sow at the end of April, to have a good show in August. Cabbages and Cauliflowers, sow at once in well-sheltered beds, and plant out about 15 ins. to 18 ins. apart each way when large enough. Buy a few autumn-sown red Cabbage plants, as spring-sown ones do not heart so early or so well. Sow Parsley early in April in lines round the edges of the plot, and Radishes, Lettuces, and Cress at intervals all summer in the same situation. Do away with all seed-beds as soon as the plants are drawn out of them, and do not have an inch of bare ground. Keep the fork and hoe going to keep down weeds and to stir the surface-soil. Attend well to walks and borders, and allow no weeds or rubbish to be growing or laying about the plot. Stake Peas and Runner Beans neatly, and use plenty of manure-water to the growing crops of Cabbage, Cauliflowers, Leeks, and Celery.—*Authentes.*

Prolific Mushrooms.—Having been requested to send you a few particulars about the above, I may say that the largest bunch we have had measured 42 ins. in circumference, while others measured 36 ins. 30 ins. and 28 ins. in circumference, containing from thirty to forty-five good sized Mushrooms, besides numerous "buttons." The best individual Mushroom weighed ¼ lb., and measured 6 ins. in diameter. The bed is in a cold shed, and was made last November. Spawned at about 90 degs., soiled and beaten down the same day, and a few days after covered over with long clean straw. We commenced to gather in early in January.

We always use the spawn as fresh as possible, using pieces about 1½ ins. square, and always put it in with a small hand-fork, about 2 ins. or 3 ins. below the surface, and beat the bed well down, and soil at once. We never get beds to bear so well, or last so long in heated Mushroom-houses, as those made in a cold place, and though they are somewhat longer in coming into bearing we are amply repaid by the length of time they continue to yield. We make the beds deeper in a cold shed and use a good part of litter, turning the heap over a few times, but never spreading the droppings out, as I have frequently seen practised. The spawn used was supplied me by Mr. J. George, 10, Victoria Road, Putney.—*N. F. Fuller, Idsworth Gardens, Horndean.* [Mr. Fuller sent us a cluster, containing forty-three good sized Mushrooms, which amply bears out his statement as to the prolific character of the spawn, and the quality was first rate.—*Ed.*]

THE

Orchid Growers' Calendar.

Dendrobium Wardianum.—As this is the season when the imported plants come into the market, a few remarks respecting their management may perhaps be acceptable to some of your readers who have not yet taken up the cultivation of this beautiful and easily managed species. I have a list before me just issued by a firm who imports them by the thousand, and I see that they offer good strong plants at 24*s*. to 36*s*. per dozen, and the best variety (Low's), so that they are within the reach of all who desire to grow Orchids, and who have a warm green-house. We received a quantity about this time last year, and not having room amongst our other plants, we erected staging in a small Peach-house, where there are two trees. The one on the back wall was removed, but the other, which was trained over the roof, remained, and carried 15 doz. of finely finished fruit. I mention this to show that Orchids can be grown with fruit, if need be, but I wish it to be understood that more heat was applied and less ventilation given than would have been afforded had we the Peaches only to think of.

The plants were carefully examined, and had all decayed parts cut away before they were placed into small pots filled about two-thirds of their depth with crocks. Upon the crocks we put a covering of moss, and then filled up with good peat, and secured the plants on the top to a few sticks inserted among the crocks. They were then taken into the Peach-house referred to, which was kept at a temperature of about 60 degs. by night and 65 degs. by day, with a moist atmosphere. Here they soon commenced to grow, and when they had made a few leaves, roots made their appearance freely. I then applied a little more peat and fresh sphagnum moss, which was readily taken hold of by the young roots. The plants grew away very freely in this position, and matured fine growths; the good syringing which the Peach-tree enjoyed being equally appreciated by the Dendrobiums. Out of 150 plants potted, not one failed to grow, and not more than a dozen have failed to flower. Several of the growths are producing above twenty flowers each, while the others which are not so strong produce a lesser number, according to their strength. The flowers also vary very much in size and colour; I measured one which is 4½ ins. across, with petals 1½ ins. wide, and the lips just above an inch across. This is the finest of all that have opened at present.

I may mention that I grew other plants in the same house, some of them having been imported three years ago, and all have done well. One strong plant of D. Wardianum has five new growths, the strongest of which has thirty-seven flowers upon it, the five growths altogether having a total of 125. D. Devonianum is also a good grower and a free bloomer. We have several plants which came with the D. Wardianums, that have been treated in the same way and in the same house, and which have made very fine growths, now carrying from thirty to ninety of its lovely flowers.—*J. W., Sheffield.*

Dendrobium speciosum.—This handsome old Orchid has flowered very finely in most collections this year, but in that of Sir A. Ramsay, Bart., at Cheltenham, at the present time in perhaps hitherto unheard of splendour. The largest specimen has over thirty spikes of its creamy-white, wax-like flowers, many of them having more than fifty fully expanded blooms on each. A curious feature in the cultivation of these fine plants here is, that for several weeks in the early part of the summer, they are shaken out of their pots and placed without soil on an open stage in an airy, sunny house. In August they are potted up and placed in an intermediate house and well watered, the treatment always having good results. In Sir A. Ramsay's collection also are some very fine specimens of Cattleya Trianæ and C. Percivaliana in bloom, and a fine show of C. Mossiæ, C. Mendelii, &c., in sheath. C. Loddigesii also has ten good flowers on a spike, Cymbidium Lowianum with four fine spikes, Saccolabium guttatum with a like number, and many other good things of great merit. All the Orchids are very stout and healthy, as Sir Alexander gives plenty of light, an abundance of air, and comparatively little heat.—*J.*

Oncidium Marshallianum.—Mr. Lee seems to have arrived at the correct way of growing this plant and its allies healthily, and yet flowering them well. The fine masses of it at present furnished with immense branched spikes at Downside, seem to have made the great effort of flowering so heavily without even a wrinkle being made in the bulbs. The plants are grown on rafts or in baskets in a cold-house, until the flower-spikes appear, and then they are taken into the warm end of the Cattleya-house, there to remain until the flowers are just bursting, after which they are returned to the cool-house where they remain until the flower-spikes again appear.—*J.*

Mr. H. M. Pollett's Collection.—The following list of Orchids now in flower at Fernside, Bickley, will serve to give an idea of the beauty of Mr. H. M. Pollett's neat little collection, and also to indicate some of the species which bloom at this season :—

Angræcum citratum
Barkeria cyclotella
Calanthe nivalis
,, Regnieri
,, Turneri
,, Veitchii
Cattleya Bogotense alba
,, Percevaliana
,, Trianæ
,, Walkeriana
Cœlogyne cristata
,, ,, alba
,, Lemoniana
Cymbidium Mastersii
Cypripedium Boxalli
,, calurum
,, Dominianum
,, Harrisianum
,, insigne
,, Schlimii
,, Sedeni
,, villosum
Dendrobium crassinode
,, nobile
,, Wardianum
Dendrochilum glumaceum
Epidendrum spectrum
Lælia alba
,, anceps
,, ,, Dawsoni
Lycaste Skinneri, 11 plants
,, ,, alba
Masdevallia coccinea
,, ignea
,, tovarensis
Maxillaria venusta
Mesospinidium sanguineum
,, vulcanicum
Miltonia cuneata
Odontoglossum Alexandræ eighteen spikes.
,, Bictoniense
,, ,, superbum
,, blandum
,, constrictum
,, cordatum
,, gloriosum, seven spikes.
,, madrense
,, membranaceum
,, Oërstedii
,, pardinum
,, Pescatorei
,, pulchellum majus
,, Roezlii, 3 plants
,, ,, alba, 2 plants
,, Rossi majus
,, Sanderiana
,, tripudians
Oncidium cheirophorum
,, dasytile
,, Kramerii
,, unguiculatum
Phalænopsis grandiflora
,, Schilleriana
,, speciosa
,, Stuartiana
,, ,, punctatissima
Restrepia antennifera
Sophronites grandiflora,
,, species
Trichopilia fragrans
Zygopetalum Mackayi.

—*J.*

Mr. Wm. Lee's Cattleyas.—The 100 ft. long, roomy and comfortable Cattleya-house at Downside, which contains such a grand and healthy collection, is more than usually showy this season, many hundreds of fine blooms of every conceivable form of C. Trianæ being open, as well as good specimens of all the named varieties. The rest of the establishment, too, is just now of great interest, large quantities of rare Dendrobes, Phalænopsis, Lycastes, Cymbidium, &c., being in bloom, together with many other odd and rare things. A continuous stream of Orchidists has been running Leatherhead way for some weeks past, and is likely to continue doing so for some time yet.—*J.*

Dendrobium fimbriatum occulatum, at Shirecliffe, Sheffield.—I saw a very fine plant of this attractive Orchid, the other day, at Shirecliffe, with thirty of its pendent spikes of large, rich orange yellow flowers, with a deep spot on the lip, and which was well displayed amongst its rich evergreen foliage. I believe this to be an unusually well-flowered plant of this species, and if Mr. Udale would tell the readers of The Gardening World how he has managed it, I am sure he will be doing good service. In my note at p. 412, I was in error in saying the Dendrobiums were from 2 ft. to 3 ft. across. I should have said from 2 ft. to 4 ft.—*J. W., S.*

FLORICULTURE.

The Cineraria. — From the present time until the end of May, green-houses will be gay with Cinerarias. They may be, and indeed are, had in bloom much earlier, but only with the aid of heat. The three months mentioned may be said to constitute the natural blooming season of these plants, and a score or so, well-grown, will form a striking element in the decoration of a green-house. A big mass of plants, such as we are sometimes favoured with, where seed-saving is a feature, presents a beautiful sight, though inevitably there is much repetition of form and colouration.

Those who can afford to grow only a few plants, do well to get a selection of young ones from those which have bloomed the previous year, so that variety may be insured. Or, again, a small batch of seedlings raised from a late sowing and kept in forty-eight sized pots, may be made to stand in a limited space, and the best, selected and marked as they bloom, may be cut back and induced to break up strong, and thus furnish robust early blooming plants for the following winter.

We remember to have seen Cinerarias used for summer bedding, but that was long since, and the heat of summer hardly suited. At this day we have such wealth of plants for summer decoration that we need not trouble with such unsubstantial material as Cinerarias for bedding. Then we have got literally miles away from the poor strains of those days, and amongst other features have not only improved the quality of flower and habit of plant wondrously, but also have created greater precocity or earliness, so that plants naturally bloom much earlier than they did at the time to which we allude.

It would almost seem as if we had now got all that was possible out of the Cineraria, for not only are the blooms large and rich in colouring, but they are absolutely perfect in form; and having attained to so much, it is difficult to see what other paths for improvement are open. It is true that the old florists' ideal is not yet reached in the configuration of colours, except so far as the selfs are concerned, and even many of these have grey discs when they should have dark ones. Certainly the grey discs may be eliminated with advantage from all Cineraria blooms, for it is a case in which dark, lustrous orbs are indeed elements of beauty.

Then perhaps some of the self flowers, though well-coloured and perfect in form, are a trifle too much shaded, wanting in density of colour. That is a feature raisers can assuredly govern. The most difficult requirement of the florist is found in the equal division of diverse colouration in the flowers, that is, in bi-coloured-flowers, the white ring round the eye and the dark margin should be of equal width, or nearly so. Too many of our best flowers now that are classed as bi-colour or ringed flowers, have a mere ray of white round the centre, to light up the heavy broadness of crimson or other ground hue, and balance is lacking. To create the desired equipoise seems the most difficult of all improvements, but once it is effected in the Cineraria there will be little left in this beautiful flower to wish or to sigh for.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*March 10th.*—Notwithstanding a sharp frost on Monday night, and a piercingly cold east wind, there was a pretty Show of flowers in the Conservatory at South Kensington on Tuesday. Camellias, Cyclamens, Cinerarias and Daffodils were the leading features; but there was also a strong contingent of Orchids, and hardy spring flowers. The group of Camellias in pots (supplemented by a dozen boxes of cut-blooms) which came from the nursery of Messrs. William Paul & Son, at Waltham Cross, was admired by all, the general opinion being that it is some years since a finer lot of plants were shown at any exhibition in London. The Messrs. Paul have made Camellias a speciality of late years, and certainly grow them well, in spite of the fact that the Camellia, perhaps, of all flowers is the one that least appreciates

the modern style of plant-house. Amongst the varieties which seemed to possess superior qualities to the general run, we noted Montironi, a good double white; Marchioness of Exeter, a large flower with good broad petals of a rich bright-rose colour; L'Avenir, rose; Mathotiana, deep crimson; C. M. Hovey, bright crimson; C. H. Hovey, dark crimson; Comtessa Mastiana, double white, and Donckelaari, semi-double, light crimson, beautifully mottled with white. A Silver Banksian Medal was awarded to the group. Mr. H. B. Smith, of Ealing Dean, received a similar award for a superb group of Cyclamens; and for a smaller group, also of excellent quality, Mr. B. S. Williams received a Bronze Banksian Medal. Mr. J. James, Woodside, Farnham Royal, again gave us a taste of the quality of his Cinerarias, by exhibiting a collection of plants which it would be difficult to match for the size of their blooms, their beautiful shape, stout substance, and lustrous colours; and the Committee marked their appreciation of the great merit of the collection by highly commending the strain, besides awarding a Silver-Gilt Banksian Medal. Groups of hardy spring flowers from Mr. T. S. Ware, of Tottenham, and Messrs. Paul & Son, Cheshunt, formed a pleasing feature in themselves, and claimed attention from all the visitors. The larger group came from the Messrs. Paul, and included beautifully-flowered masses of various mossy Saxifrages, such as the rosy-purple S. oppositifolia, and its white variety, alba; and the yellow S. sancta; the handsome Megasea Stracheyi, a species not much known, with flesh-coloured flowers; the beautiful Iris reticulata, which, by the vigour of its growth, shows its liking for the deep, strong soil of the Broxbourne Nursery; and various species of Cyclamens. Mr. Ware had some pretty pans of Cyclamen coum, and C. Atkinsii album, the lovely blue and white Chionodoxa Lucilæ, the very fine scarlet Anemone fulgens semi-plena; numerous examples of Lachenalia Nelsoni and L. luteola; and cut-blooms of various Narcissus, such as Telamonius plenus, pallidus præcox, obvallaris, spurius, and Pseudo-Narcissus. Messrs. Barr & Son, in view of the meeting of the "Daffodil Committee," sent an excellent collection of cut-blooms of Narcissus pallidus præcox, straw-yellow, the earliest Daffodil to flower; N. obvallaris, bright-yellow, the second earliest, N. pseudo-Narcissus, N. Telamonius plenus and others, all shown in masses with good effect.

The new and rare plants occupied the attention of the Committee for some time, and First-Class Certificates were awarded to Messrs. James Veitch & Sons, for another of their seedling hybrid Rhododendrons, named Cardinale, and of the popular Cardinal red colour; for Cypripedium Sedeni candidulum, a new hybrid with white sepals and petals and rose tinted slipper; and for Crocus, King of the Blues, a variety of large size, and of a deep blue shade of colour; to Mr. Ballantine, gardener to Baron Schroder, for Odontoglossum Wilckianum Godefroyæ, a splendid and distinct variety of a creamy-yellow ground colour, with rich chocolate blotches, and for Imantophyllum miniatum Schroderæ, a variety with a large compact head of pure scarlet flowers--a very good form indeed; to Messrs. Paul and Son, Cheshunt, for the beautiful Megasea Stracheyi before mentioned, and for the scarce Japan Lilac, Daphne Genkwa, a very interesting Japanese shrub which produces its fagrant Lilac coloured blossoms before the new leaves are formed; and to Mr. H. Adams, gardener to R. B. Leman, Esq., Mount Lodge, The Avenue, Beckenham, for the very distinct Oncidium Brunleesianum, which bears branching spikes of small lemon-yellow flowers with a brown-black lip. Messrs. Shuttleworth, Carder and Co., 191, Park Road, Clapham, showed Odontoglossum Humeanum, a supposed natural hybrid, between O. cordatum and O. Rossi, the flowers being much like those of cordatum, but with the lip and bracts of O. Rossii. Mr. J. James, Castle Nursery, Lower Norwood, had a very fine variety of Cattleya Trianæ, named Jamesiana, in which the petals measured 3 ins. across, and the whole flower 8 ins. across, with a most perfectly-formed lip of a rich deep colour, and rendered the more conspicuous by a white frill. Mr. James had also a superb variety of O. cirrhosum, spotted with rich chocolate instead of black. The rare Phajus tuberculosus, which has only bloomed in this country once or twice before, was shown by G. F. Wilson, Esq., Heatherbank, Weybridge. Mr. Wilson's plant bore a spike of ten flowers, and he is to be congratulated on its production. Mr. Bull contributed a collection of plants, including a number of Orchids; and several varieties of Cattleya Trianæ came from the collection of De B. Crawshay, Esq., Sevenoaks. A small but select group of Orchids was also brought up by Mr. H. M. Pollett, and N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne, sent Dendrobium nobilissimi, a D. nobile with half of the petals of the same deep purple colour as the blotch on the lip. Mr. Turner, Slough, showed a fine batch of Violet Wellsiana, the fine large-flowered purple-blue flowers which was certificated last year. It is a good strong grower and throws up its numerous stout, erect flower-stalks well above the foliage, a point in its favour which should create a demand for it. Messrs. James Carter and Co. received a cultural commendation for a good batch of flowers of the Scarborough Lily, Valotta pupurea; and Mr. Gaiger, gardener to S. Taylor, Esq., Burton Closes, Bakewell, received a similar award for a specimen plant of a pretty light-coloured variety of Lycaste Skinneri, bearing twenty-one flowers. A very pleasing display of cut-blooms of Camellias, shown with plenty of foliage, came from C. Scrase Dickens, Esq, Coolhurst, Horsham; and Messrs. Cannell & Sons, Swanley, had a fine stand of cut-blooms of Zonal Pelargoniums, and some well-grown Spiræas.

THE NEPENTHES HOUSE IN MR. B. S. WILLIAMS'S NURSERY (*see* p. 440).

Manchester Horticultural Improvement.—The last meeting for the present session of this Society was held on February 26th, at the Old Town Hall, King Street, Mr. Bruce Findlay, the president, in the chair. Mr. W. B. Upjohn, of Worsley Gardens, read a paper on "Peach Culture under Glass." He said that he purposely limited his remarks to under-glass culture of the Peach, having come to the conclusion

that it was labour lost in our northern and smoke-charged climate to attempt outdoor cultivation of the fruit. The Peach was generally supposed to be a native of Persia and China, and to have been introduced into Italy during the reign of Claudius, and into Britain about the middle of the sixteenth century. The Peach was very properly esteemed one of the most luscious and agreeable of dessert fruits, vieing in popularity with all except perhaps the Vine. A high sweltering temperature was not necessary or desirable in Peach culture. A tree that had its native habitat under the fierce sunshine of a Persian summer must be benefited by all the light that could be brought to bear upon it, and in planning a Peach-house great attention should be paid to ventilation, so that it will be thorough and easily adjusted. What was known as a stiff soil was more suitable for the cultivation of the Peach than a light friable loam. He gave the names of the best varieties for growing of the Peach and Nectarine, and offered some practical advice as to general cultivation.

The President said the cultivation of the Peach was a luxury in which few persons could indulge in these northern climes, inasmuch as it required, as stated by Mr. Upjohn, to be grown under glass. In the South of England Peaches are grown very successfully on walls in the open-air. Few of our fruit trees are more liable to canker, which was mainly owing to unsuitable soils. It was a certain fact that to indifferent soils, and above all pernicious subsoils, that the failure in the cultivation of fruit in this country is to be attributed much more than to unfavourable climate.

Mr. E. G. Hughes, Mr. Swan, and Mr. Plant took part in the discussion which followed.

RHIPIDOPTERIS PELTATA.

This very elegant and interesting little fern is not often seen in a flourishing condition. Like its near ally Actiniopteris radiata it often succumbs to the ordinary treatment given to the occupants of the fernery. Though a native of the West Indies it will not do to suppose that a large amount of heat is necessary, with the moisture which it certainly requires. In fact, it is usually the case that these small growers, having very slender creeping rhizomes, succeed much better with less heat than many of the strong fronded, stout rhizomed species that come from the same localities. The reason is not far to seek. The amount of comparative drought the stouter ones, often epiphytal, have to endure during some part of the season would speedily be fatal to those of smaller growth; and so to succeed best with this it should have a temperature slightly in advance of that given to green-house ferns, where air is not much needed, or if given it should be in such a way that it does not play directly on the plant. It should also occupy a position where a fair light at command but, where the sunlight does not speedily dry up the surrounding moisture. In such a position, grown in a pan in a mixture of peat and sand, with a little sandstone added, Mr. J. Fletcher, at Broome House, Didsbury, has a capital plant; and as it has grown to its present size from a small piece, it would appear that the conditions are the right ones. By carrying out the suggestions above, those who have this little gem, only doing middling, may hope to have ere long a healthy and vigorous plant; and though at all times it will be a small grower, it will nevertheless be an interesting and pleasing addition to the collection.—*W. Swan, Fallowfield.*

CARYOPTERIS MASTACANTHUS.

This pretty Japanese plant was introduced into gardens upwards of forty years ago. Dr. Lindley when describing and figuring it in 1846, called it "an autumn-flowering herbaceous lapnt, of some importance, because it furnishes an abundance of rich violet blossoms at a season when that colour, never abundant, is peculiarly rare in gardens." In the January number of *The Botanical Magazine* is a good figure of it, prepared from a plant which has flowered freely in the open-air against a south wall at Kew during the past two seasons. The plant was originally introduced by Fortune from China. It occurs also in Hong-Kong, and in South Japan, where it is common in fields, rocky places, and on the mountains. It grows from 1 ft. to 5 ft. high; the leaves are oblong, coarsely toothed, and 1 in. to 3 ins. long; and the bright blue flowers are arranged in dense roundish heads of 1½ ins. diameter, which occur in the axils of the leaves. Though it will stand through mild winters in the open air, it does better with the protection of the greenhouse, as might be judged from its native habitat.

MOSS ON GRASS-LAND.

Your correspondent "X. X." (p. 430) should bear in mind that there are two things, one or other of which, or both combined, generally accompany mossy grass—viz., poverty and imperfect drainage. I do not think your correspondent will find any benefit accrue from bush-harrowing, as a very heavy bush-harrow would pass smoothly over the moss without disturbing it in the least. If the harrow is to be used for the purpose of destroying the moss, it should be one such as is used on arable land for breaking down and pulverizing the ploughed soil. This would tear up some of the moss, and would in a manner resemble the raking system practised by some for destroying moss on lawns. Any kind of top-dressing is good for grass-lands. In addition to manure, the clearings from ditches, road-scrapings, town-refuse containing a large proportion of ashes, &c., all have a tendency to prevent or at least check the growth of moss by encouraging the growth of grass. Lime is a first-class antidote, but to get it from the kiln for that purpose is rather expensive. Probably the best thing "X. X." could do would be to get some gas-lime and mix it with more than its bulk of soil or refuse of any kind, and let it lay in a heap well-mixed for a month or two before applying it to the land.—*W.*

ANSWERS TO CORRESPONDENTS.

Ivy.—*H. S.*—A variety of the common English Ivy, Hedera Helix, which grows wild on hedge-banks, and in the woods and copses of Kent and Sussex; and which is collected and sent to market by the same men who supply the florists with moss.

Names of Plants.—*G. E. Parr.*—Dendrobium nobile, a good variety, and Cœlogyne cristata.—*Young Gardener.*—Hebeclinum ianthinum, a first-rate winter-flowering plant, not nearly so much grown as it deserves to be.—*Scat.*—A very ordinary variety of Lycaste Skinneri.—*A. B.*—Clematis indivisa lobata, a cool greenhouse climber.—*P. S.*—Narcissus, Pseudo-Narcissus, and Lachenalia pendula.—*R. H. F.*—1. Polypodium serpens. 2. Asplenium bulbiferum. 3. Gymnogramma tartarea. 4. Aspidium trifoliatum. 5. Adiantum affine (Cunninghami). 6. Doodia caudata.

Seed-sowing.—*Philo.*—You should drain the pans well, and fill them with compost, rather light than otherwise, and give them a good watering a couple of hours before you sow the seeds, after which, if kept in a fairly uniform temperature, and not exposed to the sun, no more water will be required for some days. The great thing is to keep the soil as uniformly moist as possible, but not wet, and especially from the period of germination till the seedlings are pricked off. If they get dry at this stage, they die by hundreds, and it is at this period that you probably lose them. Another point requiring much atteution, is the depth at which you sow the seeds, and in this you must be guided by their size—the smaller and finer the seeds, the less covering they require. Read the Articles on "Flower Seed Sowing" in our present, and two last numbers.

Radishes.—*Corwen.*—The varieties which turn in quickest are Wood's Early Frame, the Red and White Turnip-rooted, and the Olive-shaped, all of which are good.

Climbers for a Stove.—*J. C. B.*—Allamanda Hendersoni. or A. nobilis, any of the Dipladenias, Clerodendron Balfourianum, Stephanotis floribunda, Bougainvillea glabra or B. spectabilis, Passiflora Princeps, Ipomæa Horsfalliæ, Thunbergia Harrisii, and Tecoma spectabilis.

Communications Received.—C. W.—R. B.—H. E. (many thanks).—E. J.—W. S.—A. E.—T. G.—A. M.—W. B. U.—C. S.

NOTICES TO CORRESPONDENTS.

The Editor *begs to inform his readers that special attention will be paid in the columns of* The Gardening World, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

It is also particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

LONDON SEED TRADE.

March 11th, 1885.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report an increased demand for White and Alsike Clover, and values firm. Red moves slowly, and some inferior samples of foreign seed are offering at lower rates. Trefoil steady. Spring Tares in good demand, at last week's prices. Foreign, Italian and Perennial Rye Grass meet with ready sale at present low prices. Bird Seeds unchanged.

COVENT GARDEN MARKET.

March 12th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6- 5 0	Kent Filberts and Cobbs, per 100 lb.	55 0-
— Nova Scotian, per barrel	10 0-15 0	Pine-apples, Eng., lb.	1 0- 2 0
— Extra samples	18 0-21 0	St. Michaels	3 0- 8 0
Grapes, per lb.	4 0- 8 0		

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	- 1 0	Horse Radish, bundle	3 0- 5 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	2 0-
Brussels Sprouts, p. lb.	0 4-	— Cos, each	0 2-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	3 0- 5 0
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	1 0- 1 6	Small salading, per punnet	0 4-
Endive, Freuch, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	2 0-
		Turnips, per bunch	0 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per tou.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Marguerites, 12 bun.	4 0 -90
Arum Lilies, 12 blms.	3 0- 6 0	Narciss, various, French, doz. bun.	1 6- 5 0
Azalea, 12 sprays	0 6- 1 0	Pelargoniums, per 12 sprays	1 0- 1 6
Bourvardias, per bun.	1 0- 1 6	—scarlet, per 12 sprays	0 9- 1 0
Camellias, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 6- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun	4 0- 6 0
— large, 12 blooms	-	Pyrethrum, 12 bun.	-
Cyclamen, doz. blooms	0 3- 0 6	Roses (coloured)	4 0- 8 0
Cineraria, per bunch	0 6- 1 0	Roses, indoors, p. doz.	2 0- 6 0
Epiphyllums, 12 blms.	0 4- 0 6	Roses (French), per doz.	1 0- 3 0
Eucharis, per dozen	3 0- 6 0	Stephanotis, 12 spr.	-
Gardenias, 12 blms.	4 0- 8 0	Tuberoses, per dozen	-
Heliotropes, 12 sprays	0 6- 1 0	Tulips, per doz.	0 9- 1 0
Hyacinths, Roman, doz. sprays	1 0- 1 6	Violets, doz. bun.	0 4- 0 9
Lapageria, white, 12 blooms	2 0- 3 0	— French, per. bun.	0 3- 1 0
Lapageria, red, 12blms.	1 0- 2 0	— Parma, per. bun.	3 0- 4 0
Lily of the Valley, doz. sprays	1 0- 2 0	White Jasmine, bun.	0 6- 1 0

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ferns, in var., dozen	4 0-18 0
Arum Lilies, per doz.	9 0 18 0	Ficus elastica, each	1 6- 7 0
Azalea, per doz.	18 0-42 0	Foliage Plants, various, each	2 0-10 0
Begonias, per dozen	4 0-12 0	Genista, per dozen	9 0-15 0
Bouvardias, dozen	9 0-18 0	Hyacinths, doz.	6 0- 9 0
Chrysanth., dozen	-	Lilium, various, per doz.	-
Cineraria, per dozen	9 0-15 0	Marguerites, per doz.	9 0-18 0
Cockscombs, dozen	-	Palms in variety, each	2 6-21 0
Cyclamens, doz.	9 0-18 0	Pelargoniums, scarlet per dozen	4 0- 6 0
Cyperus, per dozen	4 0-12 0	Petunias, per dozen	-
Dracæna term., doz.	30 0-60 0	Poinsettia, doz.	-
— viridis, per dozen	12 0-24 0	Spirea, per dozen	12 0 18 9
Epiphyllums, doz.	18 0-24 0	Solanums, dozen	-
Evergreens, in var., per dozen	6 0-24 0		

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TO ADVERTISERS.

Advertisers are requested, in order to save time, to address all Letters relatiug to Advertiseuents to The Publisher; and Advertisements for the current week's issue must reach the Office not later than the first post on Thursday Morning. "Stop" Orders cannot be received after the same hour.

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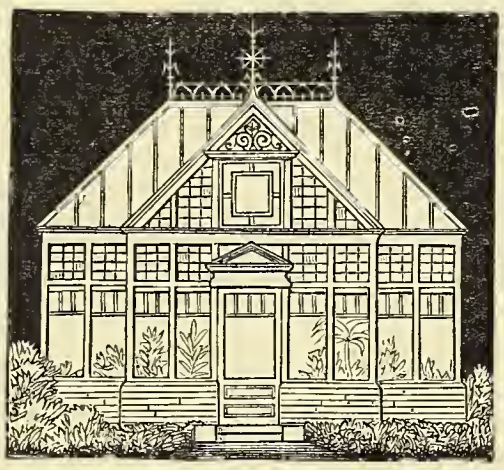

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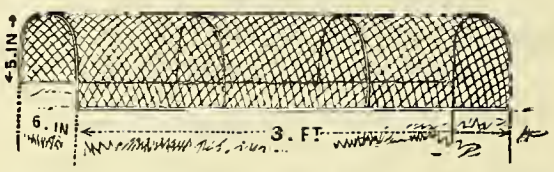

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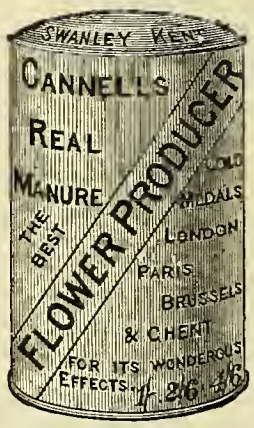

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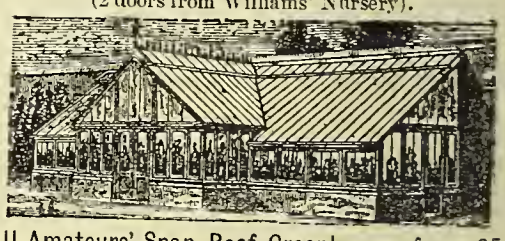

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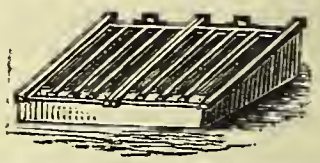

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THE GARDENING ILLUSTRATED WORLD

No. 29.—1885. SATURDAY, MARCH 21st. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

THE GRAND INTERNATIONAL POTATO EXHIBITION will be held at the Crystal Palace, Sydenham, on October 7th, 8th, and 9th. For Schedules apply—
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Proposed Gardeners' and Foresters' Benevolent Institution for Scotland.

AT a MEETING of the SCOTTISH HORTICULTURAL ASSOCIATION, held at Edinburgh on the 6th of February, it was proposed by Mr. John Downie, and seconded by Mr. John Methven, and unanimously agreed to, that an endeavour should be made to start such an Institution. Gardeners' and Foresters' opinions for or against the above are solicited.

(Signed) JOHN DOWNIE.
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STRONG-ROOTED LAYERS, 2*s.* a pair, or three plants for 2*s.* 6*d.* Cash with order.—H. G. SMYTH, 21, Goldsmith Street, Drury Lane, W.C.

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COLLECTIONS, 12 named varieties, separate, 7/6
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SALES BY AUCTION.

MONDAY NEXT.

Lilium auratum, Roses, Plants, &c.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on MONDAY next, at half-past twelve o'clock precisely. 4,000 very fine and fresh bulbs of Lilium auratum, just received from Japan in splendid condition; English-grown Camellias, beautifully set with buds, Palms, and Gardenias, 1,200 Standard, Half-Standard, and Dwarf Roses of the best sorts from an English Nursery, 3,000 Double African Tuberoses, 4,000 fine bulbs Gladiolus brenchleyensis, 2,000 Berlin crowns Lily of the Valley, and an assortment of hardy English-grown Lilies and bulbs.

On view morning of Sale, and Catalogues had.

TUESDAY AND WEDNESDAY NEXT.

Important Unreserved Sale of the Sugnall Hall Collection of Orchids.

MESSRS. PROTHEROE & MORRIS are favoured with instructions from WALTER WILLIAMS, Esq., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY and WEDNESDAY next, March 24th and 25th, at half-past twelve o'clock precisely, this valuable collection, which has been got together with great care during the last dozen years from the oldest established collections in the country, including types not latterly imported, and embracing a large number of specimen Cattleyas, the whole in robust health. The whole of the collection will be sold and no plants disposed of prior to the auction.

Messrs. P. and M. will also include in this sale, by order of Mr. F. SANDER, some fine masses of Lælia anceps Schroderina, stella, Sanderiana, and the new white type, Odontoglossum Alexandræ, O. citrosmum, and other imported Orchids.

On view mornings of Sale, and Catalogues had.

FRIDAY NEXT.

Imported Burmese Orchids.

MESSRS. PROTHEROE & MORRIS are instructed by Messrs. HUGH LOW & CO., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY next, March 27th, at half-past twelve o'clock precisely, a large quantity of Choice BURMESE ORCHIDS, collected by Mr. Curnow, comprising DENDROBIUMS IN VARIETY, specially a grand lot of the rare and lovely D. LUTEOLUM, AERIDES LOBBI, VANDA CŒRULEA, also CATLEYA DOWIANA, C. GIGAS, C. MAXIMA, ODONTOGLOSSUM LUTEO PURPUREUM VARIETY, from ANTIOQUIA; O. VEXILLARIUM, LARGE FLOWERED VARIETY; O. ALEXANDRÆ; fine imported pieces from the localities whence come the best varieties. Also the entire lot of PHALÆNOPSIS SCHILLERIANA and AMABILIS, the property of F. SEWELL, Esq., Catford, who is giving up their cultivation, comprising about 60 plants, for Sale, without reserve.

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67 and 68, Cheapside, E.C.

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MR. J. C. STEVENS will SELL by AUCTION at his Great Rooms, 38, King Street, Covent Garden, during the ensuing week, as follows, at half-past twelve precisely each day:—

WEDNESDAY.—First-class ROSES of sorts, SHRUBS and other Plants from Holland, BORDER PLANTS, BULBS, &c.

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12 Cuttings of above, 6*d.* less.

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READING.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 21ST, 1885.

THE ROYAL HORTICULTURAL SOCIETY'S SHOWS.—The schedule of prizes for the competitive exhibitions of the Royal Horticultural Society have just been issued, and no doubt are being scanned with very considerable interest by many gardeners. The association of these Shows with the remarkable series of exhibitions now being annually held at South Kensington gives to them much additional interest. Besides the Shows of the National Rose, Auricula, and Carnation and Picotee Societies, all of which are full of interest, and give special encouragement to some of our most popular garden-flowers, the Royal Horticultural Society offers prizes at ten others, inclusive of one specially devoted to cottage-garden produce. Last year's Show for cottagers was a great success, and no doubt that success has led to the promotion of another Show for that class of gardeners again this year.

A special Show for Orchids, on June 9th, will no doubt attract many admirers of those beautiful epiphytes, but there is danger that the Orchid Conference on May 12th and 13th, which will take the form of an exhibition without prizes, may discount the Orchid competition of a month later. Pelargoniums, Azaleas, Cinerarias, Begonias, and fine-foliaged plants get a good share of encouragement, and the displays will doubtless be interesting as well as gay, for many other plants are invited in the respective competitions, which can hardly fail to prove attractive. It is long since prizes have been offered for Dahlias at South Kensington, but that favourite flower is now in higher favour in that quarter, and the goodly prizes offered will doubtless lead to a good competition.

After all, to gardeners generally, the chief interest of the year will be found in the three last Shows of the season, when—the butterfly element of exhibition attendance having left town—the Shows cater more generally for subjects of utility. Thus, on September 9th—rather too early, it is feared, for many kinds—there will be a remarkable exhibition of Grapes—remarkable in this sense, that there will be no collections, nor a single class for more than a brace of bunches; but then there are twenty-six classes for as many named kinds, and one other class for any other sort not previously named, if such can be found. No doubt it is hoped that by bringing together samples of Grapes grown under specific names, in diverse parts of the kingdom, something may be done to correct the very dubious nomenclature which even yet so largely exists.

Something of a similar kind may result from the exhibition of Apples and Pears, to be held on October 13th and following day; for there are classes for many specially-named sorts of each of these fruits. Chrysanthemums and Potatos, and other vegetables get very liberal recognition on October 27th, and the talked-of Potato Conference is fixed for the same date. The special prize donors are the Messrs. Sutton & Sons, of Reading, who make liberal offers for Melons, Cucumbers, Lettuces, collection of vegetables, and Potatos; and Messrs. Webb & Sons, of Wordsley, who also take vegetables under their special care, as becomes a large seed-firm.

CHINESE PRIMROSES.—It was doubtless somewhat disappointing to many who attended the recent very pretty Show at South Kensington, not to have found Chinese Primroses represented. There is, we fear, a feeling growing up that these beautiful winter flowers are out of season when March comes in, and further that they are then superseded by the largely-grown Cyclamen. Now, to that notion we take strong exception, not only because the Chinese Primrose ought to be as beautiful in March as in any other month, but also because the Cyclamen is somewhat of a speciality, and can be well grown by but very few persons. Though so effective and so wonderfully floriferous, yet the Cyclamen gives no great variety of colour or habit, but in spite of these simple features it seems to be the most difficult flowering-greenhouse plant that we have to grow, because they are rarely seen good anywhere, but in a few places where their culture is a speciality and specialists grow them.

Not in one private garden in a thousand can really good samples of Cyclamens be seen. On the other hand almost everybody can grow Chinese Primulas well, and the amateur gardener with his small house may, indeed often does, have as good plants as the gardener who has ample glass space at his disposal; then there is very much more of variety in Primula bloom, and in the plants far more of grace and beauty than the Cyclamen gives. This latter plant is always stiff and formal, and one plant is, except perhaps in colour, but the duplicate of ten thousand. We are not desirous of contemning the Cyclamen in any way, much less at the expense of the Chinese Primrose, but certainly when it is assumed that these latter beautiful winter flowers are out of season in March, chiefly because Cyclamens are in, the proposition seems such an absurdity that we cannot but offer a protest against it.

Of course we have no intention to decry the Cyclamen, that would be absurd also, as it would be unmerited. On the other hand it is hardly fair to either plant that the one should be elevated at the expense of the other. It is neither necessary to decry either nor to specially elevate them, as the merits of both are so well known, though we cannot but think that, on the whole, the palm of merit rests with the Chinese Primrose, because of the exceeding ease with which it can be cultivated. We find, moreover, that variety creeps into this plant faster than into the Cyclamen, a natural result of ease of fertilization, free seeding, and quick growth. There is, too, a natural tendency in Primulas to vary, even to the extent of producing beautiful semi-double and double flowers, and these variations may be as much the fortune of the small grower as of the large one. There can be little doubt but that the Primula will long remain our most popular winter-blooming plant for greenhouses, for it is graceful, effective, and wonderfully floriferous.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—A special general meeting of the subscribers to this institution was held at the Bedford Hotel, Covent Garden, on the 13th inst., Edward Tidswell, Esq., the Treasurer, in the chair. The meeting was well attended, and the whole of the suggested alterations in existing rules and the three proposed new ones, having been explained by Mr. John Lee, the Chairman of the Committee, they were put to the meeting seriatim, and adopted without a dissentient voice, the alterations in rule 8, increasing the amount of the pensions, being carried by acclamation. The practical

effect of the change, we are pleased to say, will be that the increased pensions will be paid for the quarter ending March 25th. To commemorate the successful termination of the scheme about forty members of the Committee and subscribers dined together at "Simpson's" in the evening, under the presidency of the Treasurer, and Flora and Pomona were well represented on the table by choice contributions from Mr. T. A. Dickson and Mr. James Webber, of Covent Garden.

Fruit Packing.—Scarcely a week passes that evidence does not come before us of the fact that much fruit is sent into Covent Garden Market by growers who do not yet understand the simple art packing it neatly and efficiently, so that it shall arrive in the market sound and free from injury. Probably the worst packers are those private gardeners—and their name is legion—who send off their spare produce to the market, and do so, it would seem, in a slipshod fashion. It was to correct and duly teach these growers that the Messrs. Webber, the well-known salesmen of Covent Garden Market, offered prizes for the best packed boxes of fruits, at South Kensington for several years past; and although the competitions have always been limited, some good doubtless has resulted.

It was made a condition that the packages should be sent a certain distance by rail to South Kensington, just as if they were consigned to the market, so that the efficacy of the packing might have the fullest trial. Curiously enough, only private gardeners have competed for the prizes Previously, these prizes have been given in one class for three distinct kinds of fruit, and in separate packages; but in the Royal Horticultural Society's Schedule just issued we note that the Messrs. Webber have thrown their competition over three Shows; for packed boxes of Strawberries are invited on May 26th, boxes of Peaches on July 14th, and boxes or baskets of Grapes on September 9th. No doubt, as a consequence of this division, the competitions will be larger, greater attention will be drawn to them and most probably the travelling test will be more severely applied than it has been in the past.

Eschscholtzias.—A beautiful old-fashioned flower with an intolerably stupid name, because it is so difficult to spell and to pronounce. Why we do not the more often see these flowers in our gardens is not easily explained, for they are very hardy and need little trouble, but the inference is that the intolerably difficult name with which they are endowed militates against their popularity. Subject, of course, to possible eventualities should a hard winter prevail, the best course to adopt in the securing of a brave show of bloom from Eschscholtzias is to sow in the open ground, about the middle of the month of August, allowing the plants to remain in the seed-bed for the winter, and then lifting and dibbling out thinly in March. Such plants not only bloom early but continuously and finely, making a brilliant display all the summer. It is, perhaps, an additional drawback to "Scholtzias" that they are fair-weather flowers, opening in the sunlight, and closing when the rain falls or night comes; but then, in those respects, the flowers show sense perhaps. Certainly, the blooms are produced on strong plants with wonderful rapidity. It is not certain whether they are much in favour for cut-flowers, but if not so, then all the better for the garden, which gets far too much robbed to suit æsthetic tastes. There are several kinds of Eschscholtzias, that is, as far as variety in flowers is concerned, the most beautiful being Carter's Mandarin, which has a rich orange-yellow front and deep buff back. Sometimes the flowers come striped and these are very beautiful. E. crocea rosea is a charming kind, the flowers of rosy-pink, and if the two kinds are mixed the effect is singularly pleasing.

Gardening Miscellany.

The Committees of the Royal Horticultural Society will meet at South Kensington on Tuesday.

On Wednesday, the first spring Show of the Royal Botanic Society will be held at Regent's Park.

There will also be a spring exhibition at Bath on Wednesday and Thursday.

The forty-third annual Festival of the Gardeners' Royal Benevolent Institution will be held on Friday, July 3rd, at the Albion, Aldersgate Street, when the the Treasurer, Edward Tidswell, Esq., will preside.

The International Inventions Exhibition at South Kensington, will be opened on Monday, May 4th.

Messrs. William Cutbush & Son's annual spring exhibition of Hyacinths, Tulips, and other spring flowers, will be held in their Nursery, at Highgate, from Tuesday, March 31st to April 11th.

A well-attended meeting of growers was held at Sheffield, on Monday, the 9th inst., when a resolution that a Chrysanthemum Society for Sheffield be at once formed, and the necessary steps be taken for organizing a satisfactory open Show in November next, was carried unanimously.

The Chair of Botany in the University of Glasgow is vacant by the resignation of Dr. Bayley-Balfour.

Mr. R. Henderson, lately foreman at Alnwick Castle, has succeeded Mr. Bowie as gardener to the Earl of Tankerville, at Chillingham Castle, Northumberland.

The entries for the Grand National Horticultural Exhibition to be held at Manchester next Whitsuntide, close on May 15th. Schedules may now be obtained from Mr. Bruce Findley.

The *Gardeners' Monthly* announces the death of Mr. George C. Briggs, one of the famous firm of Briggs Brothers, who were the pioneers of fruit-culture in California. Every one has heard of the wonderful—wonderful for that time—Peach-orchard near Marysville, and of the varieties of California Peaches which bear his name. Of late years he gave his chief attention to the growing of Grapes for Raisins, and had at the time of his death no less than 1,200 acres in Grapes, and was preparing to plant 6,000 more.

The Bawtry Floral and Horticultural Society's Show will be held on June 18th. Viscountess Galway, Serlby Hall, offers a silver cup for the best vase of flowers arranged by a lady.

Owing to the death of Mr. Hardie, and the serious illness of Mr. Andrew Sinclair, the firm of Messrs. W. P. Laird & Sinclair, of Dundee, Broughty Ferry, and Monifieth, was dissolved last week, the whole of the business being taken over by Mr. R. B. Laird of the firm of R. B. Laird & Sons, Edinburgh, who will carry on the business under the same style and title. As mentioned in another column, Mr. Sinclair died the day after the partnership was dissolved.

The Late Charles Downing.—At a meeting of the Massachusetts Horticultural Society, held on January 31st, Col. Marshall P. Wilder, introduced the following: "Resolved, That the members of the Massachusetts Horticultural Society desire to express at the earliest opportunity their sorrow at the removal from earth of their late friend and corresponding member, Charles Downing, of Newburgh, New York. That his life has been a blessing to mankind, and his death is a loss not only to our nation, but to the whole pomological world. That while we thus speak, we would acknowledge most gratefully the Divine goodness which spared him to us so long, and that, although his star has now set, it has left a golden record which shall illumine the annals of pomology while the earth shall bear fruit or the love of nature shall have a place in the soul of man."

Layia Glandulosa.—This very pretty composite is the counterpart of Layia elegans, from which it differs in having pure white ray-florets instead of yellow. It grows about 9 ins. high, each shoot being terminated by a snow-white flower-head, about 1½ ins. across, with a yellow disk. White composites are by no means abundant; this very neat and desirable annual should therefore be an acceptable addition to their number. May be treated either as a half hardy annual for early blooming, or as a hardy annual, in which case seeds should not be sown before the end of April.—*W. Thompson, Ipswich.*

EARLY-FLOWERING CHRYSANTHEMUMS.

I have heard persons say that far too much importance has been attached to these, and for the reason that they come into flower at a season of the year when there is such a wealth of blossom in the flower-garden. The Chrysanthemum, they say, is an autumn-flowering plant, and it is not wanted until there is a dearth of flowers in the garden. Such an objection does not weigh with me in the slightest. Give me a subject that is charming when in flower, that blooms freely and continuously, that is useful for cutting from, and for decorative effect, and let the season at which it blooms be what it may, I claim it as a valuable acquisition. And I set up this claim for the early-flowering Chrysanthemums. There is one part of the country they suit well—the late, cold, and moist northern districts.

Not a few writers for the horticultural press, who reside round London and in the genial south and west districts of England, write as if the conditions of climate which surround them are everywhere present. But we know it is not so. There are parts of the country where it is extremely difficult to get the ordinary late Chrysanthemums in flower in the open-air; frost and rain destroy the promise of bloom before it can become sufficiently matured to gladden the eye of the beholder. Not so with the early-flowering varieties. Last September I saw a few of them in grand form at Hopetown House, near to the shores of the Firth of Forth, at Queen's Ferry; they were in the mixed border; they were of dwarf and compact growth, and carrying fine heads of bloom. Mr. Muir, the gardener at Hopetown, said that the best things he had to cut from at that season of the year were these early Chrysanthemums, Hyacinthus candicans, and East Lothian Stocks. He was enthusiastic in praise of the early-flowering Chrysanthemums for cultivation in the open-air in that part of the country.

There are many amateur gardeners who have sufficient space to put up a useful little greenhouse, but little or none for an outdoor garden. A wise amateur will grow something in pots and confine himself to a few subjects that he can manage well. Among these the early-flowering Chrysanthemums should take high rank. We have now a race, dwarf in growth, robust in habit, good-sized full flowers formed of stout petals, that can stand wind and rain in the open-air, and which are of peculiar beauty under glass. There they come to perfection in much less time than the ordinary kinds. There are a few so quick in flowering, that cuttings put in as late as the end of June will flower in October; it is, therefore, easy to perceive what an excellent succession can be provided. If an amateur wishes to have some really fine specimens under glass, let him strike a few cuttings at the end of July; these will soon grow into nice little plants, and they can be safely wintered in a cold pit if the frames are well covered up in times of severe frost, and the covering is not removed until after the frost has passed. During the winter, when the weather is favourable, plenty of air may be given, and only sufficient water to keep the plants healthy. In early spring these plants should be shifted as required, and kept growing robust, wiry, and healthy. As soon as the weather will admit of its being done, they should be placed in the open-air on a bed of cinder-ashes, and as soon as warm, drying weather sets in be stood in earthenware saucers, a little larger than the size of the bottom of the pot. This is found to be of great advantage when the weather is hot; and if a little soot be placed on the surface of the soil about twice a week, it will help to keep the foliage healthy and of a good colour. They should be flowered in pots eight, ten, or twelve inches in diameter, according to the size of the plants.

I have shown the importance of plenty of water in dry weather. Another indispensable requisite is a rich light soil. Such a compost can be made up out of three parts rotten turf, two parts rotten dung, and one part coarse sand well mixed together. When the flowering pots are well filled with roots, a little manure-water may be given with great advantage, but as this is difficult of provision in many cases, Clay's Fertilizer, or some good Peruvian Guano, can be employed. In the case of Clay's manure, a little should be spread over the surface twice a week, and

watered in. If guano is used, one ounce should be put into a gallon of water, well stirred, and immediately applied. In all cases, liquid manure or a fertilizer should be employed only when the soil is wet.

The very earliest sorts are Salter's Early Blush, a charming variety flowering at the end of June; colour bright blush pink, it is one of the best early sorts yet introduced; Fibretto, a beautiful Pompone, colour bright lemon yellow; Early Late Flora, also a charming yellow Pompone, dwarf, and a good grower; and Madeline Davis, one of the earliest blooming in May, colour yellow and very free. These are new varieties of recent introduction. A few of the best of the older sorts are Lyon, rosy-purple in colour, flowers and habit of growth both good, can be had in bloom for a considerable period; Madame C. Desgrange, a Japanese variety, and perhaps the very best of all the white summer bloomers, habit good, blooms at the beginning of August, the style of the flowers much of the character of Elaine; Madame Piccol, rosy-purple, very early, will bloom at the end of June, a charming variety; Naumer, a very early white, can be had in bloom by the end of May from plants struck in the previous July, by putting in cuttings at different times this variety can be had in flower several months; Petite Marie is one of the smallest of Pompones, will bloom at 4 ins. high, and does not grow more than 16 ins.; Précocité, a bright and very early yellow, will bloom in the middle of July; Anastasio, a first-rate summer-blooming Pompone, and a profuse bloomer, colour rosy-magenta; and Curiosity, slightly lilac, and sometimes nearly white, very dwarf, growing to a height of about 12 ins., and will bloom in August. There are other varieties, but these are about the pick of them. But they are all well worthy of cultivation.—*R. D.*

A SCROLL BED.

Few designs are more easily laid out, or more pleasing in a garden than such a scroll as that illustrated above, which was planned and carried out in the Chelsea Hospital Garden, by our friend, Mr. William Gibson, who, as our readers will have learnt from previous illustrations of his work, is a master hand in this branch of the profession. The design in question was planted as follows:—The three large circles were composed of the yellow-leaved Zonal Pelargonium Creed's Seedling (an old variety still unsurpassed for this sort of work), edged with Lobelia Porcelain Brilliant. The ten circles in the scroll were dot-plants of the handsome Fish-bone Thistle, Chamæpuce diacantha. The outer ends of the beds were composed of Lobelia Lustrous, and the two inner ones of Alternanthera amœna, which plant also occupied the divisions between the circles alternately with Lobelia Porcelain Brilliant; while the inner edging was composed of Golden Feather Pyrethrum, and the outer one of Koniga variegata.

THE TRAINING AND STUDIES OF GARDENERS.

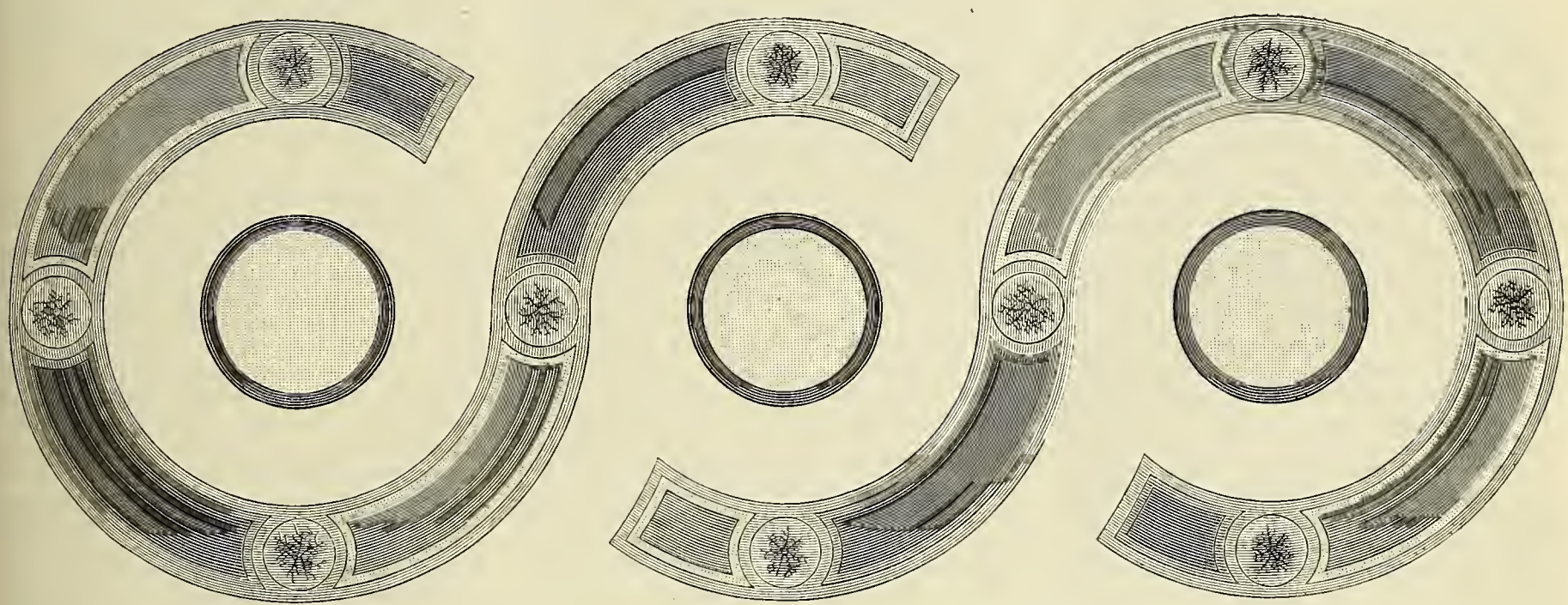
I shall begin my comments on this important subject by quoting the motto or maxim at the head of the first column of The Gardening World, "Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man." Lord Bacon, whose magnificent mind exempts him from every objection as a model for the rest of mankind, was enthusiastically fond of gardening and flowers, and he kept a succession of them constantly about him in his study and at his table. To a cultured mind the union of books and of flowers is most particularly agreeable. What a relief to the wearied brain and mind it is to settle one's self down with a favourite author in the midst of flowers and plants and to forget for a time how the world wags? It is the perfect enjoyment of nature and art together, a consummation of luxury that never palls upon the appetite.

But come down to the everyday work-a-day subject of gardening in a more practical sense, and even then of what use is the gardener without his books? Collect and burn all works on horticulture, as the Bibles were burnt in ancient times, and try to picture the consequences! I maintain that book-knowledge is of greater importance in the art and science of gardening than it is to any other vocation. But by book-knowledge I do not mean a dependence on books or even a use of books as everyday works of reference to aid and relieve the inexperience and want of memory of the man who, through neglected opportunities and want of study, is obliged to fly to his *Gardener's Assistant*, or what not, to help him over the difficulty of the moment. I think it requires no argument to show that the gardener who is in the habit of doing this is not master of his profession. Then, it may be argued, how are we to change all this, for it is, doubtless, of very common occurrence? Well, certainly it would not be wise to even expect that the average gardener of to-day should go to school again, and school, as it is, would not benefit him to any great extent.

Neither would I impose a task which neither time nor education will allow some gardeners to master; but surely it is not too much to expect that every gardener who can read and write (without a knowledge of which he has no business to be a gardener) ought at least to inform himself of the names of plants, their native-places, time of their introduction and flowering, and proper modes of culture. And I may be allowed to say the same of entomology. Although he may think he is not able to master that science, there is no reason why he should not acquaint himself with the habits of those insects that are injurious to vegetation or that are part of the economy of nature. It is equally necessary that he should be able to keep a daily diary of gardening events, and that he should be adding to his knowledge by collecting specimens of plants whenever he can, and of drying, fixing and classing them in his specimen book at his leisure. I think I need not say that these simple acquirements would not only give him a greater interest in his daily work, but would also incite him to further efforts in the way of gaining useful information, so that he would soon lift himself above the ordinary level and become of greater value to his employers.

Though I hardly see the need for a special training-school or college for gardeners, there is certainly room for more attention to the subject in our elementary schools. That is where the work should begin, and I would have every schoolboy to be a gardener, in a sense; he would be no worse for it in after life. Time would be better spent over the training of rural children in the art of gardening and the science of botany than it now is spent on such subjects as Tonic-sol-fa and Euclid. Every school in the rural districts should have its school-garden and its horticultural and botanical collection of specimens, and every school teacher should be qualified to give instruction in the art as well as in the science. Had such been the case twenty or thirty years ago we should not now be hearing half so much about the migration of the agricultural labourer to the large towns, or of agricultural depression. We should have had a class quite qualified to take up the vegetable farming and the fruit growing that would be such a boon to the country under existing circumstances.

But referring again to horticultural training colleges, is it not the duty of horticultural societies to promote the science of gardening? In this I argue that they fail decidedly in their most useful sphere—the training of the young and rising generation of gardeners in a course of such studies as is recommended at p. 434 of last week's issue of this paper. Probably in this respect there would be at least two courses worthy of adoption: the one of offering certificates and awards to home students who are now occupied in the profession; and the other and wider one of establishing scholarships at the public schools, to be gained by youths in elementary schools as rewards for skill and knowledge in gardening and botanical subjects. The united effort of all the leading British horticultural societies in this direction should surely be a very strong one; and it is more than probable that if once that effort is made in the right direction the Legislature will be disposed to further the aims and to support the objects of the promoters. That the great majority of youths thus educated would greatly add to the honour of the "oldest and noblest" profession is not to be doubted; or that they would ever be ashamed to handle a spade or wheel a barrow either. But the spade and barrow-work would soon be passed over, and the higher rounds of the ladder reached. True nobility ennobles labour; and the youth who fears hard work is not good enough to be a gardener.



PLAN OF A SCROLL BED AT CHELSEA HOSPITAL.

From the time of Adam downwards, gardeners have been gentlemen, and gentlemen have been gardeners. The grandest gift to man, that of intellect and the power of acquiring knowledge, has been exerted more in efforts to grasp at an insight to nature by a study of the vegetable world than by any other study; and it would fill a book to name all the horticultural scholars from King Solomon to the present time who have benefited mankind by their researches. But apart from the fact that science gives us such a power over matter, it is in itself a most pleasant and interesting study; and we are raised by it to an understanding of the infinite wisdom and goodness which the Creator has displayed in all His works. Who that has felt the inexpressible delight of being able to follow, as it were, with the eyes the marvellous works of the great Architect of nature, and to trace the unbounded power and exquisite skill which are exhibited in the most minute as well as in the mightiest parts of the system can ever forego this luxury, or begrudge the time spent in acquiring a knowledge of science.

I know there are persons to whom the odour of flowers, the cool appearance of the dark-green leaves, and the beautiful tints and various forms, nay, even the very flowers of Paradise would be objects of indifference; but who can imitate or envy such? They are but mere grovellers whose coarseness of taste is only fitted for the grossest food of life.—*A Gardener.*

PLANTING UNDER TREES.

To keep up a healthy growth of plants under the drip and shade of tall trees, requires that constant care be given to the thinning and pruning of the trees, and also of the undergrowth of low trees and shrubs. Whenever the shade becomes so dense that the undergrowth begins to look weak and sickly, then pruning, or thinning of the trees, becomes absolutely necessary, if it is desired to retain the undergrowth in a healthy and pleasing condition. A neglect of this work for one or two seasons does more injury than is generally imagined, and is the cause of much worry and expense for years afterwards, in trying to renew the undergrowth. It is far easier, and much less costly, to preserve the first crop of undergrowth than to rear a second crop on the same ground, which is already exhausted of nutriment, and overrun with the hungry rootlets of the trees. When the injury is done, however, and it has become necessary to restore a green mantle to the surface of the earth, this can be accomplished with success, if the work is judiciously performed, and a proper selection of plants made which are known to thrive well in the shade of trees.

There are a few species of trees under the shade of which no other tree or shrub will thrive—either from their dense canopy overhead, their surface-rooting habits, or, what is less common, the deleterious nature of the drip from their leaves or branches. All evergreen trees are more or less injurious to undergrowth, and it is rarely seen in a vigorous state beneath them. This is most marked in the evergreen Conifers, and particularly the Spruces, which, besides having a thick and close canopy, are also surface-rooting, and consequently the ground beneath their shade is generally bare of vegetation, refusing to be clothed under the most skilful treatment. Among deciduous trees, the Beech and Horse Chestnut are the most injurious to the vegetation under them, mostly from their heavy umbrageous heads, and especially the surface-rooting habit of the Beech. Beneath such trees it is most difficulty to get any ligneous plant to live, and they never will thrive; although, where the cost is not an object, a green appearance may be kept up for a time.

There is no difficulty, except in the cases already noted, in planting and growing a healthy crop of evergreen shrubs and low trees beneath deciduous trees when well managed and with ample space for their full development.

Of low trees, Holly and Yew are the best evergreens for this purpose, and they will thrive in almost any soil, free from stagnant moisture, in which deciduous trees grow well. Among shrubs, the common Rhododendron (R. ponticum), Mahonia (Berberis aquifolium), and Box, are the best, and grow well in a great variety of soils and situations. The Rhododendron is the most beautiful, and thrives in almost every variety of soil not strongly impregnated with calcareous matter. It has a partiality for moist soils, and a cool subsoil; but thrives admirably on a stiff clay, as well as on a light sandy soil, if of moderate depth, and it has proved hardy enough to withstand the rigour of our severest winters, even at high altitudes and in exposed places. The Mahonia closely approaches the Rhododendron in general usefulness. It grows freely in the same soils, and has no aversion to lime in the soil. It is easily raised from seed, which it produces in abundance in this country, and it ought to be more cultivated for undergrowth than it has yet been. The Box is a very accommodating plant, and thrives under dense shade as freely as any other shrub we possess; but it must not be planted in soil impregnated with saline matter, nor within reach of the spray from the ocean, as salt in any shape is fatal to it. The Yew, Rhododendron, and Box are proof against the attack of ground game, a most valuable quality in underwood. In the severest winters, rabbits may slightly nibble them, but they are never seriously injured, or killed outright, like Holly and young forest trees.

The common Bay Laurel, Portugal Laurel, Aucuba japonica, Evergreen Privet, Arbutus, and Laurestinus, are all excellent evergreen shrubs, and grow well in the shade; but are liable to damage from ground game, and severe frost. The Portugal Laurel is the hardiest of them, and the most satisfactory to the planter. Of smaller shrubs, the Spurge Laurel, Euonymus, Cotoneaster, Butcher's Broom, Common Broom, and Furze are all useful for certain soils and purposes. For simply covering the ground beneath trees with a green carpet of vegetation, nothing excels Ivy, Periwinkle, and St. John's Wort (Hypericum calycinum), in the order named. These all thrive well in the shade, but enjoy a moderate share of light and sunshine, and should always receive it. Deciduous flowering-trees and shrubs, such as Lilac, Scarlet and Double-Flowered Thorns, Laburnum, Guelder Rose, Mock Orange, Flowering Currant, and the like, should be freely mixed in clumps or singly, among the evergreens.

In all cases where it is desired to get up an undergrowth, it is most important to prepare the ground thoroughly before planting it. If it is full of roots, holes should be dug, at least a foot in depth, and of sufficient diameter, spreading the exhausted soil taken out over the surface, and filling the holes with fresh, rich soil, in which the plants may get a good start. Top-dressing with fresh soil, well-rotted manure, or compost, is also very effective; and if dry weather follows on the planting, watering the plants is necessary till they get a hold of the ground, and are growing freely.—*D., in Forestry.*

PROTECTING PLANTS FROM SLUGS.

In many gardens, but more especially in those where Box is used as an edging to the walks, slugs are a perpetual worry to the gardener, particularly in showery weather; and to successfully keep them from the crops frequently taxes his ingenuity. Forming lines on all sides of the plant with a mixture of soot and lime, and sometimes wood-ashes in place of the latter, in fact anything that is dry and dusty will prevent the slugs from passing over the line, so long as it keeps in that state, but as soon as rain comes and wets the mixture it loses its most valuable property. Dusting the plants when damp overhead with the same kind of mixture also answers well until rain comes, and if the showers are not too frequent, several applications will sometimes allow the plants to get to such a size as to be able to take care of themselves; but should showers come so often as to necessitate the application being renewed every day, it will most likely result in an overdose of soot and lime, and the failure of the remedy into the bargain.

A plan successfully practised and recommended by Mr. R. Gilbert, of Burghley, is to wind-up some wisps of hay-bands and lay them about on the ground where the slugs are troublesome. The slugs take shelter under these wisps, and I have known dozens of them to be found on the ground under one single wisp. All that has to be done with the wisps is to lay them in a fresh place from time to time, and dust the backs of the troublesome pests liberally with soot and lime; the operation must be followed up every day when the weather is mild and moist. Pieces of tile, slate or board will attract them also, when they should be removed and treated similarly to those under the wisps. It is a very good plan where the men do not live far distant from their work, to look in either late at night or very early in the morning in the summer months, and sprinkle the plants that are being attacked, as well as the backs of the offenders, with the soot and lime. I have gone with a lantern and done this myself, and the next morning found the depredators in the midst of the dust, and being unable to conceal themselves were dried up by the sun's rays the same day.

Hand-picking is by no means to be despised, but not such hand-picking as I remember seeing on one occasion. The man was troubled by the slugs attacking his Cinerarias in a frame. He remarked, "Bother these slugs, I can't keep them away." He picked them up one by one while he was speaking to me and threw them over the side of the frame, only to return to his Cineraria plants with perhaps a better appetite. "Catch and kill" is a piece of good advice that is never better given than when slugs are in question, and we now adopt it every morning on which the slugs are crawling about, all available hands being set at the work. One day last year we calculated that 1,500 were picked up in and about the kitchen-garden in little more than an hour by five pairs of hands. When slugs are troublesome under glass, there is no other remedy than to "catch and kill" that I am aware of, but it is a good plan to lay Lettuce leaves about to attract them, so that we may more readily find them, and also prevent their ravages on the more valuable occupants of the houses during our absence.—*C. Warden, Clarendon.*

TRUFFLE HUNTING.

Having heard much in conversation, and from time to time read a great deal concerning Truffle hunting, I have for some considerable time been imbued with a strong desire to participate in so novel and interesting an occupation; but not until recently has an opportunity presented itself; and coming as it did quite by accident as it were, and altogether unexpected, the occasion proved to be one of unmixed pleasure. "How do you do, anything particular coming off this afternoon?" is the self-imposed introduction to our Truffle hunter, who, with his three dogs, steps out of the trap belonging to our local superintendent of police, who had given him a lift on the way. "Well, I want just to try your park here with my little dogs to see if I can find a Truffle or two," is the rejoinder of our new acquaintance, who with his knee-breeches and gaiters, velveteen jacket, hunting cap, and steel-pointed staff, is a good representative of one phase of our good old English rusticity, and would attract a good deal of attention if one were to meet him in the Strand, going in the direction of Covent Garden.

Conversation respecting his avocation becomes quite interesting, and it very soon becomes evident that the man is highly pleased at something, whether with his ride with the superintendent, or at the prospect of filling his capacious pockets with Truffles we cannot say, but he soon informs us that he has done "pretty tolerable this season, out almost every day." This has been for him something of the nature of a field-day, he having by appointment been to Captain ———'s to give the said Captain and his friends a day's hunting for Truffles. "Well, time is getting on, and the days are short, shall we go through the park and see if the keeper is at home?" is the first utterance after our preliminary conversation, "Yes, come along, we will go the nearest way," is the rejoinder.

Two of the dogs are chained and coupled, the remaining one running at large, and we have not gone more than a hundred yards from the park gate before the latter "marks" game. "What is it?" says the man; no sooner said than the dog is hard at work scratching away with his fore-feet, one after the other in quick succession; down goes the steel-pointed staff, and our first Truffle is brought to light; and what a singularly-shaped black-looking object it is! But being rather under-sized, no larger than a marble, it is given to the dog, together with a small piece of bread as an additional reward. The dog is well satisfied, or at least appears to be so, and the man has barely time to express an opinion regarding the luck we are likely to meet with, when his little friend, with nose on the ground, running hither and thither, "marks" his

second quarry, which, on being unearthed, proves to be somewhat larger than the first one, and is about the size of a horse-chestnut; on examination, however, it is pronounced to be too old and is thrown away, with the remark and a shake of the head, "Ah, I am afraid we be too late, your keeper always said I should come here in October."

Our visit being altogether unexpected, we find, on arrival at the keeper's house, that he is not at home; his good lady, however, on being made acquainted with our object, soon informs us where we shall be most likely to meet with success. A belt of Beech trees iu close proximity, and running parallel to a hedgerow is uow our objective point, on reaching which hunting commences with downright earnestness. The dogs are uucoupled and set to work with such encouraging words from their master as "Hi, hi, my beauties, find 'em out, find 'em out!" and this they certainly do with wonderful alacrity and sagacity, if the term is admissible. Two of the dogs are some few yards in advance, game is almost immediately found, and this time is so near the surface as not to require the aid of the steel-pointed staff, as one of our little friends comes trotting up with a medium-sized Truffle in its mouth, laying it at the feet of its master; and, with a kindly acknowledgement and a cheery "Hi, hi, my beauties, find 'em out, find 'em out!" is soon at work again. A few more are found, and we move away some distance to another Beech plantation. On our arrival here we find the underwood has recently been cut, and the Truffle-hunter remarks, "It's all up wi' Truffles here for a few years, till the young wood has grown again." We are rewarded, however, with a few, but they are mostly too old aud unsalable; and so the hunting goes on for the remainder of the afternoon.

A few general remarks on the subject may now be given, and may not be altogether uninteresting or unacceptable to those who do not happen to have ever joined in the sport! Sport did we say? Save the mark; let it be "proceedings," if you will, for sport it might not be to every one. Of the dogs, a word or two first. In colour, shape, and general appearance, they are very like an under-sized French poodle; and in spite of their possessing a decided Mongrel look, we are assured that they are a special breed, and as our huntsman expressed it, "real Truffle dogs, they be, different from all others." They require to be broken and taken in hand when quite young, much patience and kindly treatment being necessary to train them properly, indeed, it may be said that the one essential point to this successful hunting is centred in the amount of kindness and encouragement they receive; not a harsh word is spoken, and they almost seem to expect, as a reward, a small piece of bread for every Truffle they find.

It may possibly be of interest to those who are totally unacquainted with the Truffle, to state, that it is a fungus, Tuber æstivum, or, as our huntsman says, a Subterraneous Mushroom. Athough the industry in this country has nearly become extinct, it is a very important one in the south of France, where it is said that the harvest sometimes yields as much as a million sterling.—*J. Horsefield, South Wilts.*

AGERATUM MEXICANUM.

This deserves more extended cultivation as a winter-flowering subject than it usually receives. How seldom one meets with it grown for that purpose, although in the same establishments the dwarfer varieties may be grown in abundance for summer-bedding. I am fully aware that there are some gardens in which Ageratums are not tolerated in any shape or form, but these are exceptions and not the rule. To have A. mexicanum for winter flowering, all that is necessary is to propagate a few extra when those for bedding purposes are being seen to, and to grow them afterwards in every respect as if they were to be bedded out. For their summer treatment, the best plan is to plant them in a rather dry shaded spot, where the soil is of a heavy nature, which will cause them to make a more stunted growth and consequently not so sappy and long-jointed as when grown under more liberal conditions. About the first week in September they will require to be taken up and potted (not using pots of too large a size) in a compost made up of two parts of loam to one of dung, as a little stimulus will then help to increase the size of the flowers. A temperature of 50 degs. minimum will be found to give satisfaction.—*E. Dumper.*

MESSRS. VEITCH'S AMARYLLIS.

Those whose ideas of the beauty of the Amaryllis are based on their observation of the kinds they see in general cultivation, and even Amaryllis growers themselves, unless they have seen Messrs. Veitch's collection in bloom, have no idea to what perfection the steady years of perseverance in inter-crossing by this great firm has brought them. Every good feature in any of the old kinds has been carefully worked-up to and improved; the Bolivian introductions of the Pardina sectiou and other distiuct species, which Messrs. Veitch have imported, being judiciously called into requisition wherever they might be of service iu giviug breadth and uniformity of petal, size, substance, or perfect form, and the result has been that even the most sanguine expectations of the raisers themselves have in some instances been greatly exceeded, while the general issue has been a great and permanent improvement in every feature for which the Amaryllis has been valued.

Until these recent improvements the varieties which had the best flowers usually only bore them in pairs, whilst those which bore four or six flowers on a spike were invariably small and narrow petalled, but one of the chief aims at Chelsea has been to surpass the old varieties for size and colour, aud yet to have the spikes bear good heads of bloom. This has been so well accomplished that the bulbs—in many instances furnished with two or three flower-spikes, each bearing four or five gigantic blooms—seem to have attained all that even the most exacting could desire of them.

Of the colours of the flowers nothing but an inspection of the house at Messrs. Veitch's could give an idea, some of them being almost wholly white, and others varying in every shade and in every disposition of veining and tinting, from white to dark blood-red and crimson; many of the blooms measure 7 ins. to 8 ins. across; the A. Leopoldii of their introduction haviug done much in giving novelty and form. Through the kindness of Messrs. Veitch we are enabled to give an illustration of the Chelsea Amaryllis-house, on p. 457, but even now there are many more in flower than are there shown, the bulbs on the side-stages haviug freely sent up their spikes, so that the beauty of the display will not be likely to pass for some considerable time yet. The house contains over 2,000 flowering-bulbs, having, in the aggregate at present about 1,500 flower-spikes in different stages, and many more yet to push up. In other houses and pits there are many thousands of bulbs in all stages, that vigorous constitution which has been one of the objects in the raisers being visible throughout the immense stock. In the whole of the flowering-house there is not an indifferent bloom, but the following seemed to us to be a matchless selection, many of them having received first-class certificates of merit at the Royal Horticultural and Royal Botanic Societies:—

Lady of the Lake (the centre plant in our illustration).—Flowers of great substance, white, with emerald-green centre and faint crimson feather.

John Heal.—A noble flower, with petals 3½ ins. broad of the richest crimson-scarlet, broadly tipped with white. This grand variety is named after Mr. Heal, who so ably manages the Amaryllis for Messrs. Veitch.

Mark Tapley.—An immense flower of the Johnsoni form, beautifully veined with scarlet, and having a distinct white star in the centre.

Rodrigo.—Flowers of fine form, 7 ins. across, brilliant scarlet, with a white central star. This is of the Ackermanii strain.

Emilia.—Grand in substance and shape, creamy white, flaked and veined with crimson. Petals tipped greenish-white.

Prince Leopold.—Dark blood-red, with mauve tint; greenish star in centre; of fine form and colour.

Othello.—Brilliant maroon crimson, and sweet scented.

Helvetia.—Pure white, flaked with scarlet; also fragrant.

Empress of India.—Glowing scarlet, suffused wit orange and relieved by a white eye and white band down each petal.

Royal Standard (the right-hand corner plant in the illustration).—Brilliant scarlet, tipped with white. This may be said to be an improvement on Leopoldii.

Chelsoni.—Flowers of perfect form. Fiery crimson scarlet. An improvement on the redoubtable Ackermanii pulcherrima.

Brilliant.—Also a fine scarlet.

Juno.—Orange-scarlet, with white star and rays; very distinct.

Queen of Holland.—Rosy scarlet, with broad white band, striped with scarlet down each petal.

George Taylor.—Rich carmine, shaded with scarlet, green centre, with white ray. A graud variety.

Duchess of Connaught.—A fine form, with broad even white petals. The best white ever obtained.

Mrs. Wynne.—Dark blood-red, with a light band dowu each petal.

Lord of the Isles.—A fine variety, with soft reddish scarlet flowers of great substance.

Sir Redvers Buller.—One of the best and largest Amaryllis ever raised. Flowers 8 ins. across; brilliant scarlet, with a broad white band up each petal.

Charmer.—A fiue white, veined with red.

Ceres.—Dark purplish crimson, with emerald-green star.

Clarinda.—White ground, marked and stained with rosy red.

Valida.—Brilliant scarlet, with a green star and black centre. A fine variety of the Aulica strain.

Bayard.—Glowing scarlet, shaded with crimson.

NEW GARDENING PATENTS.

[*Compiled by Messrs. Lulman & Co., Patent Agents, 8, Essex Street, Strand, London, W.C.*]

275. Compounds for Destroying Insects, Disinfecting (W. G. Little, Conisboro', Yorks.).—Light and heavy oils obtained by the distillation of resin are saponified with caustic potash. The soap thus produced is applicable to vegetation and will destroy insect life, and may also be used as an antiseptic or disinfecting compound.

6,066. India-rubber Hose (J. B. Harris, Fountain Bridge, Edinburgh).—The object is to increase the durability of india-rubber hose by the substitution of wire-cloth for the groundwork of the textile fabric hitherto used in its manufacture. An inner lining of india-rubber, prepared in the usual manner, is lapped round a mandrel, and formed with a longitudinal joint. Over this, plies of wire-gauze are wrapped, and, lastly, a covering of canvas is applied; but this outer covering may sometimes be dispensed with. The wire-gauze is prepared by passing it between rollers with india-rubber composition, and is cut into widths diagonally. Hose made in the usual way may also be protected from injury when in use by an outer coating of this wire-cloth.

12,031. Baskets (J. Milbourne, and T. Humphreys, Manchester).—A solid rail of wood or metal is placed immediately under the top border, and extending round all or any of the sides. The rods forming the skeleton of the basket pass through holes in this rail. A protecting shoe is fixed to the bottom of the basket by holes being bored in the frame through which the rods of the skeleton are passed, instead of the bottom being nailed on in the usual way. The lids have solid rails at each end, having also holes bored to receive the ends of the rods. The rails may further be held together by means of iron bars.

Parings of Horses' Hoofs as Manure.—The value of these as a manure appears to be well understood by some of the Midland market gardeners. At this time of the year barrels are filled by the principal shoeing establishments in Birmingham and elsewhere and collected by market vans. As a top-dressing, strewed thinly between the rows of early cabbages and forked over, it is considered invaluable. I have tested its efficiency, and found that rows of early cabbage to which it had been thus applied have hearted ready for cutting before other rows standing side by side and not so similarly treated have begun to turuin. Of course, in using the parings from the shoeing shops care must be taken that every scrap of iron or broken nails is carefully picked out.—*J. Knight, Bilston.*

The Amateurs' Garden.

THE GREENHOUSE.

Although the weather during the early part of the month was mild, the wind has veered round to the cold quarter, and is very cutting, which will necessitate much care in giving air, as otherwise the tender growths of plants will suffer, and flowers be hastened off from the effect of sharp currents, which are very trying. To avoid these evils the ventilators should only be opened on the sheltered side of the house, as it is better to let the temperature run up a few degrees than to have a keen draught passing among the flowers and foliage. To prolong the beauty of the latter, it is a good plan during bright days to run down a thin shade over the glass, especially when the wind is so cutting, but as yet it must not be on longer than a few hours at a time, or the flowers that open under it will be thin and less brilliant in colour.

As roof-climbers will now be commencing there growth, they should be thinned out severely, as they flower on the young shoots, but all that should be done to Lapagerias is to cut away the parts that have bloomed, and loosely tie or train any branches to fill unoccupied spaces so as to well cover or furnish the trellis. If the plants are not in satisfactory health, the way to get them round is to remove the old inert soil down to and from amongst the main roots, and replace it with fresh, the most suitable being tough fibry peat, chopped up rough, and mixed with a little sharp sand, and if this is pressed down and then watered, the feeders will soon find their way into it and ramify through. To help to adorn greenhouses, nothing looks so showy and effective as a few hanging baskets filled with such subjects as some of the Tuberous Begonias, the gracefully arching and long fronded Ferns, or Cyanotis vittata, and the trailing Pelargoniums, like Rollissons Unique, and the Ivy-leaved varieties, or the more brilliant Tropæolums, either alone or mixed, besides which there are the Achimenes and many other plants equally suitable.

The present is a good time for starting any or all of these, the Tropæolums coming readily from seed, and making a fine display in the course of two or three months. To keep the stage well furnished and gay, successions of Hyacinths, Tulips, Lily of the Valley, Deutzias, Azaleas, Spiræas, Cinerarias and Primulas, should be kept up by bringing on a few at a time, and seeds of the two last-named should now be sown for coming in early during next winter. To get them to germinate freely, they should be sown in light soil, and slightly covered, the pot being placed in gentle heat, and a pane of glass put over the top.

PITS AND FRAMES.

Bedding plants may now be moved into these to get them hardened off preparatory to turning them out, but all such as come from a warm temperature after being struck or potted should be kept rather close for a time to save them from getting a chill or suffering a check through the change. A good way of treating many of the plants, instead of potting them, is to make up a gentle hot-bed, or use one that is declining, and cover it with a few inches of light soil, when all from cutting pots or seedlings of various kinds may be pricked out or dibbled in and left to stand till the time comes for transferring them to their summer quarters, by managing in which manner much room and trouble are saved, beside which the plants do very much better, as they have freer scope for the roots.

For raising seeds of half-hardy annuals, and carrying on the work of propagation, a hot-bed is almost essential to success, as the seeds will not germinate, nor the cuttings strike, without a certain degree of warmth, and that afforded by fermenting material is the most genial. The way to prepare the pots for seed sowing or propagating is to well drain them by putting a smaller one inverted over the hole of each, and filling up around with small crocks, and then a little rough soil over the top, finishing off with the fine. For cuttings this should be covered with sand, and then watered, when the cuttings may be dibbled in easily while it is damp and soft, after which another sprinkling will be necessary to settle the soil and make them stand firm, and if the pots are then plunged in the bed, and kept close and shaded from the sun, the cuttings will soon root, and be ready for potting or pricking out in the manner referred to above.

When sowing seeds, the points to be particular about are to scatter them thinly and regularly, and to cover them very lightly, according to their size, for if buried deeply they will not come up, or, if they get through, they will be weak and lanky from the effort, and apt to damp off owing to so much of their stems being blanched. The very small seeds, such as Begonia and Gloxinia, will not bear covering at all, and the only way of treating them successfully is to make the soil quite firm and smooth, and sow on the surface, after it has been damped, the object being to do without watering, if possible, for unless this is done in the lightest manner, the seeds are washed away, and lost altogether.

To keep the soil regularly damp, the tops of the pots must be covered with panes of glass, and these should be shaded for a few days after the sowing by laying pieces of paper over to ward off sun and light, which cause evaporation, and leave the seeds dry. Pits with hot-water will now come in admirably for Melons, Cucumbers, and French Beans, the latter of which, when planted out with a little heat below, bear almost as freely and continuously as they do in the open. Light rich loam is the best soil for them, and this should be 9 ins. or 1 ft. deep, and the Beans sown or planted 6 ins. apart, in rows 1 ft. 6 ins. asunder.

BEDS AND BORDERS.

The first preliminary towards putting beds and borders in order is to see that the edgings are all right, and if they be of Box which has become large and heavy, they should be taken up and re-laid, as hard clipping with a view to reduce their size is apt to kill many of the plants by robbing them of too much of their foliage. In cases where Box becomes discoloured, or does not succeed satisfactorily, Thrift will be found a good substitute, as that will grow in almost any kind of soil, and besides looking nice and green all the year, makes quite a show when in bloom. There are other plants that make capital live edgings to beds, among which many of the Sedums are suitable, but the most striking of all is the Gentiana acaulis, the large bell-shaped blossoms of which are lovely in the spring, as there is nothing approaching them in the rich depth of their blue.

This Gentian likes heavy cool land, and does best planted between large stones or pebbles that are nearly buried, round and under which the plants send their roots and find the moisture they want during hot weather. In planting the Gentians, all that is necessary is to pull the old clumps apart and dibble the offsets in, and if this is done at once, they will soon get hold and break out and spread. If the edgings are of turf, they should be neatly trimmed with a sharp edging knife, the guiding of which requires some skill and a good eye, especially where the edges curve, in which case it is a good plan to put in a few sticks and run the line along one side of them, so that the operator may see where to cut, and how much to take off to give a regular sweep.

With the edgings re-laid or trimmed, the next thing is to slightly manure the beds or borders and dig them ready for their summer occupants, taking great care, when doing so, not to go near enough to any plants already in the ground to damage their roots or disturb them, unless they are large and require dividing, or reducing in size. This may safely be done now to almost any of the herbaceous subjects, and when gross-feeding kinds have stood long in a place and exhausted the soil, it is a good plan to remove them to a fresh site, where a hole should be dug out and a little rotten dung placed at the bottom, and the plants then planted above.

Many sow their hardy annuals in frames or under hand-lights and transplant them, but that is going to unnecessary trouble, and not only that, but they suffer a check in removal and rarely do so well after. The better way is to sow in patches on the border where they are to stand and flower, and thin out when they come up, leaving the largest and strongest plants at regular distances apart, but not thick, as the majority of them require plenty of room. The most important things to think about are Mignonette, Sweet Peas, Lupins, Larkspurs, Convolvulus minor, Godetias, Stocks, Calliopsis, Candytuft, Chrysanthemum, Eschscholtzias, Marigolds, Nasturtiums, and Nemophila, all of which are very lasting and make a fine show. In putting these in, all that is necessary is to rake the ground fine, when a circle may be described by just pressing a flower-pot down, and the seed sown within the space and covered very slightly, after which, if the weather is favourable, it will quickly germinate, and the plants be ready for thinning.

THE FRUIT GARDEN.

In order to start young Vines, and keep those now on the move steadily growing, the temperature of the house should be kept regular at 55 degs. or so by night, with a slight increase by fire-heat during the day, allowing the glass to run up to 65 degs. on sunny mornings before air is admitted, and closing again by three o'clock in the afternoon, at the same time giving a good syringing with tepid water over the rods, which will help materially in expediting growth and strengthening the shoots. As soon as it can be seen which of these are showing fruit, the others, and any that are weak, should be rubbed out, as it is useless leaving more than one to a spur, unless these are unusually wide apart, the thing being to leave plenty of room for the foliage, which ought not to overlap sufficient for one leaf to shade or interfere with another, and yet, unless there are plants underneath that have to be considered, the whole roof-surface of the house should be covered.

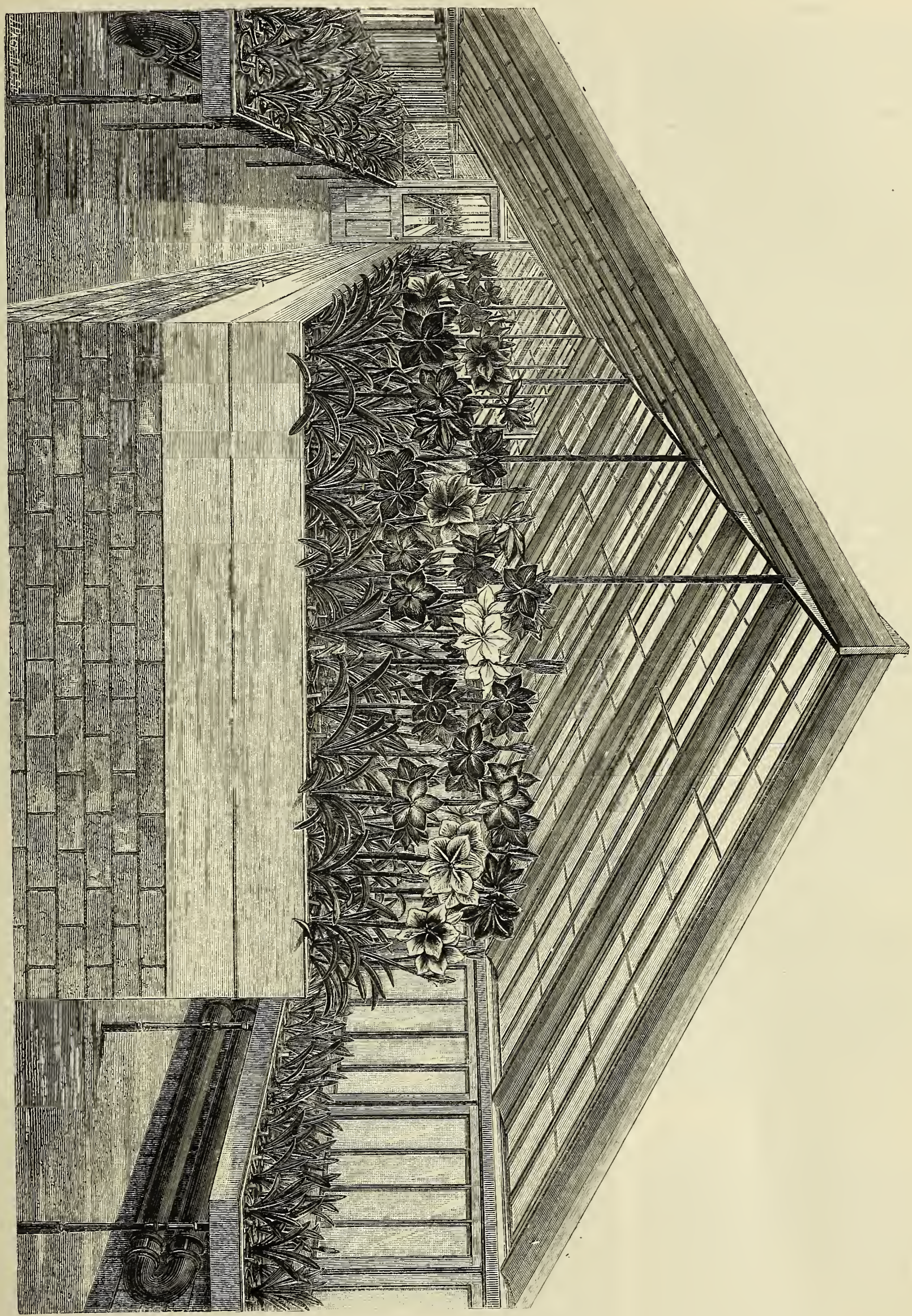
If the Vines are wide apart, this may be done by letting the shoots run out longer, instead of stopping them, as is usually done, one joint above the fruit, as the more foliage there is, under the conditions referred to above, the more root-action will there be, and the finer and better the Grapes. Borders are much to be preferred outside the house, as there they are exposed to the sun, and the sweetening influence of the air, besides which they get the rains, and are therefore not so liable to become dry as they are in, for though these latter may have water given now and then, it is rarely they receive enough to soak the soil through.

VEGETABLE GARDEN.

In the kitchen-garden department an exceedingly busy time is now commencing, as the planting of all kinds of late Potatos should be pushed on to completion; Cabbage, Cauliflower, and Lettuce from beds where they have stood the winter got out; Onions, Peas, Broad Beans, Broccoli, Brussels Sprouts, Spinach, Turnips, Parsnips, and other seeds sown; herb-beds overhauled and regulated; Asparagus ground got ready for forming fresh beds, Rhubarb and Seakale covered to blanch the heads; frames made up for Cucumbers, which may soon be got out; edgings to walks repaired, and gravel rolled to get it solid and in good order for the extra traffic to come.

A good way of blanching Seakale and Rhubarb is to cover the crowns with straw, which saves the cost of pots, although the latter are best for Rhubarb, or tubs or boxes may be used, as all that is necessary to have it delicate and nice is to keep the light from it. If an increase of plants is desired the present is the time to divide or take pieces off old ones, and new plantations of Seakale may be made by cutting up into 4-in. lengths the long, thongy roots and planting them, as they are much better than any that can be raised from seed the same season.

The land intended for Asparagus cannot well be too rich, and not only should it be heavily manured, but deeply trenched, in doing which the subsoil ought not to be brought up, but kept below, as it takes a long time before it is fit for young, tender plants. These should not be put in till they have made some growth, when, if they are well watered at the time of planting, success is certain, as they root at once and quickly become re-established. Asparagus beds may also be formed by sowing the seed where the plants are to stand, and if these are thinned out as soon as up, and well cultivated by being kept clean, they will afford heads to cut in two or three years. The best sorts to grow are Connover's Colossal and the Giant Argenteuil, both of which are large and of excellent flavour. A good distance to have the rows is 18 ins., but it is better to plant on the flat at a yard apart, and half that from plant to plant, as Asparagus is a a gross feeder and likes plenty of room.



THE AMARYLLIS HOUSE IN MESSRS. VEITCH & SON'S NURSERY (*see* p. 455).

FRUITS.

Fruit Culture under Glase: Melons.—Make successional sowings and plantings of Melons at intervals of about three weeks during the next four or five months. The plants should always be planted on the ridge, or shifted into larger pots, while preparations are being made for their reception, before they become pot-bound at the roots, in which case the growth is stunted and the plants seldom make a kindly start afterwards. Therefore as soon as the plants have pushed their roots through the soil in the pots they should, as already stated, be either planted forthwith on the ridge or shifted into larger pots before the roots become matted. In planting in houses, pits, and frames on hot-beds in which the soil, consisting of rich fibry loam, with a little lime-rubble added, has been for twenty-four hours, do not bury the plants deeper in the soil than they were in the pots, make the soil firm about them, water with tepid water, and shade the plants from bright sunshine for a few days until the roots have taken to the soil. As the roots protrude through the sides of the hillocks in the early house, add a few inches thick of the same compost in which the plants are growing, and continue to make such additions until the intervening space is filled with soil, leaving, however, the base of the plants and the soil immediately around the stems a few inches higher than that between the plants, to prevent the lodgment of water in that quarter, and consequently the stems of the plants from being attacked by canker.

Plants growing in frames on hot-beds which have been treated during the interval as set forth in The Gardening World of February 14th, p. 378, will by this time have made shoots 12 ins. to 15 ins. long, which should be stopped. This will cause them to send out fruit-bearing shoots, which should likewise have the points pinched out at one joint beyond the fruit-blossom. The latter, when fully open, should be impregnated with the male flower about mid-day when the pollen is dry, and during this stage of the plant's growth, and until the fruit is set, a dry, airy atmosphere should be aimed at.

Figs.—Vigorously-growing shoots should be stopped so as to direct the flow of sap to the enlargement of weaker ones, and the swelling of the fruit. And with this object in view, remove forthwith any suckers that spring from the base of the trees as soon as they appear, and keep the roots well supplied with tepid manure-water. Syringe the trees thoroughly morning and afternoon at closing time, when the temperature may be run up to 85 degs. by sun-heat, but open the top ventilators a little before going to bed, and aim at a night temperature of 60 degs. to 65 degs., and 5 degs. higher in the day-time by fire-heat.—*H. W. Ward.*

A Hundred Bushels of Apples from one Tree.—A tree in this town (Cheshire, Connecticut), belonging to Mr. Delos Hotchkiss, is believed to be the largest Apple tree in New England. In 1880, when I measured it, it had eight large branches, each of them as large as an ordinary full-grown Apple tree. The spread of these branches is six rods; five of them in one year have borne eighty-five bushels of fruit, since Mr. Hotchkiss owned the place; and his predecessor had over one hundred bushels in one year from the same five branches, which had a habit of bearing one year, and the other three the next.—*N. S. Platt, in American Gardeners' Monthly.*

Propagation of Fruit-Trees.—While visiting Mr. Bogie, overseer to the Hon. Mr. Vernon, Auchans, I was shown a young Apple-plant, about 3 ins. high, and bearing some blossom-buds from which one would naturally look for fruit. Mr. Bogie had found it quite accidentally growing in his propagating-pit, into which it had evidently fallen from an "Old Nonesuch" in the process of pruning. It was growing in a pot under glass, and was quite healthy in appearance. I would like very much to know if fruit-trees are reared from cuttings, or if this is, as I have been led to believe, a freak of nature, and altogether phenomenal in its occurrence.—*Nescio.* [The apple is very seldom propagated by cuttings, but several varieties, notably the Burr-Knot, will strike readily enough in a warm, moist soil. There is nothing phenomenal about it.—*Ed.*]

FLOWERS.

Seasonable Work in the Plant-houses: Camellias.—To get these to bloom in the autumn, or rather before their natural period of flowering, they should be encouraged to make their growth as early as possible. Plants that have now done flowering should be subjected to a warm growing temperature; a good position is a vinery where the Vines are being forced; the temperature cannot be too high if a moist atmosphere is maintained, and if not grown under Vines, the house must be shaded. Before the plants are started, they should be gone through and carefully cleaned, the surface of the pots loosened up, and, if necessary, top-dressed with a little fresh soil; the plants will also be greatly benefited by an occasional watering with soot-water during their growing period, and must be regularly syringed; if the syringe is kept well in use, it will do much towards keeping the plants free from scale, which is perhaps their greatest enemy.

Aspidistra lurida variegata.—The present is a good time to attend to this most useful plant. Old plants may be divided, and younger ones potted on, and to get them to make good large leaves they should be plunged where there is a little bottom-heat. After the plants have made their growth they may be kept in any temperature, and will stand a dry atmosphere better than most plants, which makes them very valuable for decoration.

Lapagerias.—These will now be throwing up young growths, and as snails and slugs are very destructive at this period, careful watch should be kept, and as soon as the young shoots appear above the surface of the soil, a piece of wadding should be put round them; this we have found to be the most effective method of keeping off the most troublesome pests that the Lapagerias are subject to.

A rare American Shrub.—Neviusa alabamensis, a singular shrub, which has much the habit of a Spiræa, is figured in *The Botanical Magazine* for March. It flowered at Kew, in May, 1883, nailed to an east wall, the numerous corymbs of snow-white flowers forming a beautiful contrast with the pale-green ovate leaves. It is one of the rarest plants of the United States, being only known from some shaded cliffs near Tuscaloosa in Alabama. It is probable that in our climate some protection from severe frost should be given.

"The Blue Marguerite" Agathæa cœlestis.—Among blue flowers for cutting purposes during winter, I think this old-fashioned plant forms a fitting companion to the Marguerites, for it lasts in a cut state fresh for a week, is very free-flowering, and of a pleasing light blue colour. It can also be used for many other purposes where the Marguerites would be out of place as plants, not being so gross a grower, and serviceable-sized plants may be grown for ordinary purposes in 5 in. pots, a size that cannot fail to be useful. In order to have nice plants for next season's flowering, it is advisable to put the cuttings in at once, either in a propagating frame or hot-bed, using for a compost, two parts of loam to one of leaf-mould, and a sprinkling of sand. After the cuttings are rooted, they will require to be gradually hardened off. Being busy at this time, and all places full up, I put them in a vinery for a few days; and when they are somewhat acclimatized, pot them off singly into 3-in. pots, using soil similar to that previously recommended, and standing them again in the vinery, the shade from the Vines being acceptable to them until they are established, after which, as soon as space is at liberty, I get them into a greenhouse. They then require frequent stopping until the middle of September, to cause them to throw out more shoots; and when the pots are fairly filled with roots, they will require to be placed in 5-in. ones, which will be large enough for all ordinary purposes, using for a compost three parts of loam to one of rotten dung instead of leaf-mould as previously advised. When the plants have done supplying cut-flowers or have become shabby for conservatory decoration, they will, if room can be found for them until all danger from frost is past, make nice objects during the summer in the herbaceous border, growing and flowering profusely throughout the entire summer, indeed far into the winter flowers may be gathered from them.—*E. Dumper, The Garden, Summerville, Limerick.*

A new Dioscorea.—A beautiful new Dioscorea is figured under the name of D. crinita in the March number of *The Botanical Magazine.* Sir J. D. Hooker remarks of it, "As trained on a balloon trellis, this forms one of the most elegant conceivable pot-plants, from its delicate pale-green translucent foliage and copious snow-white pendulous racemes." It is closely allied to D. retusa, in fact was for some time cultivated as that plant, but has proved quite distinct. The notice of D. retusa in The Gardening World for October 4th last, p. 68, relates to this plant. The leaves are composed of five lanceolate leaflets, arranged in digitate fashion; and the snow-white pendulous racemes are from 2 ins. to 3½ ins. long and very numerous. The plant figured was received from Mrs. Eliza Steane, of New House Park, Rickmansworth, Herts., where it flowered in September, 1884. It thrives well in the stove in a loamy compost, and is a native of Natal.

Acacia armata and A. Drummondi.—In these plants we have two of the most beautiful species of the Acacia family, but like so many more of the older kinds of greenhouse plants, they are now but seldom met with. This is, perhaps, owing to the system now in vogue, of growing large batches of certain plants, to come into use at special times, which is an excellent practice, and doubtless the best way to keep pace with the requirements of gardens in general. But in doing so, we are apt to neglect many good showy plants, which would help to give the variety that is so necessary in all kinds of floral embellishments. A. armata produces its bright yellow blossoms around the stems of long gracefully-arching shoots, which makes it so well adapted for dotting among other plants at intervals to produce an informal outline, and in such positions it is seen to advantage. A. Drummondi is more compact in its habit of growth and suitable for making nice bushy plants. The colour of its flowers is a fine clear yellow, having the rich appearance of velvet. A. armata will grow vigourously in a compost of half loam and peat, with the addition of sand and charcoal, but I have found A. Drummondi to thrive best with a greater proportion of peat. Both plants flower in March and April, and should have ordinary greenhouse culture, and an abundance of water during the growing season.—*H. Dunkin, The Gardens, Longford Castle.*

Drummond's Golden Rod.—Solidago Drummondi is figured in the March number of *The Botanical Magazine.* It is a useful autumn-flowering plant, as it flowers throughout the month of October. It is a rather tall herbaceous perennial, attaining 5 ft. high, and terminating in a large panicle of small yellow heads of flowers. The panicle is looser than in many other species of the genus. S. Drummondi is a native of the warmer States of North America, from South-West Illinois and Missouri to Lousiana, but is quite hardy with us. The Kew plant was received from the Harvard University Botanic Garden, in 1878.

A Hybrid Echium.—I have cultivated for many years two large Echiums upon the terraces of the Luinto do Valle (Madeira), 300 ft. above the sea—namely, E. fastuosum, the Madeiran littoral species, a perennial shrub 3 ft. or 4 ft. high, with hairy light-green leaves and branching stems crowded with scorpioid racemes of light-blue flowers, with white stamens; and, secondly, E. simplex, the giant Canarian species, maturing in Madeira in the second year. This remarkable plant has large, smooth, silvery leaves, and terminates its growth in one unbranched stem densely packed with folded flower-stalks bearing pure white blossoms, and forming a pyramid reaching sometimes 14 ft. in height. E. simplex dies after flowering. The flowers in both species last three to five weeks, and the unfolded flower-stalks measure 2 ins. to 3 ins. in length. Until 1882 the two Echiums, though growing together and having their scentless

flowers freely visited by bees and insects for their abundant nectar, had remained distinct, but in 1883, after introducing a swarm of Ligurian bees from England, I found that a cross-fertilization had been effected, which has left me very few examples of E. simplex. The hybrid Echium possesses the leaves of the giant plant, and the stem merely bifurcates or branches sparingly. The flowers are tinged light blue, and the perennial habit of E. fastuosum is expressed by a continual growth of the flower-racemes, which, after flowering for two years, measure 26 ins. in length, and are still unfolding. The seeds of this hybrid have not germinated. I am now preparing to effect a cross between E. simplex and the handsome mountain E. candicans of this island at my country residence, 2,000 ft. above the sea. E. candicans and E. fastuosum have frequently blended, producing plants less new in structure than in habit; but such hybrids have been quickly lost, either in sterility or reversion.—*Michael Grabham, Madeira, in Nature.*

A new double Bon Silene Rose.—Lovers of the Rose are fully aware that for fragrance, beauty of colour, neatness of bud, free flowering and forcing qualities, the old Bon Silene remains at the head of the many varieties of the Tea Rose; but for outdoor planting it never has amounted to anything worth mentioning, simply from the fact that a few minutes of sun-heat would develop and expand its beautiful buds into flimsy and worthless flowers, resembling the wild Rose found on our hills and roadsides; but with all this great defect we never could entertain for a moment the idea of announcing it as worthless, because its good qualities overcome its one bad quality. At last we are blessed with a great improvement in the shape of a very double Bon Silene, originated by a sport from the old Bon Silene over a year ago in the greenhouse establishment of E. Hippard, in the city of Youngstown, Ohio. He says it retains its quality the same as first produced. The flower resembles in shape and thickness of petals the Souvenir de la Malmaison; its colour and beauty of bud is the same as its parent, with a uniform dark rose colour to the centre when fully expanded.—*N. B. Stover, in American Gardeners' Monthly.*

Rivina humilis.—Among berry-bearing plants this is one which finds great favour with me; and the readiness with which a succession of plants is obtained is a great desideratum. Wherever a plant exists there is sure to be found a "young family springing up," through its shedding its berries. If these are potted and frequently stopped, a very useful plant for table or other decoration is the result. Though it has been stated that this plant, when propagated by cuttings, produces its bright coral-like berries with greater freedom, this should not deter the culture of them from seedlings. In fact I find them make better plants by the latter method. This, as with Callicarpa purpurea, another most useful berry-bearing plant, is apt to become leggy; but this difficulty is overcome by placing them among Ferns, and in such positions, the green of the Ferns sets the berries off to greater advantage. Unlike the Callicarpa, the Rivina seems to thrive with lesser heat, which perhaps to some of your readers may place the Rivina in greatest favour. —*J. S. T.*

Decorating Conservatories.—It is a well-known fact that simple people like simple things, and in my opinion floral decorations of all kinds should be as simple as possible. I have here under my charge a span-roofed house used for flowers alone, and which has three compartments, with a walk running up the centre and a flat stage on each side. The first compartment just now is nearly filled with our own hardy Primrose, Harbinger, about two hundred and fifty pots being employed. They are one mass of white flowers, and their delicate perfume is quite enchanting. Among these we drop in and slightly raise above the Primroses, from two to three dozen pots of Violets, the variety being the Czar. This house I showed to a noble duke lately, who expressed himself highly pleased with such a spring treat. In another structure we have rather a different arrangement, still simple and spring-like. This house is called "Mr. Gilbert's reception-room," and only contains one round bed for flowers. Here we have for a centre, a plant of Eupatorium riparium, with Harbinger and dark-coloured Primroses and Czar Violets, and the whole edged with Stipa pinnata. This little circle of plants is the very essence of simplicity, and composed of plants that everbody can grow and obtain.—*R. Gilbert, Burghley, Stamford.*

The Coltsfoot (Tussilago Farfara).—Some of the representatives of that numerous class of men and women—the hawkers—are now seen going from house to house with bunches of bright golden blossoms on naked stems. They are very rich in colour, and last some time in water; and there is this additional advantage—they can be bought cheaply. The generic name is said to be derived from the Latin *tussis*, a cough, and *allævo*, to reduce. The specific name is also Latin, *Farfarum* being used by Apuleius and others as the name of a plant supposed to be our common Coltsfoot. This, the common name, is derived from the close resemblance the leaves have in their outline to that of a colt's foot. Old Gerarde points out that it might more appropriately be termed Coughwort. For many centuries the Coltsfoot has been used in pulmonary complaints; it forms the basis of Coltsfoot lozenges, long celebrated as the cure for coughs. Various other curative properties are attributed to it.

Beautiful as it is in early spring, what a troublesome weed it is. Just now the cuttings and embankments of many of our railways are aglow with its golden flowers, after which comes a dense growth of large leaves. It extends itself with marvellous rapidity. Every fragment of its widely-creeping roots produces a plant, and though buried a yard deep, it sends up a stem to the surface and rapidly spreads. It flourishes in the stiffest and poorest of clay soils. It is very difficult to destroy, and in all places is a soil-impoverishing weed. It especially delights in an abundance of wet, and where this prevails draining is one of the best remedies. Lime rubbish, sand, and coal-ashes, if incorporated with the soil it haunts, will tend to keep it somewhat in check. The hoe frequently applied, so as never to permit the leaves to be long above ground, and, of course, the plants never to flower, will effectually eradicate it.

And yet it is a plant full of interest. The cotton on the leaves easily rubs off; this, wrapped in a rag dipped in a solution of saltpetre, and dried in the sun, makes the best tinder. The leaves are the basis of the British herb tobacco. The smoking of Coltsfoot for a cough was highly recommended by many old writers. Coles, in his *Introduction to the Knowledge of Plants*, says: "If the down flyeth off Colt's Foot, Dandelyon, and Thistles, *when there is no wind*, it is a sign of rain"—an observation illustrated by the fact that the change in the electrical state of the air immediately preceding rain would tend to loosen these downy substances from their parent plants. The Bavarian peasants make garlands of the sweet-scented Coltsfoot on Easter Day, and cast them into the fire. This is Tussilago fragrans, the Italian Coltsfoot, which bears white flowers in early spring, and makes an excellent plant for rock-work and semi-wild places, —*Quo.*

Nitrate of Soda and the Daddy-longlegs.—Miss Ormerod, in her last report to the Council of the Royal Agricultural Society, states, with regard to a remedy for an attack of daddy-longlegs grubs, that nitrate of soda, which has been found for some years back to be one of the best applications for carrying a crop through attack, has a definitely bad effect on the grub, as well as being useful as a fertilizer. The nitrate of soda, whether mixed with earth in which the grubs were placed, applied as a weak solution, or applied at a rate representing 2 cwt. per acre on earth in which the grubs were placed at a depth of one inch below the surface, was decidedly injurious to them. In the two first instances they appeared to be killed so long as they were left unmoved; in some cases on *being removed from the action* of the nitrate and placed in fresh damp soil they recovered. Those treated as noted in the third instance remained flaccid and helpless. Joining these observations to my own of nitrate of soda causing this kind of grub to discharge its contents, the application appears likely to be serviceable. Covering the grubs with dressings, respectively of salt, soot, lime, and superphosphate did them no harm—they merely crawled out from the application.

VEGETABLES.

The Kitchen Gardener's Calendar.—If not already done, complete the planting of Potatos forthwith. Our main crop—consisting chiefly of Champions and Magnum Bonums—we grow in a field which had a good surfacing of manure ploughed into it in the previous autumn, and which was again ploughed and harrowed prior to planting, when it is ploughed once more and the Potatos set 9 ins. or 10 ins. apart in every third furrow. Thus grown, the Potatos do not make such a rank growth as is the case when the manure is put either immediately under or over the tubers at planting-time, consequently they are less liable to the attacks of the disease. Remove the long dung from Globe Artichoke plants, and any bad leaves that may be attached to them, and dig in the surface-dressing of short dung that was laid between the rows and plants in November, last to protect them from frost.

Sparrows are here so determined in their attacks on Peas as soon as they come through the ground, and even after they have been earthed up and staked, as to render the netting of the individual rows in the quietest parts of the garden absolutely necessary in order to preserve the crops from utter destruction Seed-beds, and seedlings too, should be protected from the ravages of birds by pulling pieces of netting, supported by short forky sticks, over them. Make good any blanks that may have occurred in the rows of early plantings of Cauliflower, Cabbage, and Lettuce. Use the Dutch hoe freely between all young crops—Carrots, Spinach, Onions (autumn-sown), Shallots, Garlic, Lettuce, &c.—as much with a view to stimulate growth in the crops, by stirring the soil about them, as destroying weeds.

Forcing Department. — Cucumbers in hot-beds should have attention in the way of making up the linings at short intervals, to impart a little heat to the interior of the bed, as well as the frame, the stopping, thinning, and arranging of the shoots thinly over the surface of the bed, the adding to the hillocks of some slightly-warmed soil as soon as the roots protrude, and the husbanding of sun-heat by shutting up the frame early in the afternoon, and damping the plants overhead at the same time with tepid water. The plants will require very little water at the roots, as the latter can push freely into the manure underneath. Cover the frames at night with mats and fern, or long litter of any description, to exclude frost.—*H. W. Ward, Longford Castle Gardens.*

Carter's New Pyramid Broccoli.—I am much interested in this new production, and the illustration I have seen of it. It looks like a purple-sprouting type, so symmetrical in growth as to form a nearly circular bouquet-like shape. Of its origin no particulars are given, but it is the result of several years' careful selection at Messrs. Carter & Co.'s trial grounds. It is perfectly hardy, and admirable when cooked. With the advent of this unique-looking broccoli, it will be possible to present a bouquet of delicious sprouts of Brassica Oleracea var. Botrytis cymosa to a gentleman, and one of fragrant flowers to his lady, as a fitting gift to each!—*R. D.*

Tomato King Humbert.—This is a new and distinct continental Tomato remarkable for its great productiveness, unique colouring, and singular shape. In regard to the last-named feature, it is said to "sometimes resemble a Pear and sometimes a Capsicum, but never like any other Tomato." Seeing that of late gardeners had shown a decided preference for handsome Tomatos of uniform size and appearance, it is difficult to imagine that King Humbert will make much headway. But a description of this Tomato from an American source attributes to it qualities that will go a long way to redeem it from the charge of eccentricity in reference to shape. It states, "the flavour is nearly free of acid, it is remarkably productive, growing in clusters of from three to eight fruits. For preserving or pickling there is probably no Tomato that will prove more popular."—*R. D.*

THE

Orchid Growers' Calendar.

Cattleya Lawrenceana.—All Orchid-growers will hail with pleasure the advent of this extraordinary and beautiful new species of the "labiata" section of Cattleya which that enterprising firm of importers, Messrs. F. Sander & Co. have just received, through their collector, Mr, Seidl, from the Roraima Mountain, in British Guiana. From all the evidence that can be brought to bear on it at present, we should think this is one of the finest of recent introductions.

Professor H. G. Reichenbach carefully describes it in *The Gardener's Chronicle*, March 14th, thus: "The flowers are as large as those of a good Trianæ; sepals uncommonly broad; petals much broader, usually blunt. There are some flowers with broader petals, and those will, no doubt, be received with uncommon favour. The lip is quite novel in shape for the labiata group. It is pandurate emarginate, rather broader in front than at the base. If you like to see its outline well represented, take *Botanical Register*, 1847, plate 42, Cattleya bulbosa. This outline makes me record it as a new species, not one of the endless varieties of Cattleya labiata *sensu amplisissimo*. The column is singularly small, but it may have lost a good deal by being dried.

"And now the colours. The flower is of a fine purple-lilac. The whole anterior part of the lip is of the darkest, warmest purple. You might nearly compare this part to the end of the tail of the heath-cock. The side wings of the superior part are purple, the centre light yellow." The plant is named after Sir Trevor Lawrence, Bart., M.P., the President of the Royal Horticultural Society.—*J.*

Odontoglossum baphicanthum. — This not over plentiful Orchid is now, and has been for the last month in flower in the cool-house with O. Alexandræ, and it does well under the treatment now given to that variety. The strongest plant has a spike of twenty-one flowers on it, showing that as the plants become strong, good spikes may be looked for. This variety is a natural hybrid between O. Alexandræ and O. gloriosum, partaking of the characteristics of both of its parents. When first opening, its flowers are of a pale yellow colour, very similar to the ordinary forms of O. gloriosum, but they gradually loose the yellow tint until they become almost as white as the ordinary forms of O. Alexandræ. It is also pleasantly perfumed, but not so highly as O. gloriosum. As far as I have been able to ascertain, it is not likely to become very plentiful for some years; one large grower told me that not more than one piece to ten thousand of O. Alexandræ find their way to this country, which is much to be deplored; it is highly appreciated by most of the visitors that come here.—*E. Dumper, The Gardens, Summerville, Limerick.*

Saccolabium giganteum.—A plant of the white form of this Orchid has had two spikes of flower on it for some time, the first spike being open on January 1st, and now, March 12th, it is only just turning off. The plant has been kept during the time in the East Indian House and not in a dry atmosphere, to cause longevity of flowers, or I have no doubt it would have lasted much longer.—*E. Dumper.*

Cattleya from Popayan.—A flower of one of the late Mr. Chesterton's collecting comes to us from Major Lendy, Sunbury House, Sunbury-on-Thames, with the question, Is this extraordinary thing a Lælia or a Cattleya? Viewing the flower, the question seems a very natural one, for it presents exactly the appearance of a gigantic highly-coloured Lælia Perrinii in every feature, even to the straight, projecting lip and column. The sepals, which are white tinged with lilac, measure 8 ins. across (the whole width of the flower); petals, rose, darkening towards the tips to mauve; lip, rose with orange line in the throat and violet maroon colour on the lower portion, which is pointed and marked in precisely the same way as Lælia Perrinii. All the segments of the flower are narrow and most curious. The pollen masses are wanting, but there is no doubt that the plant is a Cattleya of the Trianæ section, although, like many of the other plants out of the Popayan importation, it presents distinct features, not the least beautiful being the violet tints in the lips of some of them.

Phajus tuberculosus.—I notice in last week's issue of The Gardening World that you record the flowering of Phajus tuberculosus with G. F. Wilson, Esq., and in addition you add that it has only flowered *twice* before in this country, with Sir Trevor Lawrence and Mr. Dormer. I would also wish to add that it flowered with Mr. Sillem, at Lawrie Park, Sydenham, on February 30th, 1884, and was the subject of a coloured plate in *The Garden* of July 19th following. It also flowered in Messrs. Low's Nursery, at Upper Clapton, in the spring of the same year, a small plant having a strong spike with five finely developed flowers which, on the plant, are even more beautiful than the plate portrays.—*E. F. Kemp, Clapton, E.* [Mr. Dormer's name was mentioned in error instead of Mr. Sillem's. We had not heard of the plant flowering at Messrs. Low's.—*Ed.*]

Flowering Orchids.—At Stevens's Rooms on Wednesday the display of Orchids in flower was an unusually fine one, and attracted a good gathering of buyers. Scarcely a species in flower at this season could be said to be unrepresented, so great was the variety to be seen on the well-filled benches. Varieties of Cattleya Trianæ figured by the dozen, while of Odontoglossums and Dendrobiums, Cypripediums, Calanthes, Phalænopsis, Cœlogynes, &c., there seemed to be a never-ending array. Perhaps nothing more forcibly illustrated the astonishing amount of interest taken in Orchids, and the value attached to them, than the competition amongst the buyers for the possession of good varieties of that old but still popular favourite, Dendrobium nobile, of which some fine specimens and fine types came under the hammer. A massive plant, about 4 ft. in diameter, carrying about 700 blossoms, fell to a bid for 10 gs., while a very neat, healthy, and well-flowered plant, about half the size of the first-named, but a very high-coloured variety, did not change hands until Mr. Stevens had got 18½ gs. for it.

Cattleya Trianæ at Lake House, Cheltenham.—The Cattleyas in the compact well-grown collection belonging to G. Nevile Wyatt, Esq., have been particularly fine this year, and give, by their large bright-coloured flowers, good examples of what reasonably cool and airy treatment can accomplish in them. The strain throughout the house is very fine, but some of the varieties are extraordinary, notably a grand thing in the way of Backhousiana, another light-coloured form with large frilled lip, and a Popayan variety with large tubular lip, dark orange in the throat and violet-crimson. All the plants are superbly grown, and the heavy flowering does not seem to have impoverished them in the least. All the departments are well furnished with flower, particularly the Odontoglossum and Dendrobium-houses. Among rare plants, the lovely Oncidium Phalænopsis with sprays of snow-white mauve-spotted flowers, the pretty sweet-scented Odontoglossum Sanderianum, the violet-coloured O. Edwardii, some grand forms of Dendrobium Findlayanum, Cymbidium eburneum, and the curious, fragrant Stanhopia tricornis show good evidence of Mr. Simcoe's care.—*J.*

FLORICULTURE.

The Points of Florists' Flowers.—What are considered to be the points of the undernamed florists' flowers? Dahlias, Carnations, Auriculas, Pinks, Polyanthuses, and Tulips. At the spring, summer, and autumn Shows one hears a good deal of talk about "points and properties;" and, as I presume that these are understood only by the initiated, it would be interesting to myself, and no doubt to many of your readers, if you would kindly enlighten us.—*A Looker On.*

["A Looker On" asks a question that has always been, and we suppose will always remain, a "bone of contention" amongst florists. We will, however, try to give him a few outlines sufficient to guide a novice in admiring the popular favourites he names; but we must premise that tastes differ and fashions vary in florists' flowers, as in everything else, though there are a few leading points that must always be kept in view.

Dahlias: A fine flower should be of a perfectly circular form—the outer petals stiff, well-rounded, and cupped—not too much so as to present a quilled appearance, and well filled up to the centre—not in the least degree showing the eye, neither should the eye be at all sunk or flattened, but rather elevated above the other parts when in full bloom; the whole flower presenting a true circle when viewed above, but of a hemispherical form when observed at the side. In those flowers possessing two colours both should be clear and distinct.

Auriculas: The pips should be large, flat, and round, with the ground colour equal on every side of the eye, which should be quite circular, as well as the edge. The tube, a bright lemon-yellow, perfectly round, and well filled with anthers; the eye round and large, the body colour black or violet, the meal fine, and not cracked; the colour in green-edged flowers should be a whole one, not a shaded green. The stem strong, and sufficiently long to raise the truss above the foilage.

Carnations: The flower should be large, consisting of a number of well-formed petals, neither so many as to give it a crowded appearance, nor so few as to make it appear thin and empty; the petals broad and stiff, the guard ones (outer circle) well rounded, and should rise a little above the calyx and then turn off gracefully in a horizontal direction, supporting the interior petals, which should gradually taper towards the crown. Bizarres must have three colours in every petal; flakes two—the colours strong and bright, the stripes clear and distinct; the fewer freckles or spots the better; all the colours nearly equal, or the most brilliant colours should predominate; the white, pure and bright. Picotees should have the same qualities as to size, petals, crown, and clear white ground, edge of petals smooth and well rounded. Those flowers which are free from blotch or stripe down the petal below the coloured edging are greatly to be preferred to those which are marked and "pouncy."

Pinks: The petals large and well rounded, edges free from notches, the colours distinct and clear. In laced pinks, the lacing must be continued round every petal without a break; in plain pinks the colouring should be confined to the centre, and no colour on the edge of the petals; in rose pinks the dark colour ought, as in laced pinks, to be continued without a break round every petal.

Polyanthuses: The pips large, flat, and round, with small indentures between each division of the limb dividing the pips into heart-like segments, edged with bright yellow; the edge and the eye ought to be of the same colour; the stem strong and well supporting the truss above the foliage.

Tulips: The flower large and composed of six petals—these should proceed horizontally at the base, and then turn upwards in the form of a goblet. The three exterior petals should be larger than the interior ones, the edge of the petals well rounded or with a little indenture at the top. The ground colour of the flower at the bottom of the cup perfectly white or yellow; and the various colours, whether stripes, flames, feathers, or blotches, should be very fine, regular, or bold and distinct, or else elegantly pencilled.—*Ed.*]

HORTICULTURAL SOCIETIES.

Manchester Royal Botanical and Horticultural.—*March 17th and 18th.*—The first spring Show of this Society was held, as usual, in the large room of the Town Hall, and in every respect was worthy alike of the noble building in which it was held, and of the Society under whose auspices it was organized. The fact that at the Town Hall Shows, with the exception of the Chrysanthemum Show, no prizes are offered, would appear to some more in the nature of a deterrent than as an inducement, but still it has always been the case that these Shows have not

lacked supporters, though probably during the last few years more of the trade have been represented than one could have reasonably hoped for. On the present occasion the post of honour was held by Messrs. Heath & Son, of Cheltenham. The whole of the space in front of the organ being taken up with a fine bank of choice plants. The number of specimens is certainly somewhat limited, but the more useful, medium-sized plants are well staged. Whenever Orchids are set up in Manchester, either at Old Trafford or the Town Hall, a goodly number of visitors is sure to be seen round them, and the present case was no exception to the rule. The group contained many fine forms of Cattleya Trianæ, ranging from the pale C. Warscewiczii delicata, over 7 ins. across, up through changing colours to the rosy sepals and petals and dark broad lip and orange throat; Odontoglossum Roezlii, in its two distinct types, was represented by about a score plants, the picture of health and bearing flowers of good size and substance. Other Orchids shown were Dendrobium chrysotoxum, with spikes of rich golden flowers; D. eburneum, ivory-white sepals and petals, and cinnabar throat, D. nobile, D. luteolum, D. Wardianum, and D. aggregatum majus; Cypripedium Sedeni, C. Boxalli, very fine forms, C. Lawrenceanum, C. niveum, C. concolor, C. calceolare, and C. villosum; Odontoglossum Alexandræ, O. Pescatorei, O. Rossi majus, O. hystrix, O. tripudians; and different forms of Phalænopsis; the back of the group being well made up with Palms, Imantophyllums, and Dracænas, and the front edged with moss and small plants of Maiden-hair Ferns.

The Hyacinths staged were of fine quality. On one side of the room Messrs. W. Cutbush and Son, of Highgate, staged about six dozen plants, and on the other side Messrs. Dickson, Brown, & Tate had a collection of about 100 plants, and such sterling sorts as Genera, Pelisseer, Duke of Wellington, Howard, Linnæus, Macaulay, L'Honeur d'Overween, Alba maxima, Alba superbissima, Baron Von Tuyll, Gigantea, La Grandesse, Mont Blanc, Charles Dickens, Blondin, Grand Master, King of the Blues, Marie, Queen of the Blues, Mimosa, Ida, and Obelisque were to be met with in each group. The hardy Azaleas of Messrs. W. Cutbush & Son were a feature, mostly forms of Mollis raised from seed, which are now to be obtained in many shades of colour, and shown here with trusses of blooms carrying sixteen and eighteen flowers. The Cyclamen persicum grandiflorum in this group were very good. The same firm also showed some Mushrooms, obtained from their special Milltrack spawn. The Cinerarias, Genistas, Spiræas, &c., from the Liverpool Horticultural Company, made up in a group edged with nice plants of Adiantum Pacotti, were very much admired. A distinct form of Pteris serrulata, named Cowani, gave promise of being a good thing and a free grower.

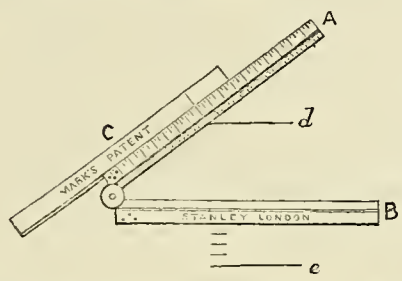
Mr. B. S. Williams, of Holloway, sent a nice collection, containing many good things, perhaps the most rare being Lycaste Skinneri alba with just one flower on it; a clear, pure form, free from any dingy yellow colouring whatever; Brassavola glauca, Dendrobiums, including the rare Lowi, Odontoglossums, &c., some good Amaryllis, including Meteor and H. Williams, and Imantophyllum, M. Van Houtte. About one hundred plants of Cyclamen in excellent condition were placed at the front of this collection, and were very effective; one of a very dark colour, named Albert Victor, was awarded a First-Class Certificate. From Messrs. J. Waterer & Sons, Bagshot, good plants of Andromeda japonica and floribunda were shown, and formed a very pleasing break among so much bright and glaring colour. Messrs. F. Sander & Co., St. Albans, sent some nice plants of Cattleya Trianæ, noticeable among these being some varieties with exceptionally dark labellums. This grand Orchid is now so easily obtained, can be grown with such a small share of Orchid knowledge, and flowers during the months of January, February, March, and even into April, that it is continually coming into greater favour, and will certainly in a few years be met with more frequently than at present. The Messrs. Sander also had Cœlogyne cristata, the St. Alban's variety, Masdevallia ignea superba, and some Odontoglossums, including Ruckerianum, Alexandræ, hebraicum, Andersonianum, &c. A quantity of cut-flowers of Cattleya Percevaliana were on view, several forms having the lip and throat of a beautifully-blended colour, but the size of the flowers would not appear to have been much increased since it was first flowered. A quantity of Lily of the Valley made up in pyramid form, others in vases, and a lot in small pots, came from Mr. T. Jannoch, Lily Nursery, Dersingham, near Sandringham, and proved objects of eager interest. From Messrs. G. & W. Yates, Market Place, Manchester, and Heaton Norris Nursery, came a nice group of early spring flowering-plants; and with those from Mr. J. Hooley, nurseryman, Stockport and Fallowfield, filled nearly the whole of the stage on one side of the room. In the latter group Dendrobium crassinode was in good form; while Dendrochilum glumaceum was represented by a plant producing eighteen of its drooping spikes of sweet-scented flowers.

A first-class certificate was awarded to Messrs. Heath and Son for Oncidium Brunleesianum. At first sight this plant reminds one of Oncidium pubes, but a closer inspection reveals a pretty and distinct form. A drooping branching spike is covered with small globular flowers, the sepals and petals being light yellow, faintly barred with brown. The labellum is singularly formed, the centre lobe being of a bright reddish-brown colour, and the two side wings of a clear canary yellow. The same firm showed the beautiful Double White Azalea, Deutche Perle.

A noticeable flower in a collection of Primroses, shown by S. Barlow, Esq., from his garden at Llandudno, was one of a clear blue colour. The Primrose League should make a note of this.

A PATENT LINE-DIVIDER.

This new instrument should interest those of our readers who have occasion to use proportional compasses in plan-drawing. The principle involved in the use of this instrument, for instance, to divide a given length into five equal parts, is that corresponding sides in similar triangles are proportional.



The instrument, when spread out, A B as shown in the figure, forms a hinged rule with a firm joint; each limb, in this case, is 10 ins. in length; along that of B straight lines can be drawn, as it is bevelled, fronted with brass on its straight edge. On the bevelled edge of the limb A and on its top are divisions of eighty equal parts, so as to admit of dividing a given length into any number of equal parts from two to eighty. A slides in an under-cut groove upon the plain rule C, which has a single line marked upon it, and is also provided with needle-points on the under-side, to prevent it from slipping when placed in any position.

In using the instrument to divide a given length into five equal parts, C is slid along A, till its line coincides with one of the lines on A, against which is the number 50. This line of A is then placed on one end of the line to be divided, and the rule opened out or closed up, till the bevel of B passes through the other end of the line. Now press the points on the under-side of C firmly into the paper, and slide A up till the number 4 on the line of reference is coincident with the line on C, and mark the points where the bevel of B meets the given line to be divided. Continue to move A up one division at a time till the whole line is divided. If lines are to be drawn through the several points of division in a given consistent direction, the instrument must be so fixed that the bevel of B shall be initially in the given direction. It is the invention of Miss Marks, and may be obtained from Mr. Stanley, 5 Great Turnstile, Holborn.

Bignonia venusta.—This remarkably free-flowering plant so well deserves a good position in every warm greenhouse, that one is surprised not to see it more frequently grown. Its deep crimson trumpet-shaped flowers are very handsome, and it lasts a long time in bloom.

Obituary.

Mr. Andrew Sinclair.—We regret to announce the death, on the 12th inst., aged fifty-one years, of Mr. Andrew Sinclair, of the firm of Messrs. W. P. Laird & Sinclair, nurserymen and seedsmen, Dundee, which took place at his residence, Fountainbrae, Monifieth, after several years' suffering from heart disease. The deceased gentleman, who was a native of Edinburgh, commenced his business-career with Messrs. Dickson & Co., Waterloo Place, and afterwards held an important position with Messrs. Lawson & Son, Edinburgh. He subsequently joined Mr. W. P. Laird in the business which that gentleman established in Dundee fifty-one years ago, and he had been connected with the firm for upwards of a quarter of a century. He was an active, energetic man, thoroughly acquainted with all the branches of his business, and he bestowed great care and attention to the nursery at Monifieth, which had been under his personal superintendence since the death of Mr. W. P. Laird in 1872, besides taking part in the management of the seed-shop in Nethergate. The firm has for many years done a large trade in forest-tree seedlings, and as Mr. Sinclair travelled for many years south of the Tweed, he was well-known and much respected for his high character and amiable disposition. Mr. Sinclair had been suffering from heart disease for several years, and it is somewhat singular that only the day preceding his death he completed the arrangements for retiring from the firm and transferring the business to Mr. R. B. Laird (of Messrs. R. B. Laird & Sons, Edinburgh), brother of the founder of the firm, who will carry on the business under the same style and title. Mr. Sinclair was buried on Monday, at Barnhill Cemetery, near Dundee.

Mr. William Gibson.—We have also to announce the death, on the 12th inst., aged fifty-three years, of Mr. William Gibson, head of the firm of Messrs. Gibson & Reid, seedsmen, 14, Lower Ormond Quay, Dublin. Mr. Gibson's connection with the Dublin Seed Trade goes back over a quarter of a century. He went to Dublin to fill a responsible position in the well-known firm of Messrs. Drummond & Sons, 58, Dawson Street, which he relinquished to take a partnership in the business which he established, and was, we believe, the sole owner of at his death.

Mr. Eugène Chantrier, head of the firm of Chantrier & Sons, nurserymen, of Mortfontaine, Chapel-en-Serval, France, died on the 8th inst, aged seventy-one years. Mr. Chantrier succeeded to the business, which was established by a celebrated nurseryman, M. Le Fèvre, the raiser of the Beurré de Mortfontaine Pear, the original tree of which existed in the nursery when we paid it a visit a few years ago. Of late years the Messrs. Chantrier have been large growers of fine-foliaged plants, and they have also raised many good new Crotons and Dracænas.

Mr. James Ingram.—We also hear of the death, under very distressing circumstances, of Mr. James Ingram, brother of the late Mr. Ingram, of the Royal Gardens, Frogmore. The deceased, who was eighty-six years of age, and a man of very eccentric habits, served his apprenticeship at Messrs. Lee's, of Hammersmith, and afterwards went to Page's Nursery at Southampton. Subsequently he commenced business on his own account in the same town, and for a time was very successful. Misfortune, however, overtook him, he lost his business, and for many years has lived in Maidstone, where he died, last week, utterly destitute.

NOTES AND QUERIES.

An old Gardening Book.—I have a very interesting old gardening book of which the title page is missing, and I am anxious to know its title, the name of the writer, and the date of its publication. Some of the plates—plans of gardens on the Continent—have been copied into Mackintosh's *Book of the Garden*, but I cannot find any reference to the source from whence they were obtained. I have been told that it may be

"John Graves's Theory and Practice of Gardening; wherein is fully handled all that relates to fine gardens, commonly called Pleasure Gardens. Translated, with cuts, 1724, 4to." This book is not in the British Museum Library, so that I am unable to compare it with mine. Can any of your readers help me in the matter?—*T.*

CHEMISTRY.—Can any of your readers oblige me, through your columns, with the chemical compositiou of the ash of Cyclamens and Chrysanthemums?—*J. Waldie, 2, Beaumont Villas, Twickenham.*

PINE APPLES BLACK INSIDE.—I should be obliged if some of your practical readers would enlighten me as to the cause of Pines going bad in the middle. The fruits I have look all right, but when cut the centre is found to be quite black and not fit to eat. I attribute it myself to bad soil, as I have nothing to grow them in but the soil from an old edge-row, which has not a bit of fibre in it. The plants are grown in two houses and a pit, the former containing Vines also.—*T. J.*

INSECTS IN A GREENHOUSE.—I have just come into possession of a large empty greenhouse; and I find that it is swarming with wood-lice and other pests. I also notice mealy-bug (a white insect nearly resembling a bug, but about one fourth the size). This is in the crevices of the wood-work and the back wall. Could any of your readers give me information as to the eradicatiou of these pests? Should I risk a stock of plants now? I can afford the expense of thoroughly over-hauling the place if that is deemed necessary.—*Suburbanist.*

GARDEN WITH SHALLOW SOIL RESTING ON CLAY SUBSOIL.—Having tried for two years without success to obtain satisfactory crops from my garden, a neighbour has lent me your paper and advised me to write to you asking advice. In winter I cannot get on the soil, it is so wet; and in summer it is so hard and dry that I can make nothing of it. The top soil is clayey and stiff. What can I do to improve it? And what crops would be likely to succeed? Would draining be of any use? The garden is about a quarter of an acre. —*Sussex.*

ANSWERS TO CORRESPONDENTS.

ERRATUM.—At p. 427, in the second line of the paragraph on Walker's Perpetual Bearer Pea, for "tall," read "late."

CARBOLIC ACID.—*A. M.* and *C. S.*—The carbolic acid mentioned by G. F., Lewisham, at p. 357, can be obtained at the price mentioned from Messrs. Hubbock, Lime Street, E.C.

MARKET TOWNS AND FAIR DAYS.—*A Fruit Grower.*—You will find a good list in *The Agricultural Gazette Almanac*, for the current year. (Vinton & Co., 30, Hampstead Road, N.W.)

READY RECKONER.—*A Fruit Grower.*—We have never seen such a table.

SALESMEN'S BOOKS.—*A Fruit Grower.*—We presume only two, the day-book and the ledger, but we have no actual knowledge of the business.

NAMES OF PLANTS.—*Cob.*—Acacia Drummondi.—*S. B.*—Odontoglossum crispum, and not one of the best.—*T. W.*—Soldanella montana, and Saxifraga Burseriana.—*W. T. F.*—Kennedya nigricans, a native of Australia.—*W. Y.*—They are both varieties of Lycaste Harrisoniæ, and the broad-leaved one is a particularly fine type of the species. Both have the delightful rose scent common to the species.

COMMUNICATIONS RECEIVED.—R. H.—J. J.—W. S.—A. W. —R. B.—W. T. F.—X.—C. B.—R. D.—A. E.—J. S.—P. O'K. —J. N. (many thanks. Next week)—W. E. R.—S. W.—D. P. L.—E. S. B. (thanks. In an early number)—H. G.—C. W.—J. F.

Trade Catalogues Received.

THOMAS S. WARE, Hale Farm Nurseries, Tottenham. —Choice Hardy Perennials, Chrysanthemums, Hardy Florists Flowers, Hardy Climbing Plants, Roses, &c.

JOHN LAING & CO., Forest Hill, London, S.E.—Special Chrysantheum list—Azaleas, Camellias, and Greenhouse Rhododendrons.

B. C. RAVENSCROFT, Granville Nursery, Lewisham.—Seedling Plants and Rooted Cuttings.

NOTICES TO CORRESPONDENTS.

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's bona fides. No notice whatever will be taken of anonymous letters.

LONDON SEED TRADE.

March 18th, 1885.

MESSRS. HURST & SON, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report an improved demand for White and Alsike Clover, at last week's prices. Reds, both English and foreign, are easier, particularly the lower grades, and demand slow. Trefoil firm and in fair demand. Tares still meet with ready sale at last quotations. Foreign, Italian and Perennial Rye Grass unchanged. Linseed a shade cheaper. Hemp and Canary firm at previous rates.

COVENT GARDEN MARKET.

March 12th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	1 6– 5 0	Kent Filberts and Cobbs, per 100 lb.	55 0–
— Nova Scotian, per barrel	10 0–15 0	Pine-apples, Eng., lb.	1 0– 2 0
— Extra samples	18 0–21 0	St. Michaels	3 0– 8 0
Grapes, per lb.	4 0– 8 0	Strawberries, per oz.	0 9– 1 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0– 4 0	Herbs, per bunch	0 2– 0 4
Beans, French, per lb.	– 1 0	Horse Radish, bundle	3 0– 5 0
Beet, per dozen	2 0– 3 0	Lettuces, Cabbage, per dozen	2 0–
Brussels Sprouts, p. lb.	0 4–	— Cos, each	0 2–
Cabbages, Spring, doz.	1 6– 2 0	Mushrooms, p. basket	1 0– 2 0
Carrots, per bunch	0 6–	Onions, per bushel	3 0– 5 0
Cauliflowers, English, per dozen	4 0– 6 0	Parsley, per bunch	0 6–
Celery, per bundle	1 6– 2 6	Radishes, per dozen	1 6–
Cucumbers, each	1 0– 1 6	Small salading, per punnet	0 4–
Endive, French, per dozen	2 6– 3 6	Spinach, per strike	2 0–
Garlic, per lb.	0 6–	Tomatos, per lb.	2 0–
		Turnips, per bunch	0 6–

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0– 4 0	Marguerites, 12 bun.	4 0 –90
Arum Lilies, 12 blms.	3 0– 6 0	Narciss, various, French, doz. bun.	2 0– 5 0
Azalea, 12 sprays	0 6– 1 0	Pelargoniums, per 12 sprays	1 0– 1 6
Bouvardias, per bun.	1 0– 1 6	—scarlet, per 12 sprays	0 9– 1 0
Camellias, 12 blooms	1 0– 3 0	Pinks, various, 12 bunches	–
Carnations, 12 blooms	1 6– 3 0	Primula, double bun.	1 0– 1 6
Chrysanthemums, 12 bunches	–	Primulas, Chinese, bun	4 0– 6 0
— large, 12 blooms	–	Pyrethrum, 12 bun.	–
Cyclamen, doz. blooms	0 3– 0 6	Roses (coloured)	4 0– 8 0
Cineraria, per bunch	0 6– 1 0	Roses, indoors, p. doz.	2 0– 6 0
Epiphyllums, 12 blms.	0 4– 0 6	Roses (French), per doz.	1 0– 3 0
Eucharis, per dozen	3 0– 6 0	Stephanotis, 12 spr.	8 0–12 0
Gardenias, 12 blms.	4 0– 8 0	Tuberoses, per dozen	–
Heliotropes, 12 sprays	0 6– 1 0	Tulips, per doz.	0 9– 1 0
Hyacinths, Roman, doz. sprays	0 6– 0 9	Violets, doz. bun.	0 4– 0 9
Lapageria, white, 12 blooms	2 0– 3 0	— French, per. bun.	0 3– 1 0
Lapageria, red, 12 blms.	1 0– 2 0	— Parma, per. bun.	3 0– 4 0
Lily of the Valley, doz. sprays	0 9– 1 6	White Jasmine, bun.	0 6– 1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0–24 0	Ferns, in var., dozen	4 0–18 0
Arum Lilies, per doz.	9 0 18 0	Ficus elastica, each	1 6– 7 0
Azalea, per doz.	18 0–42 0	Foliage Plants, various, each	2 0–10 0
Begonias, per dozen	4 0–12 0	Genista, per dozen	9 0–15 0
Bouvardias, dozen	9 0–18 0	Hyacinths, doz.	6 0– 9 0
Chrysanth., dozen	–	Lilium, various, per doz.	–
Cineraria, per dozen	9 0–15 0	Marguerites, per doz.	9 0–18 0
Cockscombs, dozen	–	Palms in variety, each	2 6–21 0
Cyclamens, doz.	9 0–18 0	Pelargoniums, scarlet per dozen	4 0– 6 0
Cyperus, per dozen	4 0–12 0	Petunias, per dozen	–
Dracæna term., doz.	30 0–60 0	Poinsettia, doz.	–
— viridis, per dozen	12 0–24 0	Spirea, per dozen	12 0 18 9
Epiphyllums, doz.	18 0–24 0	Solanums, dozen	–
Evergreens, in var., per dozen	6 0–24 0		

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ONLY GOLD MEDAL,	AMSTERDAM,	1884
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GOLD PRIZE MEDAL,	MELBOURNE,	1880
ONLY GOLD MEDAL,	PARIS,	1878
ONLY PRIZE MEDAL,	SYDNEY,	1879
ONLY GOLD MEDAL,	LIMA,	1872
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ONLY PRIZE MEDAL,	PARIS,	1867

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Carters' Grass Seeds to Repair Old Lawns	1 3	25 0
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THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, will in future sell their celebrated MANURE under the name of "COWAN'S VINE and PLANT MANURE," in place of

"THOMSON'S VINE & PLANT MANURE."

The composition will be the same, and the high quality in every way be maintained. Bags containing 1 cwt., 18*s.*; ½ cwt., 9*s.* 6*d.*; ¼ cwt. 5*s.*; ⅛ cwt., 3*s.*

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(JOHN COWAN), LIMITED,

THE VINEYARD, GARSTON.

SMYTH'S
GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE.

4*d.* per bushel; 100 for 25*s.*; truck (loose, about 2 tons), 40*s.*; 4-bushel bags, 4d. each.

LIGHT BROWN FIBROUS PEAT, 5*s.* 6*d.* per sack; 5 sacks for 25*s.*; sacks, 4*d.* each.

BLACK FIBROUS PEAT, 5*s.* per sack; 5 sacks, 22*s.*; sacks, 4*d.* each.

COARSE SILVER SAND, 1*s.* 9*d.* per bushel; 15*s.* per half ton; 26*s.* per ton; in 2-bushel bags, 4*d.* each.

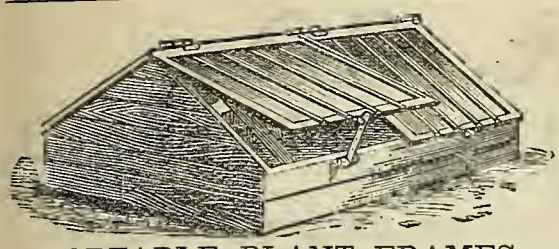
YELLOW FIBROUS LOAM, PEAT MOULD, and LEAF MOULD, 1*s.* per bushel. SPHAGNUM MOSS, 8*s.* 6*d.* per sack.

MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c.

Write for Free Price List.

PURVEYOR TO HER MAJESTY.

21, GOLDSMITHS' STREET, DRURY LANE, LONDON, W.C.



PORTABLE PLANT FRAMES.

The above are without exception the most useful kind of frames for plant growing, and every one with a garden should possess one. The sashes turn right over one on to the other, and the boxes are put together with wedges, and can be taken apart in a few minutes. Sizes and prices carriage paid to any station in England, ready glazed and painted:—

		£ s. d.
6 ft. long, 4 ft. wide ...	Packing cases free.	2 15 0
12 ,, 4 ,, ...		4 15 0
6 ,, 5 ,, ...		3 15 0
12 ,, 5 ,, ...		6 10 0

The glass is nailed and puttied in.

THE GARDENS, BURGHLEY, STAMFORD, September 11th, 1884.

GENTLEMEN,—I have received the Garden Frames, and I am quite delighted with them. They are really well got up, well timbered, and the sides and ends being grooved, will prevent that objectionable swaging so prevalent in these kind of boxes. I shall certainly recommend them to my brothers in the trade.—R. GILBERT, Head Gardener to the Marquis of Exeter.

R. HALLIDAY & Co.,
Hothouse Builders and Engineers,
Royal Horticultural Works, Middleton, Manchester.

CUTBUSH'S
MILLTRACK MUSHROOM SPAWN.

IF ONCE USED no other will be willingly taken. Testimonials of high merit received every day.—"THE GARDENS, SANDRINGHAM.—I have tried all other Mushroom Spawn advertised, but none to be compared with yours, which I have used for the last *twenty years* without once failing a quick and good crop. — CHAS. PENNY, Gardener to H.R.H. The Prince of Wales." — Price Six Shillings per bushel, One Shilling extra per bushel (for packing), One Shilling per Cake free by Parcels Post.

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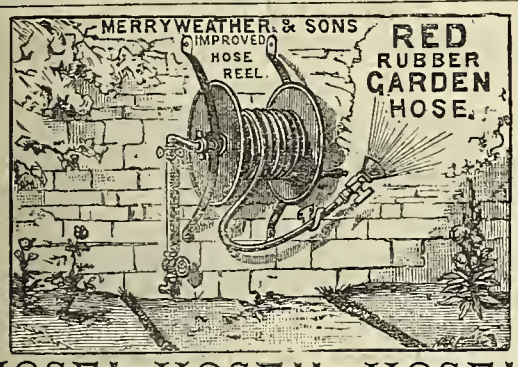

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Lasts four times as long as ordinary white vulcanised hose. Stands severe Government tests, thus proving superiority of quality, lighter in weight, greater in strength, and cheaper in the long run than any other hose for garden use. A correspondent writes—"I have had a length of your Red Rubber Hose in use nine years, and it is now as good as ever." Samples and priced Catalogue of Hose, Garden Engines, and Fittings, free.

Beware of common quality hose, *coloured* red, and order any length direct from

MERRYWEATHER & SONS,
Sole Manufacturers,
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BEESON'S MANURE

Is the best for all Horticultural Purposes.

Sold in Tins at 1s., 2s. 6d., and 10s. 6d. each; also in sealed air-tight Bags, containing 1cwt., 13s.

The 10*s.* 6*d.* Tins serve as a strong substantial receptacle to re-fill from the 1-cwt. bags.

Supplies can be obtained through all respectable Nurserymen, Seedsmen, and Florists in the kingdom; or in districts where no agents resido, carriage paid for cash with order, direct from the Manufacturer,

W. H. BEESON, Carbrook Bone Mills, Sheffield.

Testimonials from the Rev. Canon Hole and most of tho leading gardeners free on application.

TO INVENTORS.—Under the new Patent Act, the cost of obtaining Royal Letters Patent is trifling Everyone who has a new idea should at once take steps to protect it. Cost of provisional protection through this agency is £2 2*s.* All information on patents, designs, trade marks, given free by Messrs. LULMAN & CO., Patent Agents, 8, Essex Street, Strand, London, W.C.

CATTLEYA LAWRENCEANA
(Rchb. f. New Species).

A DISTINCT and BEAUTIFUL NEW CATTLEYA, from THE RORAIMA.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., by order of Mr. F. SANDER, on THURSDAY, March 26th, at half-past 12 o'Clock precisely,

The entire Importation of this most superb Cattleya.

The consignment, brought home under the personal care of the Collector, is in exceptional order, and it has not been our fortune before to offer a finer, more compact, and altogether satisfactory lot of plants, and we do not hesitate to say that we have never seen such splendid sound pieces. They are well shaped, leaves fresh and green, and eyes perfectly dormant, and are the result of two years' diligent search. Cattleya Lawrenceana belongs to the very finest of the genus; the colour of the large flower is deep, rich, and warm; the lip is flat and large, the lower half intensely dark and brilliant; throat yellow, and often finely veined with red. There are no poor or light-coloured varieties among them, and although this Cattleya varies in the markings of the inner lip, all are superb. It is a free-growing, free-flowering species, the flower-spikes on plants show up to fifteen flowers. Habit of plant is most compact, bulbs thick and varying in size from 6 to 15 inches. The leaves are in some varieties reddish in colour, in others green, and from 6 to 9 inches long.

On view morning of Sale, and Catalogues had.

AUCTION ROOMS AND OFFICES, 38, KING STREET, COVENT GARDEN, LONDON, W.C.

RARITIES

To Lovers of Horticulture in search of New and Rare Plants.
OUR SEED CATALOGUE OF
"FLORAL GEMS."
Embraces a list of Species NOT TO BE FOUND OFFERED IN ANY OTHER ENGLISH SEED CATALOGUE; and must certainly prove of much interest to all admirers of lovely, sweet scented and uncommon blooms.
In it are offered Seeds of
RARE & BEAUTIFUL AQUATICS. RARE & BEAUTIFUL CACTEÆ.
RARE & BEAUTIFUL ANNUALS. RARE & BEAUTIFUL GRASSES.
RARE & BEAUTIFUL BIENNIALS. RARE & BEAUTIFUL PERENNIALS.
A Copy of which will be forwarded gratis and post free on application.
VICCARS COLLYER & Co.,
Importers of New and Rare Plants, Seeds, &c.,
CENTRAL HALL, LEICESTER (*where all Letters are to be Addressed*),
And CENTRAL NURSERIES, GLENFIELD, nr. LEICESTER.
A. W. CREWS, MANAGER.

RARITIES

Hooper's
The Covent Garden Seed Warehouse
Splendid Seeds and Bulbs at low prices
Catalogues free to Buyers

GARDEN REQUISITES, FIRST QUALITY.
W. WARREN & CO.,
8, WHITE CROSS PLACE, WILSON STREET, FINSBURY SQUARE, supply Cocoa-Fibre Refuse, 4-bushel sack, 1*s.* 3*d.*, 10 sacks, 11*s.*; best brown Fibrous and black Peats, 4*s.* 6*d.* to 5*s* 6*d.* per sack; yellow Fibrous Loam, Leaf and Peat Mould, each 1*s.* per sack; Bulb Composts and best Derbyshire Sand, each 1*s.* 3*d.* per bushel, all imperial measure. The very best Tobacco Cloth 8*d.*; Specialité Paper 10*d.* per lb.; Archangel Mats, Raffia, Manures, Labels, and every article in the trade at low prices. Special terms for larger quantities and truckloads. Cash with order. Before purchasing, write for free list of prices.

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HOT-WATER PIPES	1s. 0d.	1s. 4d.	1s. 9d. per yard.
" " ELBOWS	1s. 2d.	1s. 9d.	2s. 3d. each.
" " SYPHONS	1s. 9d.	2s. 6d.	3s. 6d. each.
" " TEES	1s. 9d.	2s. 6d.	3s. 6d. each.

BOILERS IN GREAT VARIETY AT MANUFACTURERS' PRICES.

A DISCOUNT FOR CASH TO THE TRADE.

BIDDLES & CO.,

THE PENNY PACKET SEED COMPANY,

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SUPPLY 3,000 varieties of FLOWER SEEDS, in Packets, at **One Penny** each, including the choicest sorts, viz. :—Asters, Balsams, Calceolarias, Cyclamens, Pansies, Pétunias, Phlox Drummondii, Primulas, Salvias, Stocks, Verbenas, &c. All seeds being of the best quality in small quantities, the packets must be regarded as *economical*, not *cheap*. We recommend our various collections of twelve varieties for 1s.

All kinds of VEGETABLE SEEDS, of best quality, by weight, and also in **Penny Packets.**

Send for CATALOGUE, gratis (500 Illustrations). Save expense and buy a large selection in small packets.

50,000 GLADIOLUS BRENCHLEYENSIS to be sold off at 5*s*. per 100—grand bulbs.

THE CELEBRATED

IS unrivalled for Gardeners', Forresters', Farmers', Joiners', and Amatenrs' use. It requires no oil. Sharpen with a spittle or water. Puts on a keen sharp edge; no humbug about this. Cut in Hones for Axes, Hedge Knives, Razors, Penknives, and Plane Irons, &c. Honourable mention Paris Exhibition, 1878; and Bronze Medal London International Exhibition, 1884. Ask your ironmonger or other retail house to get you one, and give my address; if he won't, drop me a note. JOHN C. MONTGOMERIE, Tam O'Shanter Stone Hone Works, Dalmore, Tarbolton Station R.S.O., Ayrshire.

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ALL NEW AND GENUINE.

See SPRING CATALOGUE, Post Free, from

BENJAMIN SODDY, Seedsman,

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WHY, A FACT, THAT,

"HEAPS' FOOD FOR PLANTS"

Is destined to become a lasting boon to the

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Sold everywhere, boxes 2*d*. each. Try it.

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LORDSHIP LANE, LONDON, S.E.

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CAMBRIC

Children's, 1/5	per dozen	Hemstitched.	per dozen
Ladies' 2/6		Ladies' ..3/11	
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ALL PURE FLAX.

By Appointments to the Queen and Crown Princess of Germany.

POCKET "The Cambrics of Robinson and Cleaver have a world-wide fame."—*Queen.*

ROBINSON and CLEAVER, BELFAST. HANDKERCHIEFS.

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Well rooted, many shooted, truly named, of matured vigorous growth, and of the best kinds. Bushes, 8*s*. per dozen, 60*s*. per 100; Standards, 15*s*. per dozen, 105*s*. per 100. Packing and carriage free for cash with order.

These World-famed ROSES cannot fail to give the Greatest Satisfaction.

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SEEDS.

VEGETABLE, FLOWER, & FARM.

The Best Procurable at Moderate Prices.

RICHARD SMITH & CO.,

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GREENHOUSES FOR EVERYBODY.

TO all who are about to Buy, call and see the Little Gems, Span-roof, 75*s*.; Lean-to, 65*s*.; a perfect novelty, not to be believed until seen. Also Cucumber Frames, glazed and painted, from 20*s*. Send four stamps for the Photo. of the Little Gem, and see what you are buying for yourselves. Call or write for OGDEN & CO.'S Special Price Lists for 1885. Post free, two stamps, at the Alexandra Palace Horticultural Works, Wood Green, London, N.—*Copy of Testimonial*: "To Messrs. Ogden & Co., Gentlemen, I have now got the Little Gem Greenhouse I had from you fixed up, and think it but right to tell you that it gives me every satisfaction. Many of my friends have been to see it, and they all agree as to its being a marvel of cheapness. It would have cost half as much again if made locally.—I am, faithfully yours, T. LLEWELLYN, Ogmore Vale, March 9th, 1885."

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Sent post free: 3 *months*, 1*s*. 8*d*.; 6 *months*, 3*s*. 3*d*.; 12 *months*, 6*s*. 6*d*.; *single copy, post free*, 1½*d*.

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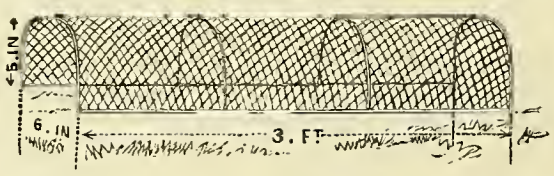

E. J. PIKE, Horticultural Wire Worker, Denmark Hill Wire Works, Camberwell, S.E.—Specialities straight from the Manufacturer. Galvanized Arches, 7 ft. high, 4 ft. span, 1 ft. deep, 9*s*. 6*d*. each, with twisted borders. Pea Guards, galvanized, per doz. 6s. Diamond Trellis, galvanized, 3-in. mesh, from 3*d*. per sq. foot, for training Creepers, &c., made to any required dimensions. Straight Lattice Work, for protecting glass houses, &c., ½ in. mesh, galvanized, from 5*d*. per sq. ft. Light Iron Poultry Fencing, 6 ft. high, 6 ft. long, 1½ ins. mesh, bar iron frame with prong feet, 1½ ins. by ¼ in.; upright rods, ¼ in. thick, 7*s*. per yard. Chicken Coops, with box, 3 ft. run, from 6*s*. 6*d*. each.

Estimates free for every description of Iron and Wire Work.

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Of the above is Now Ready, and will be forwarded Free by Post, to any Address, on receipt of a Penny Stamp.

IT contains all the most choice and new varieties of Dahlias, Chrysanthemums, Verbenas, Fuchsias, Pelargoniums, Phloxes, Geraniums, Petunias, Heliotropes, Calceolarias, Tropæolums, Coleus, Pansies, Pentstemons, Azaleas, Bouvardias, Lantanas, Pinks, Veronicas, Antirrhinums, Achimenes (bulbs), Gloxinia (leaves), and all kinds of Bedding, Greenhouse, and Stove Plants, Cutting of which can be sent free by post at one-third the price of Plants. During the last twenty-nine years, J. MORSE has received many hundreds of letters from distant customers, acknowledging safe arrival of Cuttings in Ireland, Scotland, the Channel Islands, the Orkney and Shetland Islands; also in France, Belgium, Holland, Germany, Switzerland, &c.

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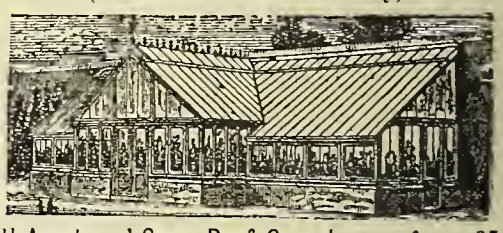
GEO. DAWSON,

Horticultural Builder, &c.,

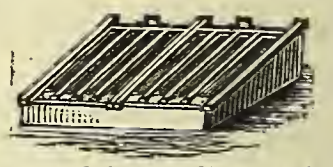
HIGHGATE HILL, UPPER HOLLOWAY, LONDON, N.

(2 doors from Williams' Nursery).



Small Amateurs' Span Roof Greenhouses from £5 5s.

A large stock to select from, also every description of heating apparatus.



Cucumber and Melon Frames from 25s.

Conservatories built to any design, full particulars and illustrated Catalogues, post free. Experienced Workmen sent to all parts of the Kingdom.

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TWO PRIZE MEDALS.

Quality, THE BEST in the Market.

(ALL SACKS INCLUDED.)

PEAT, best brown fibrous, 4*s*. 6*d*. per sack; 5 sacks for 20*s*.
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PEAT, extra selected Orchid, 5s. ,,
LOAM, best yellow fibrous .. ..
PREPARED COMPOST, best ..
LEAF-MOULD, best only .. ..
PEAT-MOULD, ditto ... ... } 1*s*. per bushel (sacks included).
SILVER SAND (coarse) 1/3 per bushel, 12/- half ton, 22/- ton.
RAFFIA FIBRE, best only... ... 1*s*. per lb.
TOBACCO CLOTH, finest imported 8*d*. per lb., 28 lbs. 18*s*.
TOBACCO PAPER, ditto (Spécialité) 8*d*. per lb., 28 lbs. 18*s*.
MUSHROOM SPAWN (finest Milltrack), 5*s*. per bushel.
SPHAGNUM MOSS, all selected, 2*s*. per bushel, 6*s*. per sack.
COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1s. each; 10 sacks, 9*s*.; 15 sacks, 13*s*.; 20 sacks, 17*s*.; 30 sacks, 25*s*.; 40 sacks, 30s. Truck-load, loose, free on rail, 25*s*. Limited quantities of G special quality, granulated, in sacks only, 2s. each.

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(The Trade Supplied.)

CHUBB, ROUND & CO.,

West Ferry Road, Millwall, London, E.

Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex, Saturday, March 21st, 1885.

THE GARDENING ILLUSTRATED WORLD

No. 30.—1885. SATURDAY, MARCH 28TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

Proposed Gardeners' and Foresters' Benevolent Institution for Scotland.

AT a MEETING of the SCOTTISH HORTICULTURAL ASSOCIATION, held at Edinburgh on the 6th of February, it was proposed by Mr. John Downie, and seconded by Mr. John Methven, and unanimously agreed to, that an endeavour should be made to start such an Institution. Gardeners' and Foresters' opinions for or against the above are solicited.

(Signed) JOHN DOWNIE.
JOHN METHVEN.

"YE NARCISSUS OR DAFFODYL." An interesting history of the Daffodil, covering a period of the 300 years, with its poetry, and notes on hybridization, with many illustrations. Price one shilling, published by BARR & SON, 12 and 13, King Street, Covent Garden, W.C.

HERBACEOUS AND ALPINE PLANTS.—Catalogue of 50 pages, containing full information as to colour, height, situation, time of flowering, &c., free on application. A capital collection for Rocks, Stumps, and Borders, from 25*s.* per 100, or 4*s.* per doz. Most of the plants being in pots, may be despatched at any time, or by Parcels Post when fit.—RICHARD SMITH & CO., Worcester.

Ware's New, Rare, and Choice Flower Seeds.

THE most complete list of Miscellaneous FLOWER SEEDS ever published, including Hardy Perennials, Hardy Florists' Flowers, Greenhouse Seeds, Hardy Ornamental Grasses, Hardy Annuals, &c., free upon application.
HALE FARM NURSERIES, TOTTENHAM, LONDON.

£1,000 OFFERED FOR PRIZES AT DUNDEE INTERNATIONAL EXHIBITION, 1884, where Dobbie's Prize Strains of Leeks, Turnips, Parsnips, Beet, Greens, Celery, Asters, French and African Marigolds, Cockscombs, &c., gained First Prizes respectively.
Catalogues, *free*, of Dobbie's Choice Pansies, Seeds and Plants, containing an Election of Pansies, the Culture thereof, with Remedies for the Prevention of the Pansy Disease, the True Secret of Growing Leeks and Onions for Competition, may now be had from DOBBIE & CO., Rothesay, N.B.

KELWAY & SON.—TWENTY ACRES OF GLADIOLI.
The largest Collection in Europe. Catalogues free with cultural directions.
LANGPORT, SOMERSET.

NEW CATALOGUE FOR 1885, containing probably the largest and best collections of Pansies, Violas, Phloxes, Pentstemrus, Antiorhinums, named Hollyhocks; Mimulus, Double Potentillas, Delphiniums, Pyrethrums, Hardy-border, Herbaceous and Alpine plants; Dahlias, Pelargoniums, Fuchias, Double Begonias, &c. &c., ever brought together, is now ready. Should be consulted before buying elsewhere, and will be posted on application. JOHN FORBES, Nurseryman, Hawick, N. B.

ASPARAGUS.—A large quantity of Strong Plants, two, three, and four years old. Prices on application to J. CHEAL & SONS, Lowfield Nurseries, Crawley.

6 CAMELLIAS or AZALEA INDICA, full of buds, 10*s.*, large healthy plants of either in 5½ pots, all different choice sorts and colours. Packing gratis, and extra plants for carriage.—E. VAN DER MEERSCH, Queen's Nursery, Selhurst, S.E.

CARNATIONS and PICOTEES, a speciality for over 40 years.—I can offer unusually fine Plants of above, in all the leading exhibition varieties, true to name, my selection, carriage paid for cash, as follows:—Six of each, in 12 varieties, 6*s.* 6*d.*; 12 of each, in 24 varieties, 12*s.* 6*d.* List of varieties, penny stamp.
ROBERT LORD, Holebottom, Todmorden.
"Mr. Lord's plants are the finest I get from any source; finer cannot be had."—E. S. DODWELL, Stanley Road, Oxford.

TO GARDENERS and AMATEURS.—When you order from your Seedsman be sure and include TEBBS'S FUMIGATOR, a useful addition to the Greenhouse.

Laing's Begonia Seed.

JOHN LAING & Co.
GOLD MEDAL STRAIN from our Prize Plants. New crop now harvested. Sealed packets.
CHOICE MIXED, from single varieties, 1/- and 2/6 per packet; 5/- extra large packets; double varieties, 2/6 and 5/- per packet.
COLLECTIONS, 12 named varieties, separate, 7/6
" 6 named varieties, separate, 4/-
Begonia Growers, Forest Hill, S.E.

Garden Seeds.

R. B. LAIRD & SONS (successors to Downie & Laird), will have much pleasure in posting their descriptive priced List of
GARDEN, FLOWER and AGRICULTURAL SEEDS free on application.
17, SOUTH FREDERICK STREET, and ROYAL WINTER GARDEN, EDINBURGH.

Lilies of the Valley.

CUT BLOOMS, fine spikes, 1*s.* 3*d.* per doz. Crowns for forcing, 5*s.* 6*d.* per 100; 40*s.* per 1,000. Crowns, from which blooms have been cut, for planting out to obtain stock, 10*s.* per 1,000.
"Practical hints on the cultivation of this favourite flower," by T. Jannoch, 6½*d.* post free. Cash with order.
T. JANNOCH, The Lily Nursery, Dersingham, King's Lynn, Norfolk.

Chrysanthemums.

ROOTED CUTTINGS, from a choice collection, guaranteed true to name. My selection, 2*s.* per doz. Purchaser's selection, 2*s.* 6*d.* to 4*s.* per doz.
Early-flowering varieties. The best for out-door cultivation. Rooted cuttings, 2*s.* per doz.
SINGLE CHRYSANTHEMUMS.—A few of these useful varieties should be in every collection. They are very free bloomers and most useful for cut bloom and decorative purposes. Rooted cuttings from a choice selection, 5*s.* per doz. Catalogue, with full directions as to cultivation, the best guide for Amateurs, four stamps.—W. E. BOYCE, F.R.H.S., Yerbury Road, Holloway, London.

CHOICE HARDY SPRING FLOWERS.—J. H. Ley can supply in large clumps as follows from open ground, each clump equal to about a dozen of the pieces sold in London shops and all finest named varieties:—

	s.	d.
12 Old Crimson Clove	4	0
12 " White Pink	3	0
12 New White Elephant Pink	4	0
12 Pinks, distinct sorts	3	0
12 Pyrethrums, single and double	6	0
12 Carnations and Picotoes, named	6	0
12 Potentillas	4	0
12 Iris, all distinct	4	0
12 Anemone japonica alba	3	0
12 Roses, choicest sorts, dwarfs	6	0
12 " standards " "	12	0
12 Primroses, coloured sorts...	2	6
12 Delphiniums, very fine colours	4	0
12 Columbines " " "	3	0

Hampers gratis; smaller quantitities at same rates. Cash with order.—JOHN H. LEY, Woodside Green, South Norwood, S.E.

Good and Cheap Insecticides.

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MR. J. C. STEVENS will SELL by AUCTION at his Great Rooms, 38, King Street, Covent Garden, in the ensuing week, as follows, at half-past twelve precisely each day:—

WEDNESDAY.—A choice collection of Established ORCHIDS from Mr. H. JAMES, including fine plants of many rare species.

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12 DAHLIAS of any class, Show, Fancy, Bedding, Boquet, or Single, 3*s*.; 50 varieties, 12*s*. 6*d*.; 100 varieties, 25*s*.
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READING.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 28TH, 1885.

FLOWER SHOWS.—We are now on the eve of the Flower Show season of the present year; and without doubt we shall see universally almost reproductions at these Shows of what we have seen for the past twenty years or so. It is true we can hardly hope for much variety in any sense, and the lack of it is just as apparent in agricultural, poultry, dog, and similar exhibitions. Still this eternal monotony at Flower Shows is distressing, and in time tells disastrously upon many of them. When visitors learn to know beforehand exactly what they will see, it is most evident that interest, the great motive power in producing an attendance on the part of the public, is lacking.

Curiously enough, we show almost less of variety in conception and of originality in the arrangement of a Flower Show than in anything else. If a new Show be promoted, the originators almost always model their schedule of prizes upon that of some other Show, and thus it comes about that one Show is almost as like another as two Peas. That would, however, be endurable were the Show seen by diverse persons every year, but that is not the case, and as the schedule of one year is always a counterpart, or nearly so, of the schedule of previous years, the Shows in each locality soon become reproductions of their former selves, almost in their entirety. Thus it becomes certain, even before the Show is held, that "A" will take the first prizes for Fuchsias, Ferns, Begonias, and some one or two other things; that "B" will have the best Grapes, Apples, Potatos, and vegetables; and that "C" will have the best things in other classes, just because these exhibitors have not only had the best of these respective things in previous years, but also because the schedule is most considerately and carefully arranged to that end. It is in such things that "A," "B," and "C" are strong, and these things must appear from year to year.

With such modes of procedure no wonder that in many cases horticulture is literally strangled by this lack of interest in its more modern or interesting features. It should always be the object of the promoters of a Show to create some special element or elements of interest and of novelty every year, and thus give to exhibitors and to horticulture a renewed stimulus. What would not habitués of Flower Shows give for some new form of plant-decorative effect, which should take the place of the stereotyped decorative groups which are duplicated, not only from year to year, but during the same year, at hundreds of Shows. These made a novel and an attractive break in the monotony of Shows when first introduced, but we have seen the best efforts in that direction so often that we look in vain for anything better.

It is true the managers of Shows almost always prescribe a certain form of group, and thus originality of effect is nipped in the bud. Will some committee invite competition for the most novel and striking arrangement of plants, such as, whilst pleasing, shall yet show the greatest divergence from the stereotyped Flower Show decorative group? Our exhibitors are in the main good plant growers. Surely they are not all lacking in the power to devise some really original yet effective arrangement. But if we take even more pretentious Shows than rural ones are, we find quite as much that is monotonous. Thus the National Auricula, Carnation, Rose, Dahlia, Potato, or any similar exhibitions will be but reproductions of those of the past several years almost to an hair.

It may not be the fault of the exhibitors, who, of course, grow for what classes are invited, but still we know almost exactly beforehand at all these Shows who will be the chief prize-winners, and the nature of their exhibits. The newly-formed National Chrysanthemum Society is so far showing a desire to be original, to a certain extent, but it will need great courage to continue in that course, and yet the want of that courage has, in the past, caused many once prosperous Shows to die of inanition. The public are year by year becoming more intelligent, more critical, and more exacting, and will decline to patronize exhibitions that cannot offer to them some attractive or interesting features. Still farther, it is an evil to keep local horticulture running always in one rut, and it is a serious evil when such is the lot of national horticulture.

We have, perhaps, generally in the framing of Show prize lists rather too much of the pecuniary element. If schedules are always to be made to suit what certain growers can produce, we shall hope for little effort in the direction of change; but if that element be subdued in favour of the higher one—of the progress of horticulture—then schedules will be framed to create new interest, new attractions, and fresh advancements that will prove most welcome.

HERBACEOUS CALCEOLARIAS.—Those who at this season of the year have to find accommodation for their Calceolarias in a greenhouse will find them liable to attacks of green fly. There is this advantage in having Calceolarias in a cold-frame, that you can give them plenty of air, and allow a free current to pass among and over the plants without doing them any injury, provided it is not too cold. It is different in the case of a greenhouse, as, when the structure is filled with plants of a mixed character, some of a much more tender character than the others, it is difficult to give air freely. There is some difficulty in fumigating with tobacco-smoke, but when resorted to, the smoke does not always find its way to the insects located between the leaves, and if they can establish themselves, they soon make great headway. It is well to have ready for use some tobacco-water with which to wash the infested leaves. A small quantity can be kept in a basin, and by means of a brush, or a piece of sponge, it can be applied and the insects washed away. Calceolarias are often kept in far too dry an atmosphere at this season of the year, and when this is so, red spider as well as green fly affect them, and the plants become much disfigured. Of the value of the Calceolaria as a decorative plant there can be no doubt, and there should be a fitting balance between foliage and flowers—both should be very good.

WINTER OR SPRING.—The heavy coating of snow which covered the face of nature when we rose from our beds on Sunday morning last, must have destroyed the pleasing illusion under which many had laboured that grim winter, for the present at least, had departed. Not that snow is productive of any material harm to garden-work, or, indeed, to plants. There used to be an oft-quoted aphorism that snow was a providential visitation, sheltering the tender plants from the

bitter frosts and from the cruel blasts. As a rule we get these latter evils when snow is absent, and then snow not unfrequently brings a change for the better, a relieving of the air of its colder elements, and is the progenitor of milder days. In the recent case we had no such surroundings, beyond prevailing northerly and easterly winds, but of no special severity; while frost at night alternated with warm sunny days is a condition of weather-aspects not desirable because too often productive of harm to the unduly precocious fruit-bloom. Happily now, except on warm walls, the blossoms remain remarkably quiescent, and although it would provoke a smile were we to attribute to the trees any intuitive perception of what weather was to follow, it does seem at any rate that, this season, nature refused to be prematurely drawn, and was waiting patiently until real spring was assured. That it was wise in that respect the recent snow-fall seems to evidence. On the other hand, a spell of keen drying winds had somewhat set the surface of the soil, and whilst heavy rain would have done harm, perhaps making matters worse, the snow by gently melting has admirably softened the soil without further hardening it. Perhaps the best moral to be drawn from the recent visitation is not to be in too great a hurry to anticipate the season.

Gardening and the Climate of New Zealand.—According to our esteemed correspondent, Mr. Oliver Revill, of Olipua, Timaree, New Zealand, Great Britain is not the only quarter of the world in which eccentricities of climate interfere with gardening operations. Old England comes in for a good measure of abuse from all quarters and on all subjects, but on none more than on the changeable nature of her climate. Mr. Revill says:—"Many are misinformed about the climate here. The fact is, we often have some very, very trying weather. I have worked here without a coat or vest at nine o'clock in the morning, and at ten have had to put all on and work hard, and then not be warm. I have often seen three or four changes in one day, and the climate of New Zealand, according to what I hear, is as much on the change as that of some other places. We had hail here which knocked off all the cherries, and the cold winds since seem to have spoilt all the foliage of the standard fruit-trees. But there are other things to contend with besides the weather. We have been infested with small green parrots ever since the warm weather set in. They have made great ravages among the fruit, and have not left us a single Currant or Gooseberry; the Strawberries and Raspberries we managed to net. We shot and caught a good many, but that was not of much use. I hope they will soon go away, and never return. The Gardening World is greatly liked here, and no doubt others, as well as myself, will be pleased to send you some notes for its pages whenever anything likely to be interesting takes place."

Garrya elliptica.—This striking shrub is now in full flower—or, at least, male specimens of it—and the long greyish-green pendulous catkins, which are produced in profusion, give the plant a very attractive appearance. We came across a specimen the other day, planted in the front row of a shrubbery, facing south. The shrubs being rather tall, served to protect it from the severest winds and frost, and some tall trees in the background had a similar effect. In this position the plant seemed quite at home, for being a native of California, it likes a little protection from the severe cold of our winters. This is especially desirable at the time when the catkins are appearing, as severe frost is by no means conducive to their ornamental character. A fruiting branch is figured at p. 77 of The Gardening World, where some additional information respecting it may be found.

Gardening Miscellany.

The leading London and provincial nursery establishments are well worth visiting just now by all patrons of horticulture and lovers of flowers. In the metropolis, the special displays of Hyacinths, Tulips and other favourite flowers of spring announced for next week by Messrs. James Veitch & Sons, Mr. B. S. Williams and Messrs. William Cutbush & Son, promise to be unusually fine.

The Flower Show held at Bath on Wednesday and Thursday proved a great success. Pressure on our space compels us to defer publication of a notice of it until our next issue.

At the next meeting of the Floral Committee of the Royal Horticultural Society, which will be held on April the 14th inst., it is proposed to invite the growers of Daffodils to make a special display, as a supplement to the Conference held last year with so much success.

Mr. W. T. T. Thistleton Dyer, Assistant Director of the Royal Gardens, Kew, was on Tuesday elected a member of the Athenæum Club.

The Council of the Royal Caledonian Horticultural Society have recently adopted a bye-law which enables them to issue tickets to professional gardeners, at 2*s*. 6*d*. each, which will admit the holders to all the Society's Shows of the season. It would be a great boon to gardeners if the other leading societies, would follow such an excellent example.

At the termination of the opening ceremony in connection with the late Bulb Show at Haarlem, noticed in another column, Mr. J. H. Krelage, the president of the Bulb Growers' Society, was presented with a handsome piece of silver plate, in recognition of the valuable services he has rendered to the Society since its formation a quarter of a century ago.

The President of the Royal Horticultural Society has nominated the following gentlemen Vice-Presidents for the ensuing year, viz., Sir P. Cunliffe Owen, K.C.M.G., C.B., C.I.E., Robert Hogg, Esq., LL.D., F.L.S., Professor M. Foster, F.R.S., and George F. Wilson, Esq., F.R.S.

The following gardening appointments have been made recently through Messrs. John Laing & Co.:—Mr. Biggs, as gardener to Mrs. Black, Blackheath Park, Lee; and Mr. Watts, as gardener to Sir Henry Fletcher, Bart., M.P., Ham Manor, Worthing.

Special Flower Shows at Messrs. James Veitch & Son's Royal Exotic Nursery, Chelsea.—A neat little card is just now being sent out by Messrs James Veitch & Son, on which the times when those great specialities for which the Chelsea firm is noted are in bloom. To most of our great plantsmen and flower lovers the announcement will be almost unnecessary, as they well know that in the matter of Orchids; for example, the Royal Exotic Nursery has always enough to make such a show as is well worth visiting, without considering the countless other things which are always in flower to assist in the display. To the general public, however, the free invitation will be very acceptable, and the fixing of dates when the different things are at their best will be useful to all. The dates announced for the special displays are as follows:—

March 16 to 31. Amaryllis, Orchids, Hyacinths.
April 1 to 14. Orchids, Amaryllis, Greenhouse Plants.
April 15 to 30. Roses in pots, Orchids, Miscellaneous forced Flowers.
May 1 to 14. Orchids, Azaleas, Roses in pots, &c.
May 15 to 30. Azaleas, Tree Carnations, Gloxinias.
June 1 to 13. Orchids, Anthuriums, Pelargoniums.
June 15 to 30. Miscellaneous Flowers, Pelargoniums.
July 1 to 31. Orchids, Nepenthes, Flowering Stove Plants, Border Carnations.
A special Exhibition of Chrysanthemums is held in November.

The Rainfall of February.—Reference has frequently been made in your columns to the limited amount of rain which fell during the past twelve months. The past month has in some measure made up for the deficiency, for here, in South Wilts, we had rain eighteen days out of the twenty-eight, the total rainfall for the month being 4·76 ins.; this was a "February fill-ditch" indeed.—*C. Warden, Clarendon Park, Salisbury.*

PLANT MANURES.

That the parings from the hoofs of horses is no novelty as a plant-manure is evidenced by the fact that for several years past one of the very best of our Chrysanthemum exhibitors has employed this material for pot-drainage and latent root-food. It would, of course, be unfair to assume that his oft successes were due to the use of this stimulant, but he is fully satisfied with the results. Probably other good growers use some other stimulant, if not in the form of horse-hoof parings. The ivory shavings introduced some years since proved to be a potent plant-manure, but it is probable, owing to its softness, that hoof-parings would prove more active, and therefore more efficacious. There are thousands of blacksmiths' shops about the country where these parings are obtainable, perhaps too often wasted as useless, or thrown aside with other manure to stimulate Cabbages or Potatos. Gardeners will do well to keep a watchful eye upon these products of farriery henceforth.

Another apparently admirable plant-manure was brought to my notice last autumn in the form of Jensen's Fish Compound. It is a dry, well-pulverized material, full of ammonia, yet not offensive when employed. In potting up Chinese Primulas, at that time, I sprinkled with the soil a few handfuls of this fish-manure, and the result is the very finest lot of plants I have ever had. It is really surprising to find such fine blooms produced from plants in only 60-sized pots, but these plants seldom want one-half the root-space usually allotted to them. Some really rich or well-stimulated compost with small pots always produces better results than does ordinary compost and pots double the size.—*D.*

BORECOLE, CALE, KALE, KAIL.

As far as I can learn the term Borecole is from the Dutch *boerekool*, or peasant Cabbage, which will readily suggest itself to the minds of our readers, because it is a vegetable well adapted to cottage gardens, and very profitable, not only supplying a head of Cabbage, but an abundance of side-growths or sprouts also, which can be gathered successionally. Under the head of Brassica, Philip Miller in his Dictionary, published in 1731, treats of Boor Cole, the boor or peasant's Cole, and he remarks that the Cole "are never eaten till the frost hath rendered them tender, for otherwise they are tough and bitter." Cale, Cole, or Colewort is from the Anglo-Saxon *cawl* and *cawlwyrt*, the Dutch *kool*, the Latin *caulis*, a stalk, a name given to a thick-stemmed variety, the Kohl rabi, or Turnip-rooted Cabbage, and extended to the other kinds of Cabbage. Old Gerarde states "the apothecaries and common herbalists do call it *caulis* of the goodness of the stalke."

The Cale or Kail is a very popular vegetable in Scotland. The Scotch Cale or German Greens is one of the most popular forms of the Cale, and by means of careful selection very handsome fimbriated forms have been obtained, the leaves of which are used for garnishing purposes; and there are beautiful variegated forms also, that rival in rich colouring not a few of our ornamental-leaved plants, but it is running a risk to use them in the garden too near the dwelling, as in decay they do emit a perfume not always pleasant to the olfactory nerves. "In Scotland, it is a custom on Hallowe-'en for the young people, after being duly blindfolded, to go into the Kail-yard, a garden, and pull the first stalk they meet with. Returning to the fire-side they determine, according as the stalk is big or little, straight or crooked, what the future wife or husband will be, the quantity of earth adhering to the root is emblamatic of the dowry to be expected, and the temper is indicated by the sweet or bitter taste of the *motoc* or pith. Lastly, the stalks are placed in order over the door, and the Christian names of persons afterwards entering the house signify in the same order those of the wives and husbands *in futuris* [Folkard's *Plant Lore*]." Whether the Scotch Cale or German Greens originated in Scotland or Germany I cannot say. Cale, and especially this particular type, are largely grown in Germany, and is called by the Germans *Grune* or *Blatter Kohl*.

There are two types of the Scotch Cale or German Greens, the tall and the dwarf; any sub-varieties are

simply the result of selection. Another name for the dwarf strain is that of Canada Cale. The seeds of the Scotch Cale are very distinct from, though they resemble both the Cottagers' and the Hearting Cales. Cottagers' Cale was in all probability a sprout from the Tall Scotch; it is very hardy and a most useful vegetable. The Asparagus Cale is considered by some to be identical with the Buda Cale; and by others with the Couve Tronchuda or Portugal Cabbage. The latter is a very delicious vegetable, and not so much grown as it deserves to be. The Buda or Delaware Cale is a tall-growing variety, producing a large number of sprouts in early spring. Chou de Milan, Jerusalem, Prussian, and Siberian Cales appear to be one and the same; but they are differently classified by some wholesale-houses than by others.

The simple Curled Cale appears to be a selection from the Tall Scotch; and the Hearting Cale, a variety that produces a cluster of hearts at the top of the stalk, appears also to be a selection from the Tall Scotch. Then there is the deep-cut-leaved Cale, known as Ragged Jack, also a very profitable garden vegetable. All these strong-growing Cales require deeply-trenched and well-manured ground; they make an exhausting crop, but yield a large supply of Greens. The Coleworts are more properly classed with the Cabbages, because they heart. They are of dwarf growth, and are planted out thickly together in autumn and are potted for bunching. The Rosette Colewort is a selection from the Old Green type.—*Quo.*

ESCHSCHOLTZIA MANDARIN.

GODETIA LADY ALBEMARLE.

ANNUALS FOR MASSING.

The importance of obtaining a good floral display in the beds and borders during the summer months is a desideratum that cannot be overlooked, and now is the time when arrangements should be decided upon to effect this. There is no doubt that in many of our best establishments the system of relying entirely upon hardy bedding-plants is becoming obsolete, the fickleness of the English climate, and the ever varying character of our English summers having had much to do with this, many of the so-called bedding-plants frequently making very indifferent displays, while in some localities many cannot be grown at all. Many of our most popular annuals are admirably adapted for bedding purposes, coming quickly into bloom and continuing a long time in perfection. Of these, I purpose to enumerate a few which experience has taught me are adapted for this purpose, and which are of the easiest culture and will be found to grow as readily in town as in suburban districts.

Nemophila insignis.—This well-known annual probably claims the first place from its beautiful blue colour and dwarf growth, but unfortunately its period of blooming is of short duration, not exceeding a month, and where it is sown in a bed, Asters, Stocks, or Dwarf French Marigolds should be pricked out over the bed to succeed later on.

The Candytufts have of late years received some useful additions, the Tom Thumb sections being specially adapted for small beds, their carmine and white colours forming an excellent combination, or can be used separately, while the old white, lilac, purple and crimson, growing to about a foot in height, are well-known favourites. The Candytufts, like Nemophilas, require a succession of later blooming sorts to take their places when past their best.

Of Godetias the effect of hybridization has produced a grand race with far nobler flowers and grander colours than the older kinds. Godetia Bijou, introduced last season, from its very dwarf cushion-like habit is well adapted for small beds. Its colour is white, with a bright rose spot upon each petal. Godetia Lady Albemarle has immense satiny-crimson blossoms (see illustration, for which we are indebted to Messrs. Carter & Co.), and Princess of Wales, deep red, while Duchess of Albany, pure white, received Certificates of Merit at the hands of both the Royal Horticultural and Botanic Societies in 1882. All of these produce a grand mass of bloom, and if not allowed to seed, will keep up their floriferousness for a long period.

The Clarkias also have received the attention of specialists, and some useful improvements have been introduced, giving us a dwarf and a tall section, and double and single flowers. The Pulchella type is probably the best for massing, being more compact and free-flowering. The Integripetala section of the Pulchella type is preferable to the old Maltese cross-shaped flowers of the original species, and some of these are really brilliant in colour and very handsome in shape. Among the best are Integripetala flora plena, rose, with double flowers; Marginata, rose and white; Alba, white; Alba flora plena, double white. In the dwarf section, 6 ins. high, both pink and white varieties of Pulchella nana can be obtained. Not allowing them to seed, the blooming period can be considerably prolonged.

Collinsias are old but favourite and easily-grown dwarf annuals, the bicolor section growing almost anywhere. They come quickly into bloom, and form a rich mass of various-coloured flowers from white to various shades of rose and purple. As soon as past their best, provision should be made for them to be superseded by the introduction of later blooming subjects.

Silenes have become very popular of late years for small beds, and where the winters are not too severe, if sown in autumn they form a fine early bed of compact pink and white flowers. Sown now they come into flower in June, and continue a long time in perfection. Silene compacta, pink; Alba, white; and Zulu King, crimson, are the best.

Schizanthus.—The genus Schizanthus, although seldom seen, affords admirable bedding plants. The very long time it continues in beauty, and the graceful habit of all the pinnatus varieties, compact in growth, and covered with flowers, rose and white predominating, would, if better known, render it more popular. In the modern introduction of the New Tom Thumb, we have an acquisition for the smallest beds and edgings.

Eschscholtzia.—For a golden yellow with its intermediate shades of sulphur and orange, nothing better can be desired than the varieties now in commerce of Eschscholtzia californica, and notably the Mandarin.

The Saponarias need only to be grown once to secure favour. Compact as a mass in themselves, insignificant in their individual blooms, but most beautiful when presenting their thousands of tiny blooms upon a square yard, nothing equals them for small beds or edgings, or tufts upon rock-work, blooming as they do till frost cuts them down.

I have by no means exhausted the list that might be given, but in the above the amateur readers of The Gardening World will find material to render their gardens gay during summer, without depending exclusively, as is too often the case, upon Calceolarias, Lobelias, and Scarlet Geraniums.—*J. Knight, Bilston.*

VIOLETS.

The Violet is an universal favourite, and to obtain the best results in its cultivation, it is necessary to make new plantations every year, and for doing this there is no time so suitable as the month of April. The first consideration in Violet culture is to secure a suitable position in which to plant them, a position where they will receive some sun, but not too fierce, say an east or west aspect, or a north one for some of the plants. I would strongly advise that several sites be chosen for planting them, as so much depends upon the nature of the season as to results. The several positions having been chosen, proceed to give the

same a good dressing of thoroughly decayed manure, for although the Violet grows wild and flowers naturally on sunny banks and in comparatively dry situations, the cultivated sorts amply repay liberal treatment. In digging, have the soil broken up very fine on the surface, and made sufficiently firm to leave no hollow places underneath, after which planting may be commenced.

For the earliest planting choose those that have been in flower the greater part of the winter, and which are now nearly past. Lift these a few at a time, divide them and take off with a heel any runners that may be formed, rejecting all the blind and exhausted crowns as the work progresses. Then proceed to plant them in the ground prepared for their reception, in rows 1 ft. apart and about 9 ins. apart in the row. We always use a trowel for planting, taking a piece which has roots and a couple that have none in the left hand, and with the right open a hole by the side of the line in which we can place the root and stems of the plants down their full depth, generally 4 ins. to 6 ins., holding their crowns level with the soil, some of the finest of the soil being returned around the roots and stems; they are then made thoroughly firm, and afterwards receive a good watering—sufficiently heavy to wet the soil down to the bottom of the roots. If the weather is dry the plants receive a watering whenever they require it, never being allowed to suffer for want of the same until they are rooted, when they are better able to take care of themselves.

When the very best results are looked for in the way of flowers, and especially when the plants are to be transferred to frames in the autumn, they should have the runners removed from their sides as fast as they appear through the whole of the summer months, so as to plump up the crowns of the plants and prevent them from making a quantity of useless growth, which would only tend to crowd the plants and encourage damp, the great enemy of Violets in frames in the winter-time.

As to varieties, there are many, and I think all, or at least all that I have tried, are amenable to similar treatment to the foregoing. The new variety, Compte Brazza, which, except as regards colour, is the counterpart of that universal favourite Marie Louise, being white instead of lavender-blue, should be in every collection. Marie Louise I should name as an indispensable variety, and the Neopolitan might also be added, for although we have discarded it ourselves, it is still a great favourite and does well with some; indeed, it was only the other day that I heard a grower give preference to that before my choice, Marie Louise. Among single blues, I may mention, as desirable kinds to grow, Oderatissima, The Czar, and Victoria Reginæ.

Violets may be successfully planted from the beginning of April to the end of May, but as the sun gets more power, and the ground gets hotter, the greater is the risk attending transplanting as the season advances.—*C. Warden.*

WORKING CLAY SOILS.

No doubt "Sussex" (p. 462) would find draining his ground productive, but his drains must be shallow if his subsoil be clay, or otherwise he will not materially affect the nature of his stiff surface-soil. The drains should be about 20 ft. apart, and 20 ins. to 24 ins. in depth, running of course into one main drain about 30 ins. in depth. On each line of pipes should be laid some heather or gorse if obtainable, to keep the soil about the pipes more open. As to the cropping and working of the surface, it must be clearly understood that after the drains are put in the whole should be half-trenched, that is, say 10 ins. of the surface laid over and the 10 ins. of subsoil below broken up, but not brought to the top. Then into the surface-soil should be worked plenty of short horse-manure, not wet, heavy stuff, but fresh material, with a good proportion of straw in it.

The soil needs to be kept open, and any kind of fibrous matter will greatly help to that end. Road-gathered manure with an admixture of sand, and the sweepings of town-streets, make capital stuff for mixing with stiff soils. So also will half-rotten leaf-soil help greatly. As a rule, it is wise not to work stiff soils during the rainy months of the year. It is always found that soil of this nature, from which crops have been taken in the autumn, work best if left untouched until planting-time again in March and April. If the soil be moved during the winter, and heavy rains follow, it runs together and becomes very hardened. Really it is very difficult to change the nature or texture of clay soils except by years of labour and constant dressings.—*D.*

Your correspondent, "Sussex," is in a pitiable condition with such a "clay-bed" for a garden. He cannot do better than have it thoroughly drained, but I would not advise him to put the drains deeper than 2 ft. If there is an outlet for the drain-water he had better begin with the draining at once. I should then recommend him to sub-trench the plot—merely turning over the top spit and breaking up the lower one without bringing it up. He must not be disheartened at first, for it is surprising how quickly such soils alter sometimes when the surplus water is let out. His next plan should be to get all the fresh soil, road-side rubbish, ashes, and anything of a light nature, even sand, and spread over the surface, afterwards working it in with a Canterbury hoe. He had better work at this plot till May than risk a crop for the sake of having one of some kind. By May it will probably work pretty well, and it will then be a good time to get in a lot of autumn and winter greens—Red Cabbage, Savoys, Brussels Sprouts, Broccoli, and Kale; Broad Beans, Scarlet Runners, and late Peas; also a few rows of Celery, and a bed for winter Onions, to be sown later on. He may work the dung in for all these, except the Celery and Onions, by opening out a shallow trench where each row will be planted, and spreading the manure along it, digging it down into the bottom of the trench. Onions will do with less manure in autumn than in spring, and a little night-soil or other strong manure worked in early, and the plot gone over a few times with the Canterbury hoe, will probably make a good bed for them. The Celery trenches need not be more than one spit deep, and he must half fill them with rotten manure and some of the best soil he can get, in proportion of about half of each—mixed together. Be careful about ever bringing any of the sub-soil on to the surface, that will be bad in this case; but never miss an opportunity of collecting turf, road-side soil, ashes, or such things to spread over the surface. In time "Sussex" may have the credit of saying that he has succeeded in turning his "clay-bed" into a good garden.—*Abel.*

SPIRÆA JAPONICA.

My object in writing this paper is not to call attention to the great beauty or usefulness of this plant, because on that score it is already universally known and appreciated, but I think it is not saying too much in its favour when I state that, during the long time it is in season, scarcely any kind of floral arrangement is carried out in which its light feathery sprays do not occupy a prominent position. Besides, its leaves are also most useful for mixing with cut-flowers, at a time of the year when well-seasoned Fern fronds are not very plentiful. This Spiræa is one of the easiest plants in cultivation to grow moderately well. Yet I am convinced that a little more attention bestowed on several important details of its culture would doubly repay the extra trouble by the immense superiority of the plants over those grown under ordinary conditions.

My intention is therefore to describe, as well as I can, the conditions under which the best plants I have seen were grown. The two cardinal points to be observed in the management of these plants are—(1) to start with large, well-ripened crowns, and (2) to give an abundance of water, and stimulating food during the growing season. As we have arrived at the period when all Spiræas in pots have started into growth, we will commence our special attention to to them at this stage. They are by no means particular as to the temperature in which they are grown doing well in cold pits, green-house or forcing-houses, but I have found from experience it is better not to subject them to a high temperature—higher than 60 degs., and one varying between 50 degs. and 60 degs., according to the weather, is the most suitable, but they will enjoy a rise of 15 degs. or 20 degs. in the day-time, during bright weather, with an abundance of air and plenty of atmospheric moisture.

I know of no structures more suited to their growth than vineries, from the time they are started till the gradual development of the Vine foliage necessitates the removal of the plants to houses that were started later. Watering, as I have before stated, is a most important operation in the cultivation of these moisture-loving Spiræas, and no ordinary methods of performing it is sufficient to produce the best results. When they have started into active growth they should have a good soaking once or twice daily, according to the weather, and by the time the flower-spikes are seen pushing up among the foliage the pots will be crammed with roots. Then unremitting attention with the water-pot, and constant feeding with liquid-manure, must be the order of the day. Do not allow them to get in the least dry at the roots, but water to prevent them from getting dry. I have frequently watered plants four times a day in bright weather. Liquid-manure should be given at one watering, every alternate day; and I have found nothing better for the purpose than that made from cow-manure, with an addition of a little soot.

As soon as the plants have done flowering, those that have been forced early should be placed in cold pits to harden off, but later in the season they can all be placed in the open air, where they should still be kept well supplied with water at the roots. When the flowering period of the whole stock that have been grown in pots is over, they should be planted out in ground specially prepared for their reception, by having it deeply dug, well manured, and worked into good friable condition. A border at the foot of a wall is a good place for them, as they are less liable to be injured by spring frosts in such a position. Before planting, the clump should be divided into pieces of various sizes, according to the sizes of the pots in which they are found most useful, making allowance for the size the pieces will grow to before being lifted. It is important to have them of the right size when potted up, because, if they have to be divided, it spoils the shape of the plants and sometimes results in the flower-spikes withering before they begin to expand. Small pieces with two or three crowns at planting-time will make nice clump for use in 4-in. pots, when the time for lifting arrives, which should be about eighteen months from the time of planting; those that are flowered in pots should have one season's rest before being used in that way again.

In planting, the crowns should be left slightly above the soil, so as to be exposed to the ripening influence of sun and air. Deep planting will never give satisfactory results with this plant. Neither should they be planted closely together, for they require plenty of room for their foliage to develop in order to produce good crowns. The best time for potting up the clump is November (when the foliage is dying down), using a compost of good loam, three parts, and one of well-rotted manure. They can then be placed in cold pits or plunged in ashes till wanted for starting into growth in a gentle heat, but house-grown Spiræas do not start readily into growth if taken into heat before the latter part of December or early in January.—*H. Dunkin, The Gardens, Longford Castle.*

HEPATICAS.

What with sharp frosts, cold winds and mists, occasionally alternated by warm sunny days, my Hepaticas, planted out under a wall having a west aspect, are having a rough time of it. But they flower away merrily, taking cold, fog, and sun in turn, though the combined influence of the three certainly impairs their beauty. I have but two varieties in the open air—the double red and the single blue—nice strong clumps, planted in a deep, rich loam, in a bed specially made up for them. They were here all last summer, with the sun shining down upon them, literally roasting the plants, but a layer of cocoa-fibre served to keep them cool to some extent; and though I had feared the worst, they have flowered freely, and are already sending up dense tufts of leaves. If the pretty Hepatica triloba was being introduced just now for the first time, hundreds would be wanting to grow it; but beautiful as the varieties are, they are now almost, if not quite, among the neglected plants, but, sad to say, in good company.

My choice varieties are in pots, in a cold frame. I have some strong plants of the double blue now

flowering gloriously; then there is the common single blue; Barlowi, pale mauve-purple; purpurea, deep purple; and the charming sky-blue angulosa. H. purpurea and Barlowi are quite distinct and pleasing, but for colour I like the old single blue; it is charming in tint, and very free. H. angulosa is a real beauty, so large, and of such a delicate shade. Of the red-flowered varieties I have the old double red, which, with the single blue, appears to be the commonest; the single red, bright and gold; its variety splendens, large, and rich in colour; and rosea, a variety I got from the Continent, of a distinct tint of pale red, and an admirable addition to this group. Then, of the white-flowered varieties, it is worthy of remark that there is no double form. I have what I regard as three distinct forms of the siugle white Hepatica. These are, a small-flowered white, with a green calyx; a large-flowered white, with a brown calyx; and a pale-tinted variety, known on the Continent as Lilacina: this also has a green calyx. They may be simply seed variations, as it is known that the single white will seed somewhat freely when well established in a suitable spot.

I think that more is to be done in the way of raising seedlings from single Hepaticas than is generally supposed. When they are grown in pots, it is perhaps a little difficult to get seed, as it would have to be watched, so that it may be gathered at the right time. I shall plant out one or two each of the single varieties, so that I may be able to get a few self-sown seedlings. It was suggested, not long since, in one of your contemporaries, that it is a good plan to place a little fine soil about the plants as soon as they go out of flower, so that when such of the seeds as are matured have dropped into it they may be able to germinate. I have a few seedlings from the single blue, and shall look forward with interest to the time when they are strong enough to flower.

Excepting in the case of plants that really need dividing, I do not care to re-pot my Hepaticas frequently. In re-potting, I use a good sandy, moist loam, some decayed cow-manure, and leaf-mould. I prefer rather deep pots, and not too wide. I place a piece of crock at the bottom, then over that a half-inch layer of cocoa-fibre, and pot firmly, placing the crowns as low in the soil as possible. The plants occupy a cold frame all the year round, and during the summer and autumn months invigorating showers are allowed to fall upon them frequently; and at this time of the year these winsome, spring-flowering plants amply repay any trouble and attention. They are so early, free, and pretty, that they should find a place in every garden where it is possible to grow them. I hope the foregoing remarks will do something in the way of calling attention to these beautiful subjects.—*R.D.*

VITIS PTEROPHORA.

This remarkable plant—which by the way has been hitherto cultivated under the erroneous name of V. gongylodes—is figured in the March number of *The Botanical Magazine.* In the Victoria House at Kew it has long been an object of interest, ou account of its handsome appearance and singular habits. It is planted in a border and climbs up to the roof of the house, the handsome red and green winged-branches being trained from girder to girder. The long whipcord-like red roots are sent down in search of nutriment, and when they reach the Victoria tank, as some of them do, they branch out into a bunch of rootlets, like a brush.

The plant has a remarkable method of self-propagation, which is perhaps unique in the vegetable kingdom. In the autumn, when growth ceases for the season, a number of elongated stem-tubers are produced, which when mature fall to the ground, and produce new plants in the following year. This elongated tuber is simply a portion of the end of the branch, some four to six inches long, which swells to the thickness of an inch, by the storage of starch and other nutritious matter. Sometimes one long internode only swells, but at other times two short ones, iu which case there is a strong constriction at the node. When this thickening is completed, the portion of stem below it dies away, thus cutting off the supplies and causing the tuber to shift for itself. It however soon solves the problem, if it falls in a suitable place, by pushing out a shoot and thus becoming a new plant.

The tendrils, too, have a singular economy. They are repeatedly forked, and when the tips reach a place of support the small adhesive disc enlarges greatly, clasps the support, and secretes a viscid substance, which glues it to its support. It is a native of Brazil, and flowers in the autumn months. A plant at Cambridge produced fruit sparingly, which, however, did not ripen.

NOTES FROM GARDENS.

Stratton-Strawless is a parish seven and a half miles from Norwich, containing about 1,583 acres of land, including an open heath of 341 acres, and the whole of which belongs to different members of the Marsham family. The Hall, with very much of its surroundings, belongs to C. R. Marsham, Esq., and is a fine large white brick mansion standing in a well wooded park facing the high road from Norwich to Cromer. It is asserted that this manor has been in the Marsham family since the time of Edward the First, and during the 600 years that have elapsed since Longshanks was king there has been a continual succession of heirs in the male line to this fine and extensive estate. Several members of the family have been mayors of Norwich in bygone generations, and one represented that city in Parliament about the middle of the 16th century. In the ancient parish church there is a recumbent effigy in black marble of a man in armour, which is believed to represent the last Sir Ralph de Stratton, who died in or about 1250, when the Marshams—most probably of Marsham—established themselves here. There are also some very fine white marble monuments to the memory of succeeding owners of Stratton-Strawless. But for the present we are more interested in the extensive surroundings of this ancient place, which is noted for its extensive plantations of noble trees. We had heard much of the fine Cedar of Lebanon, which is spoken of as the finest in this neighbourhood, and to see it, it was a pleasure indeed, to proceed through the miles—yes, miles—of woodland walks, skirted with Laurels and Rhododendrons 8 ft. high, and as dense as a good hedge, with Mr. Fiddy, the gardener, who has been here forty-two years. It is a noble specimen, standing alone, but screened all round with other trees of large dimensions. It has a straight bole about 45 ft. high before branching—a veritable standard—but it has not a large head considering the size of the bole. We ran a tape round the stem at 1 ft. from the ground and found the measurement to be 18 ft. 3 ins., and at 3 ft. high the circumference was 16 ft. There are also here hundreds of Silver Firs (Picea pectinata) with trunks about 60 ft. high before branching, and showing no marks of where the branches had been. One of them, at 3 ft. from the ground, measured 8 ft. 8 ins., and another was 10 ft. 6 ins., and these were not picked trees, for there are plenty of them growing among Oaks, as well as Scotch Firs, showing the same clean free growth.

An old oak that had decayed in the centre has had its top cut off at about 8 ft. from the ground, and thatched over. It is open on one side, and four persons can sit inside it, very comfortably sheltered from the weather. Its girth, 1 ft. high, was 18 ft. 10 ins. There is a very fine Oak avenue on the south side of the mansion, which extends for a long distance through the park, and such Oaks as we seldom see. One of them measured 15 ft. in circumference at 3 ft. high, and was not a picked tree either. A piece of ornamental water, some 10 acres, extends in a serpentine line from near the hall to some distance through the ornamental grounds, and is crossed at various points by rustic bridges, and at one point is spanned by a very substantial bridge of three arches. Near to this water are some thousands of Rhododendrons, in vigorus health, such as we had not seen anywhere else in the county of Norfolk. Many years ago a Swiss gardener was employed here, and he has left many traces of his art in different parts of this extensive place.

There are many snug little summer-houses dotted about the plantations, and in one of them there is a painted board fixed high up over the seat, which has probably been there over eighty years, and which gives a clue to that particular occupier of the place who made it famous by planting all these Pine trees about 150 years ago. The following is a copy of the inscription:—

ADDRESS
To the Stratton Oaks, planted by the late Robert Marsham,
Who died in 1797.
Written at the request of his daughter-in-law, Sophia Marsham,
By Richard Paul Jodrell.

Blest be these hallowed haunts in Sylvan bower,
For ever sacred to a Marsham's name;
He, nature's genuine son in vernal prime,
First reared these tender plants with fostering hand;
And many a year, by artificial skill
Before unknown, increased their genial glow,
Until their lofty heads have towered high.
But now, alas! the venerable sire,
Silvered by age and in his ninetieth year,
Has paid that debt which short-liv'd man must pay.
While you his Oaks, tho' dropping annual tears
To wail your parent's loss, shall flourish still
In pride immortal by the Muse's hand.
This, nor the human axe, nor nature's storms,
Nor time, that general conqueror, can destroy.

Besides the trees we have mentioned, there are some splendid Beeches, one of which, at 3 ft. high, measures 17 ft. 6 ins. in circumference. It has huge branches, extending from its bole, all around it. We measured one of the arms, which was 55 ft. long, and at 45 ft. from the bole it measured 3 ft. 10 ins. in girth. Long may this venerable giant live and extend itself; it is still in perfect health. In the dressed grounds near the hall there is a flourishing Weymouth Pine 20 ft. high, well furnished to the ground; also a Wellingtonia 50 ft. high, the healthiest and best-furnished tree of its kind I have seen anywhere, and my acquaintance with both these trees is not a very limited one. Both of these specimens were planted by Mr. Fiddy, when they were quite small, something over twenty years ago. I noted also a very healthy Araucaria imbricata, furnished to the ground, the Cork Tree (Quercus Suber), and many other noble trees of different kinds, too numerous to mention here. I shall long remember with pleasure my walk through the famous Stratton-Strawless plantations.—*T. Wynne, March* 17.—[We regret to add that since the above was written, Mr C. R. Marsham has joined the great majority.—*Ed.*]

A WORD TO SUBURBAN AMATEURS.

Do not expect that flowers will grow well year after year in the same beds and the same soil without fresh manure or other plant-food. Where the soil is old and sour try to change it if you can do so. A couple of cartloads of fresh turfy loam, or even a bushel or two of freshly slaked lime will make a wonderful difference, and well repay for the outlay by giving abundance of rich, healthy foliage and magnificent flowers, such as need never be looked for from beds of poor hungry soil. Where the soil is fairly rich a liberal dressing of good guano or of finely-ground bones will prove acceptable to the growing plants. The bones may be dug in before planting the beds, and their effects will be noticeable for several seasons. Never be afraid to dig the soil deeply, so long as you do not bring up a bad sub-soil. In planting out spring-flowering plants now—a thing that would have been better done last autumn—work the soil fine, press the roots firmly in, and give one watering, just enough to moisten all the soil. Do not water again till the soil is quite dry. If the plants flag cover them over with flower-pots or boxes for a day or two, unless the weather is mild aud rainy. Do not buy or plant out summer-bedding plants until all fear of cold weather is past, unless you wish to lose them again in a few days. Never apply water to established plants, except in the middle of summer, till they fairly ask for it: there is more harm done by watering in early spring, when the weather is cold, than by any other process, and the April showers are sure to supply ample moisture. When you do water, always give abundance, do not just dribble it around the base of the plants, but soak the whole bed thoroughly, after that chip over all the surface-soil with the corner of a hoe or rake to let in the air. A good mulching of short dung all over the bed will save a lot of watering all the summer.—*Authentes.*

Hop-poles.—It is stated that hop-poles are unusually dear this spring, and consequently more attention is being paid in the hop-producing counties to the combined wire and string system. This plan is very general in Mid and East Kent, and will be tried on an extensive scale in the ensuing season in the counties of Worcester and Hereford.

The Amateurs' Garden.

THE GREENHOUSE.

All fire-heat may now be dispensed with, as at this late season we are not likely to get frost sufficiently severe to injure the plants. As most of these will soon be starting to make their summer growth, it is a good time for potting them, and it should be attended to at once. The most suitable soil for the majority of them is a mixture of equal parts of peat and loam, but Chrysanthemums, Fuchsias, Pelargoniums and others of that class do best in the latter, if a little leaf-mould and rotten manure be added. Although the generality of hard-wooded subjects are unsuitable for amateurs, Camellias are easily managed, and no house is complete without them, as they look well with their bright glossy foliage all the year, and come into bloom at a time when flowers are scarce. These being of most value during the winter, plants should be grown with a view to get them at that season, which may be done by placing the plants in heat now, and keeping them well syringed so as to assist them in forming their young shoots early and setting their buds, which they will then do long before they otherwise would.

A good effect is produced in a greenhouse by planting Camellias out and training them loosely against the wall, or letting them run at their will, as they form a most excellent background, and produce far more blossoms than they are capable of carrying when their roots are confined to the limited soil and area of a pot, where they soon get cramped for want of room, and assume a starved look in the leaf. In planting them out, see that they have plenty of drainage and good rough fresh-cut turfy loam for the border, and if the loam can be mixed with fibry peat, all the better, as the two suit the roots and keep the foliage rich and dark in its colour. As berries of Solanums will now be falling off, the plants should be pruned hard back and then stood in a frame to get them to break, preparatory to plunging or planting them out as soon as the weather is warmer. If an increase of stock is desired, cuttings may be made of the tops, which, if put in under a bell-glass, strike freely on a back-shelf in the shade.

To keep the house gay during the summer, there are many things that may be raised from seed, chief among which are Balsams, Celosias, Petunias, Schizanthus, and Browallia elata, and for coming in next winter, Primulas and Cinerarias must not be forgotten. To get all or any of these to germinate, a little warmth is necessary, and much help may be afforded by having a pane of glass over the pot they are in.

PITS AND FRAMES.

The season for bedding will soon be here, and plants required for turning out in May should now be gradually hardened by getting them out into any spare pits or frames, where, for a few days after their removal from the warm house, they ought to be kept close, that they may be gradually inured to the change, instead of the leaves suffering from the air coming fresh on them while they are tender. Although it is now getting late, cuttings of such things as Lobelia, Ageratum, Heliotrope, Verbena, Coleus, Iresine, and others of that class may still be taken off and struck, as the whole of them root rapidly, and quickly grow to a size large enough to make them useful for any purpose when wanted.

There are many things that make a grand show during the summer that may be raised from seed, chief among which are the double Zinnias, but as these are very tender it is better not to sow till the end of April, nor to put the plants out till the beginning of June. Asters, especially the pæony-flowered kinds, make a magnificent display, and should be sown at once in pans, and placed where there is a little heat, to get the plants up, after which they may be pricked out under hand-lights, to grow them on a bit, and get them well rooted, preparatory to planting them out in beds. Stocks, such as the scarlet and white Intermediate, and the Ten Week, are very desirable, and require the same treatment as that for the Asters, as do likewise the Phlox Drummondi and Dianthus Heddewiggi, both of which should be grown. All the hardier sorts may be sown where they are to stand, and be thinned out after the plants are up, as they do best without transplanting.

As frames will be set at liberty in a month or so, it is only wise to be prepared with plants of Melons and Cucumbers by that time, that they may be turned out then and set to work at once, as at that season they will only need a little bottom-heat just to start them, for what warmth they require after may be had from the sun by opening the lights late in the morning, and closing early in the afternoon, so as to bottle it in. The same treatment will help any plants that are now planted out and growing, but to keep up the right temperature a dung-lining will be necessary, if the heat declines, or growth will be slow.

BEDS AND BORDERS.

It often happens that evergreen shrubs in villa and other small gardens become overcrowded and encroach on the flower-borders or lawn through having been planted too thick, in which case they may now be moved with safety or pruned back, for, however hard they may be cut in at this season, they will soon break again and become refurnished with shoots, as all they require to induce them to start their dormant buds, or force them to make others, is full light and air on the wood. In transplanting, the thing is to lift with good balls of earth, which may be done by digging well round the plants and working the soil carefully from among the roots till the bulk is reduced to fair limits, when the plants may be transferred from one position to another without feeling much check. To save loss of time, before they are got in again, the holes for them should be prepared before they are taken up, as then they are not out of the ground long, but may be got in quickly, which prevents loss of sap and flagging of the foliage, and the plants are then able to re-establish themselves in a very few weeks.

To assist them in doing this a heavy watering should be given, and with sufficient force to wash the soil in amongst the roots, where it finds its way quickly if the heads of the shrubs are swayed to and fro, as they ought to be before the holes are quite filled, but it is necessary for them to be held very steady after, which may be done by driving a stout stake in the ground and tying the stems thereto. The next important matter is to mulch round them with some half-rotten manure, which will keep the ground about the roots in a uniform condition and enable the plants to get fresh hold speedily and render them able to take care of themselves. Besides the transplanting and pruning of shrubs it is also the proper season for clipping Ivy on walls or buildings, and when done thus early every leaf may be shaven off, as it quickly breaks again and becomes re-clothed with young foliage, which will look bright and green all the year.

Beds ought now to be gay with Pansies, Forget-me-Nots, Arabis, Daisies, Primroses, and Hyacinths; or any of them, except the latter, may still be planted if lifted with good balls, and herbaceous plants of all kinds divided and transplanted, and seeds of hardy annuals and perennials sown. Among the last-named none are more valuable than Anemone coronaria, which, if sown now on a warm sunny border, in light, rich soil, will flower nearly the whole of next winter, and last on late into the following spring, and be of great service for cutting from. The seed may either be scattered broadcast or put in in drills a foot apart, but it should only be covered very lightly with fine mould, or it will not find its way through. Grass on lawns is now growing very fast, and ought not to be left to get long and rough, as nothing spoils the bottom so quickly, but rolled down and have the mowing machine over it at once, taking care, before doing so, to see that there are no stones about to injure the knives.

THE FRUIT GARDEN.

The weather during the whole of March has been exceedingly favourable for retarding the buds, which have been well kept back by the cold and absence of sun, and the season promises to be an unusually fruitful one, as there is little fear of the blossoms of hardy trees taking much harm at the late period they will be open, except it may be those of Apricots and Peaches on walls, which should be protected by having cheap thick canvas or other covering let down over them by night, and removed again in the morning, that the flowers may have the benefit of full light and air, which agents are essential to get a free set.

To keep the wind from dashing the protecting material about and causing it to chafe and damage the bloom, stakes or rails should be placed behind to hold it away from the wall. Although the cold and drought have been favourable in the way referred to, the arid state of the atmosphere has been trying for all fresh-planted trees, all of which ought to be mulched by having half-rotten dung or other littery matter laid round them, to prevent escape of moisture from the soil and encourage the formation of roots.

Beds of Strawberries will now require attention, and as plants of these form fresh annual feeders round the crowns, it is a good plan during the process of hoeing and cleaning to draw some soil up to the clumps or rows, which will strengthen the plants very materially and assist them to throw up bold spikes of bloom. It is a good plan also, after the earthing up is done, to litter the beds down with long stable-manure, which will be washed clean and sweet long before the fruit is ripe, and up to that time will keep the ground moist, which is the great secret in growing fine Strawberries.

Rhubarb plants may now be increased to almost any extent by dividing the crowns, as all pieces with single eyes will grow; but to get the sticks large, the land where the roots are to be planted must be heavily manured, and deeply dug, as the plants feed far about. A good way is to make large deep holes, 4 ft. apart, and manure and plant in them, the best kinds to grow being Hawk's Champagne, and Victoria, the latter of which attains a great size.

If the temperature of the house for Vines has been kept up by early closing, as advised, they will by this time be growing fast, and should be aided in this onward movement by syringing every afternoon when the weather is sunny and warm. As soon as it can be seen which shoots are showing fruit, most of the others may at once be rubbed out, as one to every foot or so along each side of the rod is plenty, it being useless to have more than there is room for to give the foliage free scope. The proper distance at which to stop the shoots is one or two joints above the bunch, according to the distance the Vines are apart, and whether there are plants standing below them that need light.

THE VEGETABLE GARDEN.

It will now be a busy time in the vegetable garden, as, besides the ordinary digging of all spare and vacant land preparatory to cropping, much seed-sowing has to be done; and a border should be got ready at once on which to make the beds, as it is better to have the whole together, that they may the more readily be protected from birds, which, if not kept off by some means, are very destructive, pulling up the tiny plants just as they emerge through the soil. This may be prevented by netting the beds over, or covering the seeds with red lead, which is a capital plan, as they are safe then, and there is little trouble in doing it, as all that is necessary is to just moisten them in a saucer or pan with a little milk, and dust the lead over, when it will adhere and remain on till the seeds germinate.

The kind of seeds to be got in now are all those of the Brassicas required for supplying vegetables during the summer, winter, and following spring, which are Cauliflower, Brussels Sprouts, Chou de Burghley, Kale, and several kinds of Broccoli, to come in early and late, besides Lettuce, Radishes, Carrots, Turnips, Spinach, and Beans and Peas for succession. The way to grow Broad Beans and Peas is to sow the rows wide apart, and plant some low crop between; and the same with Potatos, which should not be nearer than 4 ft., a distance that will afford space for planting a line of Broccoli, Brussels Sprouts, or any of the winter Greens midway; by following which plan double the produce is obtained from the ground, as the yield of Potatos, with so much light and air for the haulm, is something enormous. It is full early yet for planting French Beans, but those who have a warm, sunny spot may get in a few, and the same with Scarlet Runners, which are the hardier of the two; and as they transplant so readily, it is

a good way to be early with them to sow in boxes or small pots, in frames, and plant out in May.

Ridge Cucumbers and Vegetable Marrows should now be sown, and grown on in a little heat; also Tomatos, which are now so much in favour, they come in for so many purposes in the kitchen, and are so easily cultivated, all they require being a hot position near a wall or fence, where they can have their branches tacked up, in which positions they fruit freely if the plants get a soaking of water now and then to help them to set their blossoms, which fall if they become dry at the roots.

LÆLIA ANCEPS AND ITS VARIETIES.

So numerous have the beautiful varieties of this species become, so useful are they as winter and spring flowers, and so much are they appreciated by Orchid growers, that the day seems to be not far distant when in large collections a special house will be devoted to them and to the other pretty Mexican Lælias requiring similar treatment. This season they have been specially fine in most places, but in the rich collection of Baron Schroder at The Dell, Egham, they have been superb, and through the kindness of the Baron, we are enabled to give engravings of a very distinct set of them, some of which we here produce, the others being retained for a future issue.

Lælia anceps (fig. 1).—The original type with its warm rose petals and crimson lip, is a great beauty, and is, moreover, interesting for several reasons. It was received by Messrs. Loddiges from Mexico, and flowered with them in December, 1835, and was figured and described in *The Botanical Register*, Tab. 1751, 1836. Later on in *The Botanical Magazine*, Tab. 3804, 1841, it is figured and mentioned as being received from His Grace the Duke of Bedford, at

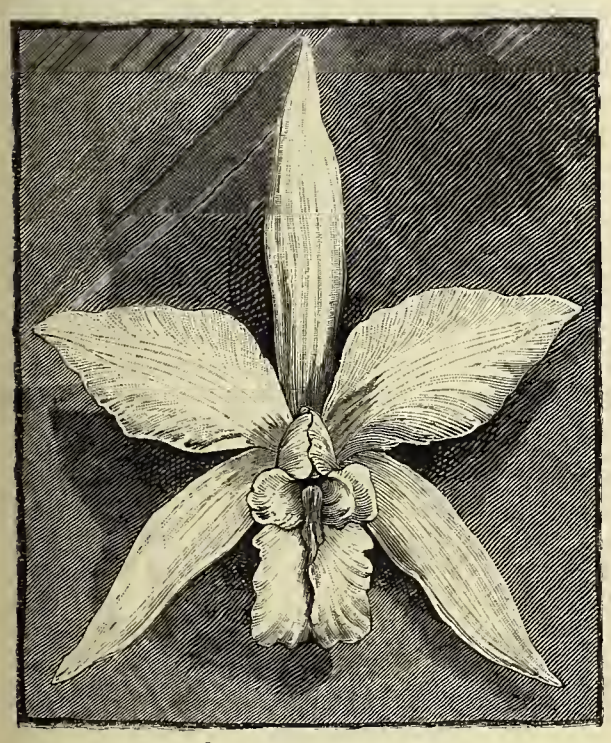

FIG. 2. LÆLIA ANCEPS ALBA.

Woburn Abbey, who got it from Mr. Parkinson in Mexico. At the same time, Mr. Donald Beaton, then with Mr. Harris of Kingsbury, in one of the earliest notes on cool Orchids calls attention to it as adapted for culture in a very low temperature. Mr. Beaton said that in September, 1840, he received some plants of L. anceps, which he placed on shelves on damp moss in a seedroom ranging between 35 degs. and 40 degs. In December, fearing to risk all, he removed a portion to the coolest end of an Orchid-house, but later on he found that those which had been left in the cold seedroom were in the best condition. Afterwards, in March, the plants were placed in a brisk heat, and they throve and ultimately flowered well. Mr. Beaton, in his interesting note, also enumerates other Orchids which he found to thrive well as low as 40 degs. or 45 degs. in winter.

My own opinion is that, as we now have our Orchid-houses arranged, the cold-house is too damp for the varieties of L. anceps, and that for this reason, and also for the purpose of their being assisted in bringing their flowers to perfection at the dull season when

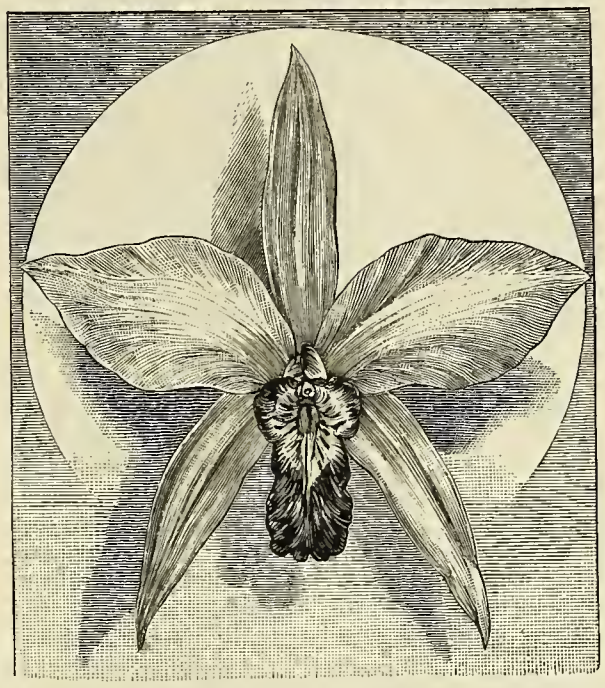

FIG. 1. LÆLIA ANCEPS.

they are produced, the cool end of the Cattleya-house is by far the best for them, unless some bright, light, airy cool-house, a little drier than the Odontoglossum-house, can be made available for them. If kept cold and dry they will stand a very low temperature and only be retarded in their flowering, but if kept cold and damp they run great risk of losing the flower altogether.

Lælia anceps alba (fig. 2).—The enterprise of importers has introduced many beautiful forms to us of late years, but this pure white variety, without mark of colour of any kind, is certainly one of the most lovely, and, as in the case of all pure white flowers, it is a first favourite.

Lælia anceps Schroderiana.—This new variety has not yet flowered in this country, but its growth is very remarkable and distinct. The long pseudo bulbs almost resemble those of a Schomburgkia, and the leafage is very stout. The sepals and petals are described as being of the purest white; lip orange at the base, the showy portion being crimson, purple, and rose. It is said to bid fair to rival the famed L. a. Dawsoni.

Lælia anceps leucosticta.—A very pretty variety, with rose sepals and petals, having whitish veinings and markings, the lip being as in the old L. anceps.

Lælia anceps Williamsii (fig. 3).—This will always be a standard variety, the pure white sepals and petals being of the best form, and the whole flower of great substance. There is no rose tint in it, and the black lines in the labellum serve well to show up the spotless white of the floral segments.

Lælia anceps blanda.—A pretty variety, sepals and petals white, with a rose hue, the middle nerves of the sepals being of the palest green; lip warm purple, the angles of the side lacinia being rosy with rows of purple dots.—*James O'Brien.*

(*To be continued.*)

THE BULB SHOW AT HAARLEM.

From the 20th to the 24th inst., there has been held at Haarlem (the very centre of bulb-culture) in Holland, the largest and most varied exhibition of bulbous plants ever brought together, to celebrate the establishment of a quinquennial exhibition of these popular flowers, under the auspices of the General Society of Bulb Culture, which has been in existence for many years. Hitherto the annual meetings have taken place in Haarlem and the villages around on a small scale, and certainly if this one is the precursor of the future Shows it will prove a most attractive and interesting feature in horticulture.

The various exhibits included Hyacinths, Tulips, Narcissus, Crocus, Scillas, Fritillarias, Helebores, Connallaria, Hotcia, Hepatica, Trillium, Amaryllis, Imantophyllum, Lachenalia, Cyclamen, &c., in fact every genera were represented that are generally known as bulbous or tuberous-rooted plants. The whole occupied the large hall with galleries and annexes of the largest public building in Haarlem, and some idea may be gleaned of the extent of the Show by the fact that at least 8,000 Hyacinths, and nearly as many Tulips were staged. The blooms were generally greatly superior to those usually met with in Holland, so far as regards the Hyacinth, and although but few novelties were exhibited, the fine varieties which are now seen at our own Shows were abundantly represented, but to enumerate the sorts would simply be to repeat those which may be noted in every bulb catalogue.

There was but one feeling of regret amongst the Executive—that so few Englishmen had availed themselves of such an excellent opportunity of seeing what can be done in the home of bulbs, and certainly those who did see them came away with much satisfaction, feeling that never had there been such a grand display of this beautiful and easily cultivated class of plants.

There were some 180 classes for which prizes were offered, and there were but few blanks, the value being between £500 and £600. The arrangement was very artistic, the Hyacinths and Tulips being arranged on stages erected round the sides and end of the hall—not in straight lines, but in easy curves—the pots being hidden with moss, other rows, some six deep, sloping upwards. It is surprising how very small the pots are, comparatively to what our exhibitors use, and this applies not only to Hyacinths, but the

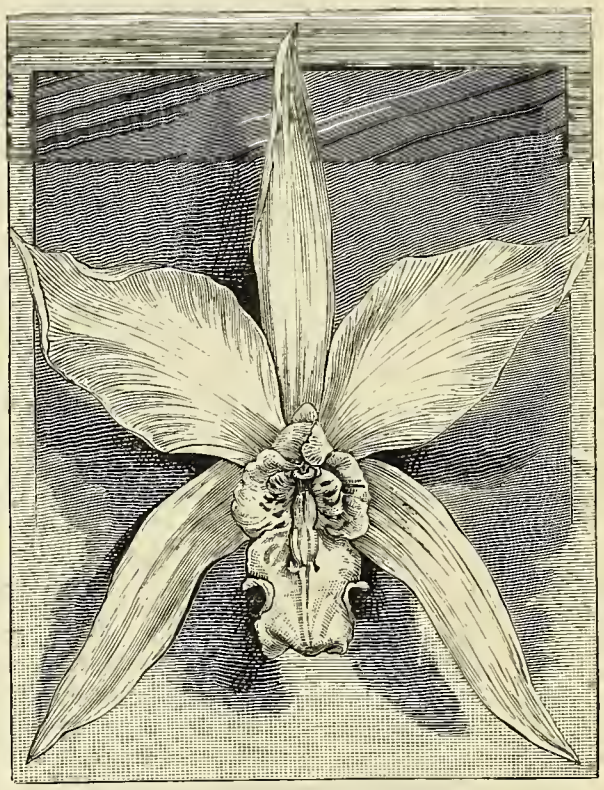

FIG. 3. LÆLIA ANCEPS WILLIAMSII.

other plants shown. At the end of the room was placed the Amaryllis, and on the raised alcove Tulips, &c. The floor being laid out with turf as a garden, and groups of Narcissus, Spiræa, Hepatica, Tulips, Hyacinths, six and ten in a pan of a sort, Moutan Pæonies, Crocus, Scillas, Imantophyllum, with a few Palms, Dracænas, &c., in the centres, formed a most pleasing and picturesque scene as viewed from the galleries.

Our Villages.—Mr. Bailey Denton's article on "Our Villages; Labourers' Dwellings and Allotment of Gardens," which appeared recently in *The Agricultural Gazette*, has been printed in pamphlet form. In this handy shape it will be useful for reference to anyone interested in this important subject, and the improvements advocated by the author.

FRUITS.

Fruit Culture under Glass.—Pines: The first favourable opportunity that presents itself in the way of a few bright warm days should be taken advantage of to complete the top-dressing, potting, and arranging of the Pines in their various stages of growth for the next four months. The fruiting-plants will first require attention. These should be taken out of their winter quarters and have between one and two inches of the surface-soil and a few of the bottom leaves removed, the former with the assistance of a pointed Oak or Yew-stick, working it rather deeper round the edge of the pots; then remove carefully any suckers that may be attached to the plants and top-dress with rough sandy loam (which has been cut and stacked some six or twelve months), and Beeson's Manure at the rate of 3 lbs. to a bushel of loam. Ram the same (which should be moderately dry) with a wooden rammer about 2 ins. in diameter as the work proceeds. The next step to be taken after the fruiters have been plunged, is to select and put into their fruiting-pots (10 or 12-inch) the number required to fill the house, of plants for fruiting next autumn and winter.

Potting Pines.—Before beginning this operation, a good supply of crocks of various sizes should be got in readiness for placing 2 ins. or 3 ins. deep in each pot, beginning with those of the largest size and finishing with the smallest. Over all give a good dusting of fresh soot, which will keep the worms from getting into the pots, and a few pieces of turves, grass side down. Thus crocked, there need be no fear of the pots becoming water-logged or the plants suffering through imperfect drainage. Then turn the plants carefully out of the pots, remove the drainage and a few of the lower leaves, and loosen the surface and sides of the ball of earth and roots with a pointed stick, remove any soil not permeated with roots, and pot in a compost, consisting of the best fibry, sandy loam that can be obtained, small charcoal, crushed bones, and fresh soot at the rate of a 10-inch potful of each ingredient to a barrowful of the loam well mixed. The plants should be let down to the bottom leaves in potting, the soil be rammed firmly round the roots with flat and round rammers as the space admits, taking care that the plants are made firm about the collar. Over-potting should be avoided, but I consider a space of 1 in. or 2 ins. between the ball of the plant and the pot not too much space to give healthy plants. In potting suckers, it will be necessary to remove a few of the bottom leaves, so that the roots coiled round the stem under the leaves may push more readily into the soil, and to cut about half-an-inch off the base of each sucker with a sharp knife before being potted.

Plunging the Pots.—The beds of spent tan or leaves having in the meantime been removed, fresh plunging material supplied, and the same well trodden together, the brick and plaster work of the interior of the Pine-houses and pits washed with hot lime, and the wood-work and glass with warm water, plunge the pots to the rim in the bed—the fruiting plants at from 2 ft. to 2 ft. 6 ins. from centre to centre, giving the smaller plants space in proportion to their size, and keep the heads of the plants within an inch or two of the glass. If the Pine-house be a lean-to facing due south, of course the tallest and most robust growing plants should be put in the back, and each succeeding row downwards; but if it is a span-roofed house, with a bed in the middle running north and south, with hot-water pipes for supplying bottom-heat, the largest plants should occupy the central position, the next size being placed in rows on either side. As soon as the plants have been plunged, they should be supplied with clear tepid water at the roots, and (except the fruiters) be shaded from bright sunshine until the roots have pushed into the new soil, and subsequently when the sun becomes more powerful in its action for a few hours during the hottest part of the day for a few months. In order to

Keep the Fruits upright, two sticks (which should be run through a clear fire a few times before being used) should be placed firmly in the soil—one on each side of the plant—and the fruit secured thereto by two sets of ties of strong string fastened above and below the fruit, the top-ties being fixed in a downward notch in the sticks at an angle of about 30 degs. from the top of the fruit to allow of the latter growing erect without being hampered.

Temperature and Atmospheric Moisture.—The fruiting plants should have a night temperature of 70 degs. to 75 degs., and 5 degs. more in the day-time, by fire-heat, running it up to 85 degs. with sun-heat and air, which should be admitted when the thermometer registers 80 degs., and a bottom-heat of 85 degs. to 90 degs. should be aimed at. Give successional plants a night temperature of 65 degs. to 70 degs., with 5 degs. more by day and fire-heat and 10 degs. higher with sun-heat. Five degs. less of heat will do for young plants. Damp the plunging material and the pathway every morning, and again at closing time (about three o'clock in the afternoon) when the plants should also be damped lightly overhead, and the temperature run up to 90 degs.—95 degs. will be none too high for plants swelling their fruit.—*H. W. Ward, Longford Castle, Wilts.*

Late Apples.—A few good late varieties of Apples were shown at the meeting of the Fruit Committee on Tuesday, perhaps the most remarkable of all being Peck's Pleasant. This is a large round Apple with a pale green skin, and of first quality, and which has the reputation of retaining its foliage on the tree longer than any other variety; its exhibitor, Mr. C. Ross, gardener to C. Eyre, Esq., Welford Park, Newbury, stating that the leaves are still quite green, though on two occasions 12 degs. of frost have been experienced at Welford. Dr. Bull, of Hereford, sent some well-coloured samples of the Herefordshire Beefing, a variety in size and colour resembling the Devonshire Quarrenden, and which has a local reputation of being a great bearer. Mr. Ford, gardener to W. E. Hubbard, Esq., Leonardslee, Horsham, sent samples of Mincing Pippin, a good, medium-sized round Apple, streaked with crimson on the sunny side; and the Bessom Apple, a large, somewhat conical-shaped variety, green, with large patches of russet, and, like the first-named, of good quality. The Mincing Apple has usually been classed as a mid-season variety, but it certainly has strong claims to be considered as a late keeper.

Pine Apples Turning Black.—The cause of "T. J.'s" Pines going black in the middle (see p. 462) is to be attributed to a want of healthy root-action, and to the fact that the fruits were grown in an atmosphere much too low and humid. In short, owing to the bad condition of the roots there has not been sufficient sustaining communication between the latter and the plant, consequently as soon as the sap which was stored up in the tissues of the stem and leaves of the plant became exhausted the fruit ceased to swell, and the stem supporting the fruit, and through which the food necessary to the development of the latter is conveyed, became dried up and discoloured inside from its base to the point of contact with the crown. If fruiting Pine plants are in good condition at the roots—which would also mean that the latter only had water, and sufficient of it, to moisten the soil in which they are growing—and are given a night temperature of 70 degs., and 5 degs. higher by day with fire-heat, there need be no fear of the fruit being black in the middle. For further information see remarks under the heading, "Fruit Culture under Glass," in the previous column.—*H. W. W.*

In answer to "T. J.'s" inquiries respecting black-heartedness in Pines, I may mention that it frequently results from a check or chill caused by cold draughts, or low temperature in the atmosphere or bed; but it may also be occasioned by the maintenance of an excessively moisture-laden, sluggish atmosphere, a pasty sodden condition of the soil overcharged with liquid manure, or too dense shading. Your correspondent does not appear to possess good facilities for growing Pines, and he will not be successful if they are overshadowed with a close canopy of Vine foliage, for although they are benefited from having bright summer sunshine subdued by some thin material, they are very impatient of any kind of permanent shade. He rightly considers the soil he uses unsuitable, that which the Pine revels in is a fibrous loam, neither too heavy nor too light, and having the fine particles beaten from it, and then mixed with a dash of bone-meal, and soot, and firmly rammed down. If "T. J." has no other soil at command than that which he describes, I would advise him to employ pots a size less than those usually made use of, thoroughly drain them and mix a free sprinkling of charcoal with the soil, this will assist in keeping it open and sweet, as well as retain the essence of liquid manure when used.—*Thomas Coomber, Hendre Gardens, Monmouth.*

FLOWERS.

Seasonable Work in the Plant-houses.—Pelargoniums: The early varieties will now be coming into flower, and it is at this period that they require the greatest care in watering, nothing causes the flowers to fall so quickly as allowing the plants to become too dry in the pots. A little fire-heat is beneficial, especially if we get dull, damp weather, but plenty of air should be given, and as soon as the weather becomes a little warmer a little air should be left on at night. While it is necessary to shut the houses close at night care must be taken that they are open before the sun is on in the morning; if the houses are kept closed too late the damp will rise and settle on the edge of the flowers, and cause them to stain. Allowing the houses to become too hot before they are opened will also cause the flowers to fall prematurely. A slight shading during the hottest part of the day is advisable, though, if the watering is properly attended to, this is not necessary, and, if plants are to be kept dwarf and bushy, the less shade they have the better.

Pot-Roses will require attention, both the Teas that are for cutting from, or H. P's. that are to be used as pot-plants should have plenty of room, so that the air can circulate well among them, and the latter should be kept as close to the glass as convenience will allow. The syringe must be kept well in use to keep off red spider, and if mildew should make its appearance sulphur must be applied at once. In any case, where the mildew is very troublesome, it will be a good plan to shut the house up while the sun is well on it, and syringe with sulphur mixed with water. If the water is hard it will be difficult to get the sulphur to mix properly, in which case a little soft soap may be used, and only put enough water to make a paste of the sulphur before putting it into the bulk of water. Another great enemy to Rose-growers is the Rose-maggot (larvæ of Tortrix Bergmanniana). The only way to keep this down is to keep a close watch, and catch them before they have had time to do much mischief; they generally make their first appearance on the leaves, which is indicated by the leaflets being drawn together or curled up; if not caught at this stage they will soon find their way to the flower-buds, which they quickly destroy.

Herbaceous Calceolarias.—These will soon be coming into flower, and to keep them in good condition, with clean, healthy foliage, the pots should stand on a moist bottom, in as cool a position as is available, and a little weak liquid manure given, say twice a week. The green-fly must also be kept in check by fumigation.

New Tea Roses.—Mr. Henry Bennett, of Shepperton, exhibited two new hybrid Tea Roses, at South Kensington, on Tuesday, and the Floral Committee awarded him First-Class Certificates for both. The best of the two, to our fancy is the quaintly-named Ye Primrose Dame, a globular-shaped flower, with broad well-rounded petals, of a shade of pale yellow that we cannot name, and the centre of the blooms of a pleasing rich deep Apricot colour. It is a very free bloomer, and deliciously fragrant. The second one, General Gordon, is also a flower of great promise, larger, but not so compact as Ye Primrose Dame, and pure white. They are both good growers, and give promise of proving valuable acquisitions for pot-culture.

Mignonette in Pots.—Having been remarkably successful in growing single plants of Mignonette in pots during the past two years, and knowing how many there are who are anxious to cultivate

it well, I send you a note on my mode of treatment. In the first week of March I make a sowing of Miles' Hybrid Spiral, and when the plants are strong enough, I prick them off into 60-sized pots, afterwards shifting them into 48-sized, in which, after being stopped three or four times, they make nice little flowering plants by the beginning of June, and last good till the end of July. When going out of bloom, I cut them back and put them into 24-sized pots in the beginning of August, they start into growth and are again in flower by the end of September, lasting good to the middle of November, and averaging about thirty spikes of bloom each. At the end of November I again cut the plants back and put them into 16-sized pots with the same good results, for by the end of February they are again in bloom, making beautiful plants with about sixty spikes of bloom, and averaging about 18 ins. across. The plants are grown in an ordinary cold greenhouse, and at each potting I use turfy loam and leaf-mould mixing with it some of Clay's Fertilizer at the rate of a 48-sized potful to a barrowful of compost. To the use of this excellent manure I attribute my success in a great measure, its effects being truly wonderful on all plants; I never yet used it on a plant either mixed with the soil used in potting, or afterwards for top-dressing, which did not at once show how well it liked it. The action of this manure seems to be natural and lasting, not quickly passing away, as do some manures. I shall be glad to know if any of your correspondents have had any such experience with Mignonette.—*F. King, The Gardens, Kenten Grange.*

Lapageria rosea.—Will a fellow enthusiast in out-door gardening give me some advice? I have a plant of L. rosea which has been against a south wall three or four years, protected in winter only with a length of tiffany dropped over it. It has flowered in the winters 1883-4 and 1884-5. There are now seven runners to it of different ages. It would make four or five in one season, only snails attack it against all defences; and, having straw laid loosely at the foot, this winter it has already started two shoots, both, however, attacked by snails. Should these, and all or some of the old leaders be cut to the ground, or reduced in length? Would some tan-bark laid over the roots keep it moist in summer, if well supplied with water once a week?—*C. E., S. Devon.*

Clematis indivisa lobata.—It is surprising to me that this beautiful conservatory or green-house climber is not more generally met with than it is, flowering as it does between Christmas and March, and its beautiful white blossoms, fit, as they are, for the most refined decorations. There are some handsome-trained specimens of pyramid form, 2 to 3 ft. in height, and a little less through them, now in flower in the conservatory of Messrs. Keynes, Williams & Co., of Salisbury. The plant in question is also well adapted for training up pillars, and over the roofs of conservatories and green-houses in light situations.—*C. Warden.*

Primula spectabilis.—One might truly enough term this a red form of P. nivea, the Snowy Primrose, only it is not so free, nor does it produce such large trusses of flower. In character of foliage and habit of growth they much resemble each other, and they flower at the same time. There is quite a group of these dwarf, tufted, hardy Primroses that flower at the same time, viz., P. helvetica, pale purple; P. ciliata, pale rose; P. marginata, pale greyish-mauve; P. nivea, with its clusters of charming white flowers; P. piedmontana, pink; and P. intermedia, deep rosy-purple. All these can be grown in pots in a cold frame, and coming in together, make a pretty display, when they are of great value. P. ciliata purpurea, and P. ciliata coccinea, both charming varieties, are later, and not yet showing their flowers. Another group can be made up of P. viscosa, P. Balbisii, P. carniolica, P. calycina, P. Wulfeniana, to flower later still.—*Quo.*

Cereus C. M. Hovey.—This beautiful member of the Cactus family is figured in the February number of the *Illustration Horticole.* It is a variety of the well-known Cereus speciosissimus, but said to be dwarfer, less spiny, and with smaller but more brightly-coloured flowers. These latter are rich crimson and beautifully shot with violet. It was raised from seed by one of the American horticulturists. The genus Cereus comprises some two hundred grotesque and beautiful species, and is diffused through the drier parts of Tropical America.

New Amaryllis.—Messrs. James Veitch & Sons. exhibited a dozen seedling varieties of Amaryllis on Tuesday before the Floral Committee, the quality of which was so fine that a Silver Gilt Banksian Medal was awarded to the group, and three were selected for First-Class Certificates, though there were others among them that but a few years ago would easily have gained the same distinction. The certificated varieties were Niobe, a very fine scarlet, with a white band down the petals, of large size, and beautiful form; The Queen, a very pretty white flower, feathered with crimson and of large size, but somewhat starry as compared with the roundest flowers; and Paragon, a very large crimson scarlet, with fine broad smooth petals. On the following day, at the Royal Botanic Society's Show, the same firm exhibited the finest-shaped variety that has yet been seen, and which must now be taken as the standard by which others must be judged. It is well-named Perfection, and is of the Leopoldi type, large in size, perfectly smooth and white, heavily feathered with crimson scarlet. It goes without saying that a Floral Certificate was awarded instanter. The same award was also made to Ne Plus Ultra, a very large crimson flower, and Basilisk, an immense bright red flower, a little course perhaps, but a wonderful flower for its size. Basilisk was also shown at South Kensington, where it failed to secure the verdict of the majority at the Floral Committee's table, while Niobe shown at "The Park" was passed by the judges.

VEGETABLES.

The Kitchen Gardener's Calendar.—Asparagus Planting: The ground having been prepared as recommended at p. 411, mark off the necessary number of beds 4 ft. wide, with an alley 2 ft. wide between each bed, then draw two drills about 4 ins. deep, at 9 ins. from either side of the centre of the bed-space, and in these plant the roots, 18 ins. asunder in the row, taking half of them in one hand and half in the other, with the crown slightly raised. Press the soil firmly about the roots with the hand, and if the surface of the soil be afterwards mulched with decayed manure, it will preserve the roots in a healthy growing state. For the supply of plants for forcing, plant in drills 15 ins. apart, and the same distance from plant to plant in the row diagonally, so that those in the second row stand anglewise to those in the first—this remark also applies to those in beds—as by so doing the plants have more room to grow than if planted opposite to each other. Those wishing to give the French system of growing Asparagus a trial should open shallow trenches, 5 ft. wide, 9 ins. deep, with 2 ft. 6 ins. alleys between the trenches, and in these trenches make three rows of low hillocks, a couple of inches high and 3 ft. apart, on which lay the roots of the plants, spreading them out equally in every direction, and then cover them with a few inches thick of soil, and afterwards with a little well-decayed manure.

A sowing of French Beans may now be made out-of-doors, on a warm border, in drills 3 ins. deep, and 2 ft. asunder, where provision can be made for protecting them from late spring frosts. Also make a sowing of Radishes in a warm corner, or under a south wall.

Forcing Department.—Make another sowing of French Beans in pots, to be transferred to pits from which frost can be kept out, as soon as they have made a couple of inches of growth, when the pits should be kept close, and be shut up early in the afternoon on bright days, damping the plants overhead at the same time with tepid water. Cover a few more roots of Rhubarb with pots and a little litter, and earth up successional plantings of Potatos as soon as they have made 5 ins. or 6 ins. of growth, and water with tepid water those that indicate dryness at the roots; Pits and frames containing sowings of Carrots, Radishes, and seedling-plants of Celery, Cauliflower, Cabbage, Lettuces, Brussels Sprouts, and Asparagus should also have attention in this direction, as they also should in the way of admitting sufficient fresh air to prevent them becoming drawn, and finally to harden off those plants intended for planting out in the open in a week or two. Sow Mustard and Cress in small quantities at short intervals.—*H. W. Ward.*

Planting Potatos.—There are few practices in gardening about which there should be less divergence of opinion than in the planting of Potatos. Still there are various divergent views held and methods adopted, perhaps for the reason that such diversities are possible, and yet the best results may follow in each case. We cannot well differ with respect to the sowing of Peas or Beans, or of small seeds, except that some may prefer broad-casting to drilling the latter; but in the case of Potatos we differ so far that some plough in their sets in the fields; some open furrows after ploughing; and some let the dibber follow the plough, and thus plant.

In gardens, no doubt, it is the most usual plan to plant the ground as it is dug, drawing the drills in the furrow kept open by the digger, and thus keeping the planting close up with the preparation of the soil. But when kinds are being put in at distances of three or more feet apart, especially strong growers, it is a very good plan to ridge the soil to the required width during the winter, to take advantage of frost, and place a free layer of manure in the furrows, between the ridges; to dig this in deeply, after the frost has gone, and then drawing shallow drills where thus dug to plant the tubers in the furrow, forking in the loose soil from the ridges on either side to cover them with. This and the previous plan are very good ones for kidney and other tubers which have been carefully sprouted, and need special care in the planting.

Sometimes we see gardeners planting Potatos by throwing out a shallow trench with a fork, perhaps 4 ins. in depth, and the fork wide, planting in the centre, filling that with the soil thrown out from the next trench, and thus continuing until all the piece of ground is planted. These methods are useful, especially when patent manures are strewed in with the sets, as such dressings are equally applied, and are at once available for the first roots thrown out, a matter of considerable importance in Potato culture. There is very much prejudice against the planting of Potato sets with a dibber, although it is probable that in fields and market gardens it is the favoured implement for planting.

In gardens where there is usually ample labour, there is less need for this expeditious system; still, it is not at all a bad one, especially in light soils, for the pressure given in such case, both in treading and with the dibber, is advantageous rather than otherwise. Properly covered with a hoe, the soil always lies light and loose, hence the plants come through well and evenly. It is almost invariably the rule to plant early kinds first, but it is far from being a safe one, as the plants are often injured by late frosts, and such injury no early planting can compensate for. It is much wiser to plant all the late strong-growing kinds first, and have the sets of the first early kinds well sprouted and prepared for planting in April, excepting, of course, some in frames or on warm borders, where they can be protected. As a rule, late kinds of Potatos may be planted safely during March, and the earlier kinds in April.—*D.*

Veitch's Spring White Broccoli.—This most useful Broccoli is giving us some useful heads, not over large, but close and white, the very thing for a gentleman's table. It has come in just at the right time, as our supply of "Snow's Winter White" is over, and it is very pleasant to find another kind come in to continue the supply of this esteemed vegetable without a break. Those who have not yet tried this variety, should give it a place in this year's seed list.—*C. Warden, Clarendon Park, Salisbury.*

Straw-Separating Apparatus.—Mr. F. Barrett, Wisbeach, has patented an apparatus, the object of which is the more thorough separation of the straw or haulm from the grain or seeds. For this purpose a series of adjustable vibrating-forks or blades are arranged upon a horizontal shaft over the shakers of a threshing machine.

THE

Orchid Growers' Calendar.

Dendrobium fimbriatum occulatum. — In response to the suggestion of your excellent correspondent "J. W., S.," at p. 444, I have much pleasure in giving you the details of the cultivation of this Dendrobium as practised here, and I may remark that the same will apply also to D. Gibsoni, D. Griffithianum, D. Paxtoni, D. calceolus, D. moschatum, and similar kinds. Almost all the species of Dendrobium in cultivation require an abundance of heat, air, light, and water during the period of growth in order to attain their maximum of development and floriferousness; and it is equally essential that they should have an abundance of air and light, with a slight diminution of heat and moisture, as they are about completing their growth, in order to thoroughly mature it, after which the plants should have a good rest of two or three months by giving them a still lower temperature and withholding water almost entirely, giving them only sufficient to prevent shrivelling. Such are the general principles of cultivation of the genus Dendrobium, and the species from all parts require the same treatment, with a few exceptions.

Dendrobium fimbriatum and its variety with the "dark eye" (occulatum) are natives of Nepaul, in North-West India, a country having almost the greatest known average annual rainfall, viz., 500 ins.; it also has a high mean summer temperature of 86 degs., which of course varies according to altitude, and a mean winter temperature of about 60 degs; thus giving a difference of about 25 degs. between the growing and resting seasons, the average spring and autumn temperature being intermediate between the two, or about 70 degs. (see Collins' *Physical Geography* for the above data). My practice is to pot the plants in the most fibry portions of peat, sphagnum, and charcoal, giving an abundance of drainage; copious supplies of water at the roots and frequent syringings are given during the growing season, together with a free exposure to light and to a free circulation of air, and a mean day temperature of 80 degs. and a night temperature of 68 degs. During the resting period, water is given just to prevent shrinking, and the plants are submitted to a mean temperature of 60 degs.—*J. Udale, Shirecliffe Hall Gardens, Sheffield.*

Orchids in Flower at Messrs. Jas. Veitch & Sons.—The grand display of Cattleyas in the immense new house now waning, gives place to the no less beautiful display in the cool Orchid Show-house, where a magnificent sight meets the eye, made up of large numbers of heavily-bloomed spikes of superb forms of Odontoglossum crispum (Alexandræ) arranged with finely-bloomed specimens of O. pulchellum majus, O. Pescatorei, O. Rossi majus, O. triumphans, O. hystrix, O. Hallii, O. Ruckeriana, O. Andersoni, O. mulus, O. Corradinei, O. membranaceum, O. blandum, O. cirrosum, O. Oërstedii, O. nebulosum; the violet O. Edwardii, the rare and lovely O. Humeanum (O. Rossi majus and O. cordatum), the rare Oncidium anomalum, pure golden-yellow, O. unguiculatum, O. serratum, Cymbidium eburneum, numerous Lycastes, brilliant scarlet Sophronites, Ada aurantiaca, and numbers of other lovely things, among which some presumably new forms of spotted Odontoglossum Alexandræ hybrids in bud promise well.

Messrs. Veitch are always making alterations, but they are made in such a manner that even their visitors seldom notice the work until it is finished. Their alterations, too, are always improvements, and this new cool Orchid-house has been a good step, both for use and ornament. A visit to it now would be a treat to any lover of beautiful flowers.

In the rest of the Orchid establishment, plants in flower are distributed through all the houses, while the Phalænopsis-house, with its showers of rosy P. Schilleriana, good spikes of P. Stuartiana, and pretty specimens of P. intermedia Portei, with its white petals and amethyst lip, may be called a Show-house, and so also may the houseful of Lycaste Skineri in bloom and the Dendrobe-houses well filled with bright flowers. In the last-named the specimens of Messrs. Veitch's hybrid Dendrobes out of D. heterocarpum are grand. D. splendidissimum is the best, but D. Ainsworthii and the pretty white D. endocharis are lovely enough. Quantities of D. Wardianum, D. crassinode, D. densiflorum, a few good masses of D. Farmerii, and many other good things, make a fine display, while one hundred and thirty flower-spikes of Vanda tricolor and V. Suavis varieties, quantities of Dendrobium thyrsiflorum, Cattleya Mossiæ, C. citrina, the never-ending hybrid Cypripediums, &c., show well for the future.

A new hybrid Zygopetalum, too, which surpasses all its predecessors for beauty and fragrance, is in bloom. Its seed-bearing parent was Z. Mackayii crossed with Z. maxillare, and consequently the cross is the reverse of that which produced the handsome Z. Sedeni. The plant is of robust habit, with a tendency to run up like Z. maxillare. Flowers of perfect shape, petals pale green, barred with reddish-brown, lip large, pure white, veined with velvety blue. It is a lovely thing, with the Hyacinth scent of Z. Mackayii.

Orchids at South Kensington.—Comparatively few of these ever attractive plants were staged at South Kensington on Tuesday, but there were one or two examples of good cultivation which call for a passing word. The first to claim our attention was a specimen of the fine old Trichopelia suavis, bearing forty of its large white, pink spotted blossoms. It was grown and exhibited by W. Soper, Esq., 108, Clapham Road, S.W., and well deserved the Cultural Commendation that was bestowed upon it. The next noteworthy specimen was one of the handsome Odontoglossum Wilckeanum, bearing three large branching spikes, a first rate variety exhibited by H. M. Pollett, Esq., Bickley, and which was also awarded a Cultural Commendation. A new variety of the same species, named O. Wilckeanum albens, a pure white ground flower with very bright spots, came from the collection of R. H. Measures, Esq., Streatham, and gained a First-Class Certificate. A Certificate of the same value was also voted to Mr. B. S. Williams for the new Calanthe Sanderiana, a late blooming form with light rosy purple blossoms. Amongst cut flowers we noted some extra large blossoms of the white Phalænopsis amabilis grandiflora, and a flower of a grand variety of Odontoglossom coronarium, waxy, chestnut brown and yellow, which came from John C. Bowring, Esq., Forest Farm, Windsor; and some fine forms of Cattleya Trianæ and Cattleya Mendelii from Messrs. W. Thomson & Sons, of Clovenfords.

FLORICULTURE.

Concerning Dahlias.—Thirty-three years ago, I was engaged at a large florists' nursery, where florists' flowers were grown on a very extensive scale. That was about the height of the rage for florists' flowers: Carnations, Dahlias, Cinararias, Pelargoniums, Pinks, Picotees, Verbenas, &c., were being improved with wonderful rapidity. One thousand eight hundred and fifty-three was the year when Mr. C. Turner sent out Foster's Optimum Pelargonium at two Guineas a plant; two others, by the same raiser, at one-and-a-half guineas, and several of Hoyles' new varieties at one guinea. Those were the days when raisers received a high price for good things; and they realized good prices when sent out. That was the year when Mr. C. Turner sent out Dahlia Queen Victoria, for the stock of which he paid Mr. George Wheeler, of Warminster, the raiser, the sum of one hundred guineas. High as this was, it was yet not so great a sum as that paid by Messrs. Brown, of Slough, for Yellow Defiance, namely two hundred pounds.

Mr. Turner's Sir John Franklin was sent out at the same time, and it became a standard exhibition-flower for several years after. Queen Victoria proved an unfortunate speculation. It was a very fine Dahlia when in the best form—yellow distinctly tipped or margined with red, of superior form, fine petal, and close high centre; it was finely shown during 1852, and received several first-class certificates of merit; it was largely propagated in the spring of 1853, and when it came to be grown that season, it came universally hard-eyed; the centre was imperfect, and it had to be thrown aside. This was one of the risks purchasers had to run then after paying a high price for a new variety.

Dahlias were then propagated by the thousand. Mr. Turner and Mr. John Keynes did an immense business with plants. Propagation commenced about February: the roots were placed in a propagating-house, and half-covered with soil, they threw up many cuttings, these were taken off and placed several in a pot, plunged in a brick dung-bed, where they soon rooted, then potted singly into thumb-pots, returned to a hot-bed to establish themselves, then gradually hardened off, and finally placed in a cold-frame by the second week in April. The varieties were kept under number, and as they were propagated as fast as cuttings could be had from the several varieties, when they come to occupy the cold-frame they were all mixed up together. Then on some genial morning in April, a gang was set to work to sort the varieties, for until this was done, orders could not possibly have been executed with anything like rapidity. The contents of a 12-light frame were sorted and then put back again, each variety by itself in the order of their numbers; the plants were then sprinkled over head, the lights shut down close for a time, and then they were ready for selection for orders. This was done before breakfast, before the sun could materially affect the plants and cause them to droop.

Dahlias were never sent out until the first of May. All other plant-orders were cleared out of the way so that there might be a clear stage for the Dahlia trade Two or three or more gangs set to work despatching orders with the greatest rapidity. The prunings of fruit-trees in the previous winter made excellent stakes or supports, one of these was placed to each plant, leaving it about an inch taller; then another worker tied the plant to the stake; others covered the soil neatly with moss; others then tied it securely in a way peculiar to packers of plants, and then the plants were laid down on their sides in strong square or oblong hampers, placed in layers and covered with soft moss. It was surprising what a number of plants a good packer could put into one of these hampers, and by simply noting the number of plants he had to pack, could select a proper sized hamper with almost unerring certainty. As soon as packed, they were dispatched to their destination by the quickest conveyance. This went on all through the month of May, and it was the general practice to send out orders in the strict rotation in which they were received.

All the unsold young plants were placed out-of-doors in a frame, and kept watered during the summer. In the autumn, when they began to wither at the tops they were allowed to dry off, and eventually were shaken out of the pots, and put away secure from frost, and sold as pot-roots or dry roots. At that time the wholesale seedsmen used to sell a good many of these. It is worthy of remark that better show-flowers—that is in better form for exhibition purposes—can be had from pot-roots than from green plants. That is an item of experience gained by the cultivator. Indeed the Dahlia, in common with other exhibition-flowers, is an interesting study. It possesses many peculiarities that reveal themselves to the cultivator as time goes on, of which a mental or written note is made and treasured up for another season. Indeed, the peculiarities of some popular flowers are so marked that they seem to possess a kind of intellingence, and they reveal an amenity to care and attention as if they were conscious of it, and valued the attention just as would a sentient being.—*R. D.*

Ivy-leaved Chinese Primulas.—A few weeks ago, when looking over Messrs. James Carter & Co.'s extensive Show of Chinese Primulas at Forest Hill, we were shown a seedling of a very strange character, of which we give an illustration, a little less than natural size, not in order to proclaim its beauty to the world—for there is nothing beautiful about it—but simply to put its advent on record. There can be no doubt as to its being an entirely new departure, distinct in the form of its leaves from any other Primula, and though at present its flowers have not a single redeeming point, its progeny will be watched with great interest.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*March 24th.*—The meeting to-day brought out the largest display of the season so far—a bright and pretty Show of spring flowers. Hyacinths, Tulips, Cyclamens, and Daffodils formed the leading feature. Of the former, Mr. B. S. Williams put up the largest and best collection we have seen from Holloway, the spikes being large and massive, the colours bright and well assorted. Mr. Williams also staged beautiful collections of Tulips, Narcissi, Chinese Primulas, Cyclamens, and Azalea Mollis, &c., a large and most meritorious contribution, which deserved a higher award than the Silver-gilt Banksian Medal that was awarded to it. A similar award was also made to Messrs. James Veitch & Sons for a first-rate group of Hyacinths and Tulips, and flowering specimens of Pieris (Andromeda) japonica, a fine free-flowering, white, hardy shrub, and Spiræa confusa, also a hardy plant of shrubby habit, well worth growing for forcing purposes for the sake of its useful white blossoms; to Messrs. William Cutbush & Son, for a large group of well-grown Hyacinths and Tulips, accompanied by beautifully-flowered specimens of Laurestinus lucidus, a most useful cool greenhouse plant, which yields a fine crop of pure white flowers, somewhat larger than those of the common Laurestine; and to Mr. Clarke, of Twickenham, for an extensive display of Cyclamens of the finest quality.

Silver Banksian Medals were awarded to Messrs. Barr & Son, for an extensive display of Daffodils, and other spring-flowering bulbous plants; to Mr. T. S. Ware for a somewhat smaller group, but containing a greater number of Lachenalias, Scillas, Primulas, Freesias, &c.; and to Mr. William Bull for a group of new and rare plants. Of Bronze Medals, four were awarded, viz., to Mr. Anthony Waterer, for a particularly pleasing bank of hardy Primroses, pretty varieties of all shades of colour; to Messrs. Paul & Son, The Old Nurseries, Cheshunt, for a pretty group of miniature Roses, standards and dwarfs of the Parqueritte and Mignonette varieties of Rosa Polyantha, the old fringed Musk Rose, and the old white Burgundy, accompanied by a choice assortment of hardy Alpine plants; to Messrs. Collins, Brothers & Gabriel, for a large and showy group of Daffodils and Anemones; and to Mr. J. Aldous for a small group of Adiantum Farleyense, mixed with small Palms. Messrs. Cannell & Sons sent a fine basket of flowers of Gilbert's Harbinger Primrose, a very large, white-flowered variety. Mr. L. Pointon, Knypersley Nursery, Congleton, sent a beautifully-spotted variety of Odontoglossum Alexandræ; Mr. R. Dean, Ealing, some pretty hardy Primroses, and hardy species of Primulas; and Mr. Walker, of Thame, some cut-blooms of that valuable white-flowering, cool, greenhouse climber, Clematis indivisa lobata.

New Plants.—Besides the Amaryllis, Roses, and Orchid, which were certificated, and which are alluded to in other columns, First-class Certificates were voted to Mr. William Bull, for Azalea Illuminator, a very fine variety belonging to the amæna section, and in the way of Mrs. Carmichael, with remarkably bright rosy-purple blossoms; to Messrs. Barr & Son, for Chionodoxa Sardensis, a species with flowers of a much darker shade of blue than in C. Luciliæ, and with only a little white in the centre; to Mr. B. S. Williams, for Camellia Commendatore Betti, a particularly fine variety, with broad, well-rounded petals of a rich, rosy-cerise colour—a fine thing, though not exactly new; and to Messrs. Paul & Son, for Primula Wulfeniana, a diminutive growing species, with lanceolate leaves and large, purplish-lilac blossoms.

Royal Botanic.—*March 25th.*—The Regent's Park authorities were unfortunate in having a very cold dull day for their First Spring Show, which as regards the plants and cut blooms exhibited, and the arrangement of the exhibition generally left little to be desired. As usual the bulk of the subjects staged had been seen at South Kensington the day before, so that to those who had been there much of the novelty had worn off. Amongst these contributions may be named the fine groups of Hyacinths, Tulips &c., staged by Mr. B. S. Williams, and Messrs. Cutbush & Son; the Cyclamens of Mr. Clarke, and Mr. H. B. Smith; the Daffodils of Messrs. Barr & Son, Mr. T. S. Ware, and Messrs. Collins, Brothers, and Gabriel; and the hardy Primroses of Mr. Anthony Waterer. First among the subjects that had not been seen the day before, must be placed a very remarkable display of Cinerarias from Mr. J. James, Woodside, Farnham Royal, and which included several seedlings of such a depth and richness of colour, and of such a size and substance combined with perfection of shape that has never been attained before. Certificates were accorded to several as recorded below. Mr. Hill, gardener to H. Little, Esq., Uxbridge, staged an interesting group of varieties of Lycaste Skinneri, an orchid which Mr. Little grows somewhat extensively, and grows well too, as testified by the plants staged, one of which had ten flowers, all produced by one bulb. Messrs. James Carter & Co. staged a beautiful little group of Scarborough Lilies, flowering like the Amaryllis before they have made any leaves,, these results being obtained by starting them, and otherwise treating them the same as Nerines. Mr. Wiggins, gardener to W. Clay, Esq., Kingston-on-Thames, had a nice group of Cyclamen.

In the competitive classes there was not much that calls for special comment. The first prize for six Amaryllis, given by an amateur, was won by Mr. James Douglas, gardener to F. Whitburn, Esq., Great Gearies, with strong well-flowered plants of John Heal, Marcus Aurelius, James Douglas (Veitch), Empress of India, Madonna, and Great Gearies. From the same half-

IVY-LEAVED CHINESE PRIMULA.

dozen, John Heal was selected for the first prize offered for the best light variety; and Madonna for the second; Great Gearies as the best dark variety, and Empress of India as the second best. Mr. Butler, gardener to H. H. Gibbs, Esq., St. Dunstans's, Regent's Park, was second, and Mr. Douglas came in first again in the open class for twelve. The largest and best-flowered half-dozen plants of Deutzia crenata also came from Mr. Douglas, who was besides first with Hardy Primulas and hardy herbaceous plants. In a fair class of Chinese Primulas, Mr. Hill, gardener to Henry Little, Esq., came in first, as he did also in a first-rate competition with Cyclamens, showing a very compact lot of large plants, and specially fine dark-coloured varieties. Mr. Wiggins, gardener to W. Clay, Esq., was second. Mr. H. B. Smith won the first prize in the open class, with a superb lot of plants. Messrs. Paul & Son, Cheshunt, were the only exhibitors of forced Roses, and they made a good display. Messrs. H. Williams & Son were well first, with a dozen Hyacinths in the nurserymen class, Mr. H. R. Wright coming in second. In the amateurs' class, Mr. James Douglas was first, as he was also for Tulips; while in the trade class Messrs. Cutbush & Son took the lead, Messrs. H. Williams & Son coming in second. Mr. Watson, nurseryman, Newcastle-upon-Tyne, staged a nice lot of flowers in this class, but was unsuccessful in gaining an award. He, however, secured first honours with Lily of the Valley, staging a grand lot of plants, with unusually well-developed bells.

New Plants.—As usual at these Shows a large number of new plants was submitted for Certificates, and the judges were by no means sparing in their awards. Of Botanical Certificates, the lion's share fell to Mr. William Bull, the plants staged by him and which were so honoured being the showy Hæmanthus Kalbreyeri maximus, Bentinckia condapanna, a handsome Palm in the way of Areca Baueri; Oreodoxa plumosa, also a very elegant Palm; Sarracenia Atkinsoniana, a hybrid between S. flava maxima and S. purpurea, with the upper side of the petals of a pretty cherry red colour; Masdevallia Wagneriana, a small species with creamy-yellow blossoms, Lycaste Skinneri alba, Dendrobium nobile insigne, a well-coloured, showy variety; Dendrobium Ainsworthii Odontoglossum Rossi concinnum, a very good form of Rossi majus; Sellaginella amæna, and Lomaria heterophylla. The same award was also made to Mr. B. S. Williams for the showy Dendrobium nobile nobilius, and Calanthe Sanderiana; to Henry Little, Esq., for Lycaste Skinneri magnifica, a large and very richly-coloured variety, and for Dendrobium crassinode giganteum, one of the finest forms of this species we have seen. To Messrs. Paul & Son, for Anemone pulsatilla patens, and Primula Wulfeniana; to Messrs. Veitch & Sons for Rhododendrons Teysmanni; and to Messrs. Barr & Son for Chionodoxa Sardensis. Floral Certificates were accorded to Messrs. Thibaut & Keteleer of Paris, for Begonia Glorie de Sceaux; to Mr. James Douglas for Amaryllis, Helen Lodge, crimson, with a light centre, and Great Gearies, crimson scarlet; to Mr. B. S. Williams for Camellia Commendatore Betti; to Mr. James, for Cinerarias, Mrs. A. Sutton, very distinct—a rich, bright reddish-maroon flower of exquisite form; Viceroy, rich, dark-rose, shaded with violet; Paragon, a wonderfully bright-velvet crimson, with a grey disc, very pretty; Mary Anderson, a pretty shade of rose, suffused with purple; General Gordon, pure maroon, large and fine in form; Dante, rich rosy-crimson with a white ring round the disc—a very large flower, some of the pips measuring 3 ins. in diameter; and Rob Roy, a violet-shaded magenta; to H. Little, Esq., for Azalea Jean N. Verschaffelt, and Primula The Queen (Tomkins), a very fine fern-leaved, white variety.

Liverpool Horticultural Association.—*March 24th and 25th.*—The third spring exhibition organized by the members of this Association was held in St. George's Hall, on Tuesday and Wednesday, and we are pleased to hear that both horticulturally and financially it was a complete success. The exhibition was far in advance of any of the preceding Shows of the Association, while it was generally conceded that in point of quality the exhibits were immeasurably superior to any seen in Liverpool for many years past. A finer or more varied collection of plants and flowers could not have been presented, and the admirable manner in which they were arranged on three tables, running the entire length of the hall, gave additional beauty of the scene. The entries numbered two hundred and fifty, these being classified as under:—Varieties of Hyacinths, Orchids, Lilies of the Valley, and Mignonette, ninety; and general exhibits, one hundred and sixty; showing an increase of twenty on the entries of last year. One of the features of the exhibition was the fine display of Orchids, which were more numerously represented than any other class. Specially noteworthy among the exhibits were a group of Azalea Mollis, shown by C. W. Neumann, Esq., Allerton, (Mr. Mease, gardener); fine collections of plants from Messrs. R. P. Ker & Sons, and The Liverpool Horticultural Co., Garston; some black Grapes from A. R. Gladstone, Esq., and Samuel Smith, Esq., M.P. For a group of miscellaneous plants the first prize went to W. H. Watts, Esq., Wavertree, (Mr. Cox, gardener); and for ten hardy herbaceous and bulbous plants, Messrs. James Dickson & Sons, Newton Nurseries, Chester, were well to the front. The highest awards for twenty-four and eighteen Hyacinths were taken by R. Singleton, Esq., Aigburth, (Mr. Kelly, gardener); while Mrs. Barnsley, St. Michael's Hamlet, and W. H. Watts, Esq., secured the leading honours for six. For Tulips the leading awards went to R. Cornelius, Esq., S. S. Parker, Esq., and T. S. Rogerson, Esq. Mr. Neumann's gardener, was successful in winning first prizes for

Crocuses, Amaryllis, stove or greenhouse plants, stove plants in flower, fine foliaged plants, Orchids, forced hardy plants, Palms, &c.

Certificates of Merit were awarded to Messrs. Davies & Co., for a general collection of plants and bulbs; to Messrs. R. P. Ker & Sons, for Azalea James Veitch, Azalea Phœbus, Azalea Dame Mathilde, Azalea Seinon Marden, Azalea Comte Charles de Kerchove, Azalea Madame Herman Seidel, and for a general collection of plants, bulbs, &c. Cultural Certificates were also awarded to Messrs. R. P. Ker & Sons for Choisya ternata; to Mr. G. Blackmore, for Dendrobium fimbriatum occulatum; to Messrs. J. Dickson & Sons, for Narcissus Sir Watkin; to Mr. T. Elsworthy, for two bunches Alicante Grapes; and to Mr. J. Jellicoe, for a basket of Mushrooms.

During the afternoon the members of the association dined together at the Grapes Hotel, Lime Street, the chair being occupied by Mr. Fletcher Rogers (Grassendale) and the vice-chair by Mr. T. White. After the tables had been cleared, the chairman proposed "Continued Prosperity to the Liverpool Horticultural Society," which was responded to by Mr. White, who remarked that the society was in a prosperous position, and he hoped it would continue so.

VENETIAN FLOWER AND FRUIT HOUSES.

In answer to "J. M." (p. 398), I beg to give my opinion of a Venetian House erected here for my employer, J. J. Hooper, Esq., by Messrs. Skinner and Board, of Stokes Croft, Bristol. The length of the house is 92 ft. by 9 ft. wide, and it is divided into three compartments. The first is planted with Peaches and Nectarines; the second with Cherries and Apricots; and the third with Plums. Every one acquainted with the cultivation of these Fruits knows how essential it is to be able to give plenty of air when required in order to insure success. The trees grown in the Venetian House enjoy as much air as if growing on the open wall, and rain can be admitted the whole length and breadth of the house with very beneficial results at certain seasons. The amount of air to be given is regulated in a very simple and easy way by an endless screw. I think for the successful cultivation of Peaches, Apricots, Cherries, Plums, Figs, and Strawberries in pots, nothing can surpass it, and when the Venetian Houses become generally known, I anticipate that Messrs. Skinner and Board will have a large demand for them.—*W. J. Bishop, gardener to J. J. Hooper, Esq., Thorne, Yeovil.*

ANSWERS TO CORRESPONDENTS.

Botanical Magazine.—*H. A. C.*—It was founded by William Curtis, who had a Botanic Garden at Lambeth Marsh, n 1787, and has been published in monthly parts from that time to the present without a break. The first plant illustrated was the Persian Iris. Messrs. Lovell Reeve & Co., Henrietta Street, Covent Garden, are the publishers.

Climbers for a Wall.—*J. C. B.*—Green and variegated Ivies, Ampelopsis hederacea, and A. Veitchii or tricuspidata, all the Clematises, Wistaria sinensis, Lonicera japonica, and the common Honey-suckle, Passiflora cœrulea, the Dutchman's Pipe, Aristolochio Sipho, the white and yellow Jasmines, Lycium barbarum, Tecomia radicans, and any of the Vines such as Vitis Labrusca, the leaves of which change to various colours in the autumn, and such Roses as the Banksian, Macartney, Ayrshire, and Boursault.

Erratum.—At p. 460, second column, fourteenth line form the top, for "Feb. 30th" read "Feb. 20th." In the same paragraph for "Dormer" read "Dorman."

Gazania splendens.—*Amateur.*—The best plan is propagate them in the autumn in the same way as Shrubby Calceolarias; but if you have any stock plants, the cuttings will strike freely now in a little heat, and make good plants for putting out in May. It is a sun-loving plant, and likes a good rich soil.

Mr. Grundy's Song.—*Foreman.*—You will find it in a very entertaining book, *The Six of Spades*, by Canon Hall (Blackwood & Sons), reprinted from *The Garden*, and published in 1872.

Pomegranate.—*E. C.*—It is impossible to tell from a leafless twig whether your plant is the variety that flowers and fruits, but as with you it does neither, we suspect it is a weedy seedling, but even if such be the case it ought to flower in time in your climate.

Winter Aconite.—*Jason.*—If you must transplant them, the end of May or beginning of June is the best time to do it, but it is a plant that much likes to be let alone, and not disturbed too often.

Communications Received.—G. T.—W. J. B.—W. E. B.—W. W. G.—J. N.—T. J. R.—B. L., Lindley—R. Maher (many thanks)—J. G. H.—H. C.—C. T.—B. W. W.—C. S.—A. F. L.—F. W. B.

Trade Catalogue Received.

Charles Turner, Royal Nurseries, Slough.—Spring Catalogue of Plants.

LONDON SEED TRADE.

March 25th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report an increased demand for all kinds of Clovers and other Farm Seeds without any material change in values. White Clover, however, is a shade dearer, and figures generally may be looked upon as being now at the lowest point they are likely to see this season. Grass Seeds and Spring Tares still meet with ready sale at previous rates. Linseed and Bird Seeds unchanged.

COVENT GARDEN MARKET.

March 26th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6– 6 0	Kent Filberts and Cobbs, per 100 lb.	55 0–
— Nova Scotian, per barrel	12 0–18 0	St. Michaels	3 0– 8 0
Grapes, per lb.	4 0– 8 0	Strawberries, per oz.	0 9– 1 0
Pine-apples, Eng., lb.	1 0– 2 0		

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0– 4 0	Herbs, per bunch	0 2– 0 4
Beans, French, per lb.	– 2 6	Horse Radish, bundle	3 0– 5 0
Beet, per dozen	2 0– 3 0	Lettuces, Cabbage, per dozen	2 0–
Brussels Sprouts, p. lb.	0 4–	— Cos, each	0 6–
Cabbages, Spring, doz.	1 6– 2 0	Mushrooms, p. basket	1 0– 2 0
Carrots, per bunch	0 6–	Onions, per bushel	3 0– 5 0
Cauliflowers, English, per dozen	4 0– 6 0	Parsley, per bunch	0 6–
Celery, per bundle	1 6– 2 6	Radishes, per dozen	1 6–
Cucumbers, each	1 0– 1 6	Small salading, per punnet	0 4–
Endive, French, per dozen	2 6– 3 6	Spinach, per strike	2 0–
Garlic, per lb.	0 6–	Tomatos, per lb.	–
		Turnips, per bunch	0 6–

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0– 4 0	Marguerites, 12 bun.	4 0 –90
Arum Lilies, 12 blms.	3 0– 6 0	Narciss, various, French, doz. bun.	2 0– 5 0
Azalea, 12 sprays	0 6– 1 0	Pelargoniums, per 12 sprays	1 0– 1 6
Bourvardias, per bun.	1 0– 1 6	—scarlet, per 12 sprays	0 9– 1 0
Camellias, 12 blooms	1 0– 3 0	Pinks, various, 12 bunches	–
Carnations, 12 blooms	1 6– 3 0	Primula, double bun.	1 0– 1 6
Chrysanthemums, 12 bunches	–	Primulas, Chinese, bun	4 0– 6 0
— large, 12 blooms	–	Pyrethrum, 12 bun.	–
Cyclamen, doz. blooms	0 3– 0 6	Roses (coloured)	2 0– 6 0
Cineraria, per bunch	0 6– 1 0	Roses, indoors, p. doz.	1 0– 4 0
Epiphyllums, 12 blms.	0 4– 0 6	Roses (French), per doz.	1 0– 3 0
Eucharis, per dozen	3 0– 6 0	Stephanotis, 12 spr.	8 0–12 0
Gardenias, 12 blms.	4 0– 8 0	Tuberoses, per dozen	–
Heliotropes, 12 sprays	0 6– 1 0	Tulips, per doz.	0 9– 1 0
Hyacinths, Roman, doz. sprays	0 6– 0 9	Violets, doz. bun.	0 4– 0 9
Lapageria, white, 12 blooms	2 0– 3 0	— French, per. bun.	0 6– 1 6
Lapageria, red, 12 blms.	1 0– 2 0	— Parma, per. bun.	3 0– 4 0
Lily of the Valley, doz. sprays	0 9– 1 6	White Jasmine, bun.	0 6– 1 0

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0–24 0	Ferns, in var., dozen	4 0–18 0
Arum Lilies, per doz.	9 0 18 0	Ficus elastica, each	1 6– 7 0
Azalea, per doz.	18 0–42 0	Foliage Plants, various, each	2 0–10 0
Begonias, per dozen	4 0–12 0	Genista, per dozen	9 0–15 0
Bouvardias, dozen	9 0–18 0	Hyacinths, doz.	6 0– 9 0
Cineraria, per dozen	9 0–15 0	Lilium, various, per doz.	–
Cockscombs, dozen	–	Marguerites, per doz.	9 0–18 0
Cyclamens, doz.	9 0–18 0	Palms in variety, each	2 6–21 0
Cyperus, per dozen	4 0–12 0	Pelargoniums, scarlet per dozen	4 0– 6 0
Dracæna term., doz.	30 0–60 0	Petunias, per dozen	–
— viridis, per dozen	12 0–24 0	Poinsettia, doz.	–
Epiphyllums, doz.	18 0–24 0	Spirea, per dozen	12 0 18 0
Evergreens, in var., per dozen	6 0–24 0		

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To Inventors.—Under the new Patent Act, the cost of obtaining Royal Letters Patent is trifling Everyone who has a new idea should at once take steps to protect it. Cost of provisional protection through this agency is £2 2*s.* All information on patents, designs, trade marks, given free by Messrs. LULMAN & CO., Patent Agents, 8, Essex Street. Strand, London, W.C.

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We make a speciality of magnificent double border CARNATIONS. The varieties offered are robust, free-bloomiug, fragrant kinds in all the grandest shades of colour and the choicest markings. Unsurpassed for border decoration. These are the production of a celebrated florist, and are exceedingly vigorous, and were one of the finest sights in England last autumn. Strong well-rooted plants, from layers last autumn, in variety, per doz., 3*s.* 9*d.*; 25 for 7*s.*; 50 for 12*s.* 6*d.* Finest named Carnatious, 6*s.* per doz. The choicest Picotees named, 6*s.* per doz. Finest named Pinks, 4*s.* per doz.
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All Advertisements intended for insertion in next week's issue must reach the Office not later than Wednesday Morning, April 1st, in consequence of the Easter Holidays.

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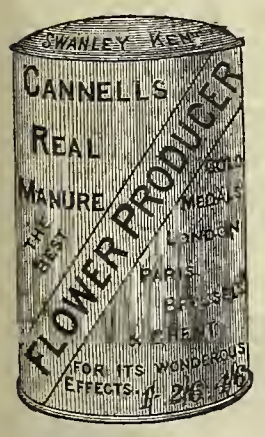

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CARTRIDGE	3/9	3/9	4/-	4/6	4/9	5/9	6/9	8/3
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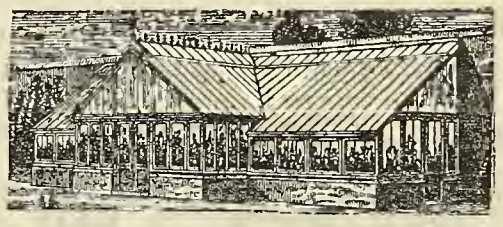

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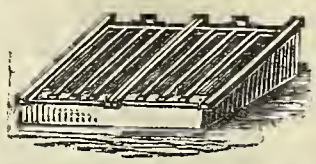

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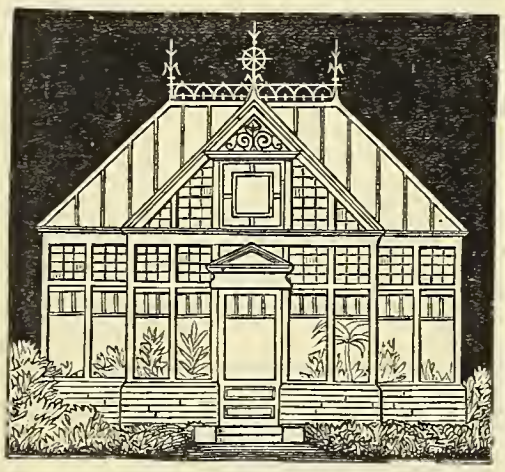

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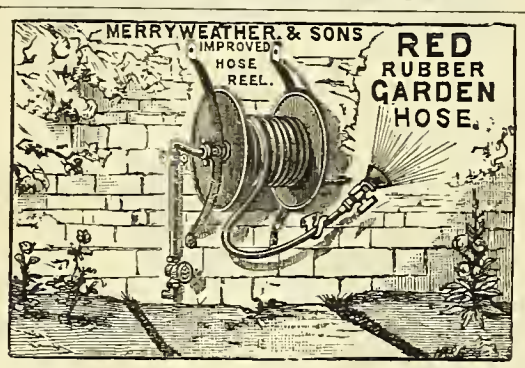

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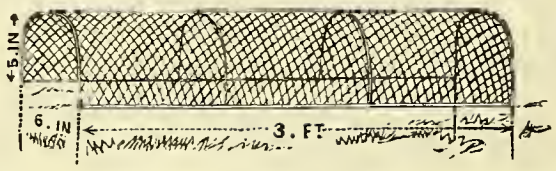

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The 10*s.* 6*d.* Tins serve as a strong substantial receptacle to re-fill from the 1-cwt. bags.

Supplies can be obtained through all respectable Nurserymen, Seedsmen, and Florists in the kingdom; or in districts where no agents reside, carriage paid for cash with order, direct from the Manufacturer,

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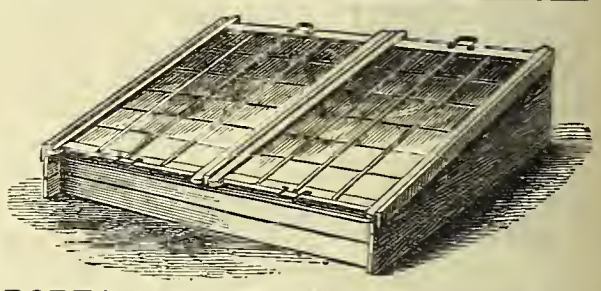

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Prices, delivered to any station in England.

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2-light frame, 8 ft. by 6 ft.	Packing cases free.	3	10	0
3-light frame, 12 ft. by 6 ft.		5	5	0
6-light frame, 24 ft. by 6 ft.		10	0	0

TESTIMONIAL.
"The Gardens, Burghley, Stamford,
"September 11th, 1884.

"GENTLEMEN,—I have received the Garden Frames, and I am quite delighted with them. They are really well got up, well timbered, and the sides and ends being grooved, will prevent that objectionable swaging so prevalent in these kind of boxes. I shall certainly recommend them to my brothers in the trade.—R. GILBERT, Head Gardener to the Marquis of Exeter."

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Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex, Saturday, March 28th, 1885.

THE GARDENING ILLUSTRATED WORLD

No. 31.—1885. SATURDAY, APRIL 4TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

"YE NARCISSUS OR DAFFODYL." An interesting history of the Daffodil, covering a period of the 300 years, with its poetry, and notes on hybridization, with many illustrations. Price one shilling, published by BARR & SON, 12 and 13, King Street, Covent Garden, W.C.

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THE most complete list of Miscellaneous FLOWER SEEDS ever published, including Hardy Perennials, Hardy Florists' Flowers, Greenhouse Seeds, Hardy Ornamental Grasses, Hardy Annuals, &c., free upon application.
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Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, APRIL 4TH, 1885.

AMATEUR CRITICISM.—It is remarkable, but true none the less, that we very seldom meet with a real commou-sense and practical article upon gardening, or even a report of a flower show, in a daily paper. The staffs of these kings of serial literature seldom include a practical gardener, though perhaps plenty of a sort who think they know, and thinking wrongly, egregiously fail. Our daily contemporary, *The Standard*, favoured its readers a few mornings since with a *resumé* of platitudes which would have been well laughed at were the same to appear in any gardening paper. It is deplorable that such twaddle should represent to the public at large horticultural thought and knowledge as found in these professed educators, our daily papers. Happily the bane finds an earnest and able antidote in the real gardening press, writers in which usually know what they are writing about, and as a rule neither indulge in balderdash nor mislead.

Our daily contemporary's leader-writer discourses euphonistically about flower shows, spring seasons, exotic and hardy plants, and too plainly exhibits at the same time that he is at the moment somewhat at sea. The way in which such things as Kalmias, Rhododendrons, Azaleas, Spiræas, Wistarias, &c., are mixed up with hardy March-blooming plants is bewildering. It would seem as if the critic were regarding forced plants as the natural products of the spring. Fashion is charged with being the cause of the banishment of so many hardy flowers from our gardens. Evidently it is by the writer held safe to charge upon fashion all the changes which have grown up in gardening taste during the past thirty years. Somehow, it seems convenient to set aside the fact that the introduction of vast numbers of real novelties from abroad, and the wondrous evolutions in facile plants wrought by our florists at home, have been the prime causes of certain old plants having fallen into the background, and if some old favourites are now being resuscitated, or other less known but good hardy plants are being introduced to our gardens, it is not because fashion wills, but because variation, change, progression, and succession are essentials to gardening, and without them it would soon become vapid, and decay.

The "Daily" critic seems also to feel himself on safe ground when he charges upon the gardener the fault of having thrust out of gardens the Anemone and the Ranunculus. That form of criticism is as false as it is unwarrantable. Gardeners universally cater for their employers, and are the agents of their employers' wishes. As a fact, they love these beautiful spring flowers, but whilst many are again taking up the Anemone because their employers want less bedding stuff, they do not much regret the absence of the Ranunculus, as it is a ruddy, rotund, formal flower at the best, and hard to cultivate with success. Again, we are told that the Hollyhock is now rarely seen, except in the cottager's plot, but the cottager who can show us this old favourite flower is a rarity indeed. Here, again, the critic shows himself to be ignorant of the existence of that fell disease, the Hollyhock fungus with the unpronounceable technical name, which has cruelly done so much to strip gardens of plants. We only want to see the last of this visitation to once more make Hollyhocks as popular and as attractive as ever they were.

Some regret too is evinced because of the comparative decadence of the Tulip, but the culture of this flower is an expensive luxury, and its charms are very evanescent. Tulips are floral butterflies, gorgeous in hue, but fugitive in existence. They have their admirers still, if reduced in number, but in old days they were more the pets of fevered fancy than the children of genuine love. Our own observation rather leads us to rejoice over the wondrous progress horticulture in all its forms has made, rather than to cavil because an old-fashioned plant or two is in danger of being forgotten.

NEW POTATOS: THE CHISWICK TRIALS.—It will, we fear, bring anguish to many anti-Potato-phobists, to learn that the number of seedling kinds sent in to Chiswick Gardens for trial this year is so large that Mr. Barron's resources are likely to be taxed to the utmost in order to find room for all and to give to each one a fair trial. Potatos have now become so good that it is exceedingly difficult to find room for improvement, and yet that advancing or actually improved kinds will be presently found amongst the number of new ones submitted for trial there can be no doubt. Such has been the case every year, and such, in spite of the admirable characters of our present best sorts, will it continue to be.

We are not very sanguine that the efforts put forth to obtain a new race of edible Potatos from the intercrossing of certain species with our present varieties of tuberosum will be productive of much good. Potatos are so good, so abundant, and so cheap that the rendering of them cheaper and more abundant will prove to be almost a misfortune, yet, owing to the wonderfully favourable nature of the weather which has prevailed during the winter and spring, and the admirable condition of the soil, Potatos are being planted, not only early, but in great quantities, so that, with a fair season, we may look again for possibly a larger crop than ever.

With regard to the seedling kinds to which reference has been made, it is satisfactory to learn that they will be well overhauled and tested, and certainly the severe ordeal which has to be passed through should satisfy the most sceptical that none but really first-class kinds will pass muster. It seems certain that as candidates for honours increase so must the standards of quality be proportionately raised.

FLOWER SHOW JARGON.—A very clever paper was once written on *The Nonsense of Flower Shows*. It was very sweeping in its condemnation, but there was, notwithstanding, a good deal of sound sense in it. Among other things, it ridiculed the use of the terms "Show" and "Fancy," in schedules of prizes as applied to Dahlias, Pansies, Pelargoniums, &c. Well, they do sometimes become the bugbears of schedules. Take Dahlias, for instance. In many parts of the country the distinction between Show and Fancy Dahlias is imperfectly understood, and exhibitors of the latter put all kinds of tipped Dahlias into a stand of fancy flowers. The exhibitors never will be able to understand the distinction made by professional Dahlia-cultivators. It sometimes happens that a judge shows a kind of passion for disqualifying; he evidently thinks it an admirable way of displaying the possession of a superior knowledge, and much heartburning is caused thereby. The wisest course to adopt on the part of a stranger going to a particular Show for the first time, would be to inquire as to the practice of previous judges, and if he finds they have admitted all kinds of tipped flowers, he will do wisely to follow their lead. In country Shows the terms *fancy* and *show* Dahlias should be abolished, unless retained by a body of florists who fully comprehend their significance.

In regard to Pelargoniums, the fancy section are scarcely shown, and the term "ladies," as distinguished from the large-flowered or "Show," was always better than "fancy." And who shall venture to say what is, and what is not, a "regal" or a "decorative" Pelargonium? It is getting very difficult to draw a distinction between a Show and a fancy Pansy. It formerly represented two classes with sharply defined differences of character, but it no longer does so. The blooms are invariably found to be mixed up in Shows where these distinctions are maintained, but never regarded in practice. In the cases of the Auricula and the Polyanthus, the term "fancy" has recently come to be applied. But they are ill-defined in the case of the Auricula, and difficult of demonstration. The simplification of schedules is a matter of great importance. In not a few instances the rules and regulations contain a clause to the effect that the interpretation of any dubious phrases shall be left to the judges. When this is so, they should always be interpreted in the very widest sense; this will always be found the best course in the long run; it will reduce causes of disagreement, and inspire confidence in the fairness and justice of the executive.

THE INDIAN AZALEA.—It was once stated by the late Dr. Lindley that the Chinese Azaleas were not much known in this country until 1821. At that time they were small, difficult to grow and blossom, and were only to be found in the gardens of the curious, not being considered objects of decoration. According to *Paxton's Botanical Dictionary*, we find that the first species of this useful genus (A. indica) was introduced from China in 1808, and A. sinensis, A. variegata, A. phœnicea, and A. ledifolia in 1823-24. Since then came A. Danielsiana, A. exquisita, and a few others; and from these have sprung the numerous varieties now in cultivation. The original progenitors are natives of the cool, moist, hilly regions of India and China. It would be interesting to know who was the first to cross the Azaleas, and so commence the work of improvement. Messrs. Ivery & Son, then of the Dorking and Reigate Nurseries, did much to improve this useful flower forty to fifty years ago, but others had been at work previously, though but few records of their work are left to us. Such raisers as Smith, Kinghorn, Frost, Knight, and Lee, among others, did their share, and gave to cultivators varieties of high-class merit.

Of late years our best varieties of Azaleas have come from the Continent. The Belgian raisers in particular have been greatly successful in originating new varieties, both double and single. The flowers are large, stout, and finely formed, and the plants are of an excellent habit of growth. A few of these may be mentioned as representing the very cream of the collections now in cultivation:—Antigone, white, striped and blotched with bright violet; Apollo, white, striped carmine, extra fine; Charles Leireus, a very fine semi-double variety, colour, dark salmon; Emperor of Brazil, deep rose, edged white, fully double; Empress of India, rosy-salmon, edged with white, semi-double, extra fine; Flambeau, glowing crimson, deep in colour, yet very bright and effective; Jean Vervaene, deep rich salmon, edged and striped with white; Madame Van Houtte, bright rosy-salmon, edged white, extra fine; Memoire de Louis van Houtte, bright

rose, with dark carmine blotch, double, and very striking; Phœbus, deep salmon-red, semi-double, very fine; Sigismund Rucker, rosy-pink, edged with white, very fine; and Souvenir de Madame Rudolphe Abel, salmon, edged with white, semi-double, of fine form and substance.

Telegraph Posts.—It tends rather to our humiliation when we learn that, with all our boasted knowledge of forestry and immense breadths of woodland, and still millions of acres of land so far unreclaimed, that it is hardly producing a profitable tree, so that when the Postal authorities require substantial poles for the Telegraph service, they should be unable to meet their requirements at home, but, of necessity, must get their poles from the forests of Norway. There are not wanting patriotic citizens who would so far hamper the Government in this matter by proposing to put a protective tax upon Norway Pine, on the ground that our home woods and forests needed such protection. But the case of the authorities is unanswerable in so far that were we dependent upon home-grown poles, the wires would never be secure—would, in fact, be in danger of falling at any moment—simply because the home-grown poles would lack endurance. It is true the Government might give an impetus to a home industry by having the needed 20,000 poles of iron, but the cost would be four times that now incurred for the Norway poles—a formidable item. English Larch has been employed in the past with indifferent results, as they soon decayed. Curiously enough the wood has a grain so close that it fails to absorb the creosote with which it is pickled, and yet is incapable of resisting moisture for any length of time. Of course our forefathers could never have contemplated such a use for poles as that of elevating telegraph wires, but once the demand has been created, it is evident that as long as our present system of inter-telegraph communication exists, so long will Pine-poles be needed, unless we eventually incur the enormous expense incidental to iron supports. What we should now consider is, the possibility of growing suitable poles at home either from Norway Pines or some other suitable fir. This is a problem which authorities in forestry should be able to solve for the benefit of home-trade and native industry.

A New Cycad.—Zamia tonkinensis is the name of a new Cycad, which is figured in the February number of the *Illustration Horticole*. It is, as its name implies, a native of Tonkin, and is now in the possession of the Compagnie Continentale d'Horticulture of Ghent. This firm obtained for it a Certificate of Merit at the horticultural meeting of the Casino, at Ghent, in December last. It is said to be one of the most elegant species of the genus, and much like the well-known Cycas circinalis. The numerous fronds are gracefully arching, bright green, pinnate, with about thirty-six pairs of lanceolate leaflets, and the petioles spiny below the leaflets. It will, doubtless, require similar treatment to the afore-mentioned Cycas.

American Inventions.—Messrs. O. T. Presby & Aaron Hall, N.Y., have invented a Cultivator, the teeth of which are attachable as desired, and are so held to their work by a clamp that they will yield on striking a large stone or other obstacle, and thus prevent breakage. Mr. W. P. Brown, Lanesville, has patented a Wheel Cultivator provided with plow beams with flexible joints, and with lifting spring and draught connection that tends to lower the ploughs into the ground, and some other improvements are added in construction to make the appliance light and strong.

Gardening Miscellany.

On Wednesday and Thursday next the Spring Show of the Royal Caledonian Horticultural Society will be held in the Waverley Market, Edinburgh.

In connection with the formation of the proposed Foresters' and Gardeners' Benevolent Institution in Scotland, *Forestry* suggests the establishment of a Foresters' and Gardeners' Club, embracing lodging accommodation, on a commercial basis.

M. Charles Joly, of Paris, has just published a modest *brochure* of six pages on Vine Culture in California.

Old exhibitors at the Crystal Palace Flower Shows will hear with regret of the death recently of the former superintendent of the Natural History Department, Mr. F. W. Wilson, at the comparatively early age of fifty-one years. If ever there was a Mark Tapley among Flower Show managers, "Fred. Wilson" was the man, for he had the most imperturbable of tempers, and always "came out strong." Some of his Natural History yarns will long be remembered.

The Silver Banksian Medal of the Royal Horticultural Society offered for competition at the late Clifton Spring Show for the best specimen Orchid, was won by Mr. E. Miller, with a specimen of Phalænopsis Schilleriana bearing over sixty flowers.

Mr. George Webley, on resigning his post of honorary secretary to the Clifton Spring Show Society, after sixteen years good service, was lately presented by his horticultural friends with an illuminated address, accompanied by a silver cake-basket, fruit spoons, and album, as a small acknowledgment of his valuable services.

A plant of the Monster of Delight, Monstera deliciosa, a Mexican fruit not often seen in this country, is at present bearing two fine fruits in Messrs. James Carter & Co.'s nursery at Forest Hill.

Mr. B. Ashton, lately gardener at Kirkham Abbey, York, has been engaged as gardener to Lord Howard of Glossop.

A specimen of Dendrobium Wardianum, with nearly thirty flowering bulbs, was exhibited at the late Liverpool Show by Dr. Walker.

Mr. A. Stevens, formerly gardener at Holywell Park, Sevenoaks, has been engaged as gardener to James Bateman, Esq., Moor Park, Farnham, Surrey.

It is rumoured that Mr. Charles Sharpe, of Sleaford, who was a candidate for South Lincolnshire at the last general election, has had a considerable amount of pressure brought to bear upon him with a view to inducing him to become the Liberal candidate for the Spalding division of the county.

A fine plant of Dendrobium fimbriatum giganteum, with over thirty spikes of drooping, golden blossoms, was shown last week at Liverpool by Mr. G. Blackmore.

Mrs. McKeith, widow of Mr. Archibald McKeith (who died about nine years ago, after serving the firm of Messrs. Downie & Laird, now Messrs. R. B. Laird & Sons, for twenty-six years as nursery manager), died at the West Coates Nursery on the 18th ult.

The Orchid Album.—The March number of this publication contains coloured plates and descriptions of the handsomely spotted Cypripedium Godefroyæ; the very beautiful Cattleya Mendelii Jamesiana; the graceful and very distinct white flowered Angræcum Kotschyi; and a very good form of Vanda suavis.

Royal Botanic Society.—At a meeting of this Society held last Saturday, Dr. Cogswell said that the curious felted balls brought by the secretary from the shores of the Mediterranean, and described by him at the last meeting as formed from "sea-wrack" by the rolling action of the sea, had proved very interesting to many scientific friends. He would like to know if they contained iodine, or could be put to any economic use.—Professor Bentley said that iodine was now obtained so readily from a variety of sources that it would not pay to use balls of sea-wrack for the purpose. The dried plant was in use for stuffing mattresses.—Mr. Henry Maudslay said that in his travels over a considerable portion of the world he had constantly met with similar balls formed of a great variety of substances on the sea beach. He believed they assisted in the formation of soil on coral islands. He had often seen them of more than a foot in diameter.

CYCLAMENS.

The truly superb, as well as extensive, collection of these favourite winter and spring flowers, shown last week at South Kensington by Mr. Richard Clark, of Twickenham, furnishes an excellent text upon which to pen a few notes. Mr. Clark is one of the two or three, we may say certainly not more than half-a-dozen, of market plant-growers who turn out Cyclamens, to use a modern colloquialism, "About as good as they make 'em." It is one of the odd features of this plant, and we have previously remarked upon it, that only very few can grow it well, and those few are not, as a rule, ordinary plant-growers, but Cyclamen specialists. The fact is, the Cyclamen needs special houses, special culture, and special knowledge; and although it is evident that to those who have all the secrets of their culture at their fingers' ends, it is as simple as A B C, and the plants may be turned out in first-class form almost as early as if they were Cabbages, yet myriads of good gardeners and ordinarily good plantsmen utterly fail with Cyclamens, and fail, first, because they have not the special houses, and secondly, the special knowledge that is required.

Mr. Clark, for instance, turns out some 12,000 to 15,000 plants yearly, and grows nothing else beyond Strawberries in pots for the spring-time. Cyclamen growers in the market-trade are useful men, and of course know their worth, but then they are not, as a rule, so very clever in other directions. Now the group of Cyclamens which Mr. Clark put up at South Kensington, comprising some 200 plants, were finely grown and perfectly flowered. Nearly all were in the usual market 48-sized pots, from out of which in market plant establishments such wonderful results are obtained. The collection comprised several forms and colours, the most striking of which were the block of rich crimson flowers of a rich blood-red hue, of good form, and though not so large as are those of light colours, yet are wonderfully effective. From out of this batch have been selected from time to time some forms having singular density of colour and stoutness of petal; indeed one, a seedling of recent raising and carrying only three open blooms, surpassed all we have before seen in form, colour, and general quality. Rather lighter are the reds, though very striking and effective indeed, as seen in this group, shown up in a mass between other masses of paler colours. The rose-coloured section named Rose Queen, have a delicate flush of violet on a red ground, and are very beautiful.

The persicums of Mr. Clark are a very fine strain, his Giganteum compactum rivalling for size and form any strain in existence. The Persicums may be always recognized by their coloured bases, such for instance as seen in the charming new colour, Rosy Morn, the flowers being of a bright flesh-pink with a deep red base. The true p. giganteum compactum has blooms of great size, and generally of a pale flesh or white ground, with base of crimson, purple, or rose. A grand form, selected specially, is named Monarch, the petals being some 1½ ins. in depth. A pretty form has a flesh-coloured base, which runs up into and suffuses the white petals, giving a pleasing delicate tint.

Finally, there are the whites, a splendid strain, pure as snow, and blooms of great size. What admirable compact habits have been secured to all these best strains of Cyclamen now, the blooms standing upon stout erect stems with entire evenness, just as though grown in a mould. It was once remarked that in the course of improvement the Cyclamen was in danger of having one of its most striking features, the twist in the petals of the flowers, improved clean away. That danger seems to be at present remote, but it is certain that exceptional cases of stoutness and breadth of petal are almost of necessity accompanied with less of twist and more of flatness.

It does seem as if, judging Cyclamen blooms by our casual notions of what they should be, that there is now very little room for improvement in the best forms. Minute divergencies may arise which may bring them a trifle nearer to the florist's ideal, but still it must be admitted there is not much room for advance on existing recognized lines. Double flowers do not at present exhibit any features for which to crave. They are loose, very irregular and sprawling, and, to use a familiar phrase, are all over the shop. It is not at

all probable that the Cyclamen will ever produce double flowers which will prove acceptable, because so far all doubles and semi-doubles have but been good flowers spoiled. We prefer to look for pleasing variations in diverse directions. Market cultivators of Cyclamens are our chief growers of them, and in the direction of obtaining diversity in form or attractiveness, we must hardly look to them, but rather to some successful private grower who is not fettered by obligations to grow only what will sell, as the trade growers are. Thus, should they find in their collections any plant producing flowers that exhibit a tendency to break away from the regulation form, they will probably condemn it as dangerous and useless.

In the group of dark red kinds which Mr. Clark staged the other day was one plant producing flowers, each one of which was clearly margined or edged with white. The margin was a thin one, and on the older flowers rather gave the appearance of having been burnt, to use a common expression often applied to coloured flowers. Mr. Clark thought this plant of very doubtful value; we on the other hand thought that it might well have been made the progenitor of a race of edged flowers, and assuming that the edging could have been produced a little broader and brighter, then a very striking and distinct race would have resulted. If these would not sell in the market, and of that we are far from being certain, surely they would be popular with private growers.

In a group of these plants recently exhibited by another first-class market grower, Mr. H. B. Smith, of Ealing Dean, was one producing blooms that had the edges distinctly laciniated or feathered. This might again have been made the parent of a novel and beautiful race, and the addition of a pretty laciniated edge to the bloom of the Cyclamen would tend greatly to popularize this plant amongst those who care little for smooth edges, precise forms, flat petals, and those other elements which the present grower strives so eagerly to secure.

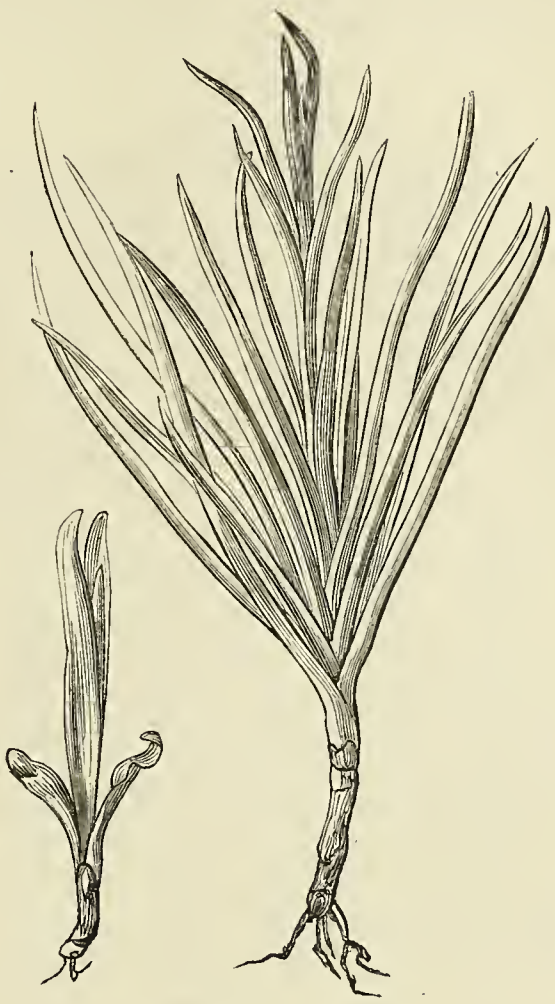
PROPAGATING CARNATIONS.

For the past few years I have been a somewhat successful propagator of these favourite flowers, and as I have already this year rooted a considerable number of the leading varieties, a few remarks on my practice may not be out of place. In some particulars my mode of procedure differs from that of Mr. Warden, cited at p. 438 of The Gardening World; still that is no proof that my treatment is the best, since different opinions are sure to emanate from different men labouring under different conditions, both being founded on sound practice, and both followed with good results; I think, however, I may be able to throw a little light on the question as to why the cuttings inserted by Mr. Warden's correspondent continue to die.

I do not think the cause is to be found in the cutting touching the drainage of the pots, for in that case cuttings only 1½ ins. long would be buried nearly their whole length, and this is certain death to them. I attribute the cause of failure in a great measure to the size of the cuttings themselves, for cuttings of such a size I should pass by, deeming them of insufficient length, and those desirous of becoming successful propagators will, according to my experience, do well to leave their cuttings on the parent plant till they are at least 3 ins. long. When only 1½ ins. long the cuttings made on the flower stems will be seen to be composed of some half-dozen somewhat flattened leaves — an elongated bud in reality, which being detached from the parent at this stage, while the heart-leaves are yet forming, cannot be considered sufficiently strong as a cutting which in a great measure has to depend upon its own stamina for support till roots are formed; therefore I am strongly in favour of cuttings 3 ins. or 4 ins. long, produced in a temperature of from 50 degs. to 55 degs., the last the maximum, except by sun-heat.

It is impossible to have a cutting that is too old or too hard, and it may be useful to not a few of your readers to know that cuttings quite six months old, with a firm, woody base, will emit roots far more readily than do soft cuttings formed in the spring; still the fact remains, and the best cuttings which are produced will be found about the woody base of the parent plant. Strip these off with a heel attached, and keep your knife in your pocket, that is if you value your cutting. I have now a quantity of rooted cuttings awaiting potting, which were inserted early in January in 5½-in. pots; the soil used was sandy loam, with half an inch of sharp, dry, crystal grit on the surface. In each pot I placed some twenty cuttings or thereabouts, and my average losses have been about ten per cent., though in some pots not a cutting has failed. The pots were plunged in cocoa-nut fibre in the propagating house, and from the time the cuttings were inserted till they were rooted a temperature of from 50 degs. to 55 degs. was maintained. They were fully exposed in the house, and the results are as above described.

I do not approve of bottom-heat nor yet of the system of giving it as adopted by Mr. Warden's correspondent. It is natural for the temperature to be considerably lower at night, so that it cannot be considered prudent to give bottom-heat by night and dispense with it by day. Last year I rooted some 200



CARNATION CUTTINGS.

or 300 on a bed of coal-siftings in the propagating house, the pots in this case being covered with bell-glasses. One good watering, sufficient to penetrate the whole of the soil, was given, and the glasses were not put on till the day following, when the cuttings were quite dry (which is very essential), the glasses being removed daily and wiped out. Here they rooted freely and well in about three weeks. Some five or six years since I was much in favour of the dung-frame for propagating these Carnations, but my losses were considerable. Many things in a cutting state delight in such a place (and none more so than Bouvardias), but the Carnation, always impatient of superfluous moisture above and below the cutting, was evidently unhappy, and owing to this and my great losses, I altered my course, and am well satisfied with the change.

There is much difference in the varieties, and the way in which the cuttings are produced, as all do not grow alike, and it is not always possible to obtain cuttings from the base of the plants. That fine scarlet Alegatière furnishes an illustration of this, unless the plants are two or three years old. One of the worst to root from cuttings is The Bride (Hodges), though it is not a perpetual flowerer strictly speaking, but by means of layers it is propagated easily enough Among the sorts now rooted I may mention White Swan, La Belle, Sir Garnet Wolseley, Vulcan, Alegatière, Miss Joliffe, Hector, Rose Perfecta, Lady Musgrave, and others. Marguerita Bonnet is probably the finest winter white in cultivation. I have, however, lost sight of it, and would like to make its acquaintance again. With a view to illustrating these remarks, I have forwarded a 2-in. unrooted cutting, also a rooted cutting with firm wood, and which, if engraved, will give many a better idea of the difference than can be obtained from a mere description.—*E. Jenkins.*

SPIRÆAS AND OTHER SPRING FLOWERS.

Some plants of the pretty Spiræa japonica were shown the other day at South Kensington, accompanied by the remark, "Why pay foreigners for what can be grown as well at home?" True; but it is a fact that plants of this Spiræa can be grown abroad and delivered in London cheaper than growers can supply them from Kent. Moreover, how many of the home-grown plants will miss flowering compared with the imported clumps? The answer to this question is, All depends on the treatment which the plants receive. If carefully potted and well managed after the flowering period is over, it will be found that home-grown plants will flower well year after year—quite as well, in fact, as the best imported ones. The treatment which Spiræas receive from the market growers is not conducive to the permanent well-being of the plants. The roots are crammed into 5-inch pots, with little or no soil at all to grow in. They are rapidly forced, and the plants are not, as they ought to be, inured to a cooler temperature in which to develop their blooms. The treatment which the plants ought to receive is this: Use pots large enough to admit of some good potting soil being pressed firmly round the roots, which should be potted as soon as received and plunged in cocoa-nut fibre refuse. They may be placed in heat as required, and they will succeed best if plunged in a gentle hot-bed. As soon as the first flowers show signs of opening, take them out of the bottom-heat for a day or two before removing them to the greenhouse or conservatory. While in the greenhouse they receive ordinarily good treatment, but not infrequently they are turned out of doors after blooming-time is over, where they are chilled by the cold or scathed by frosty winds, and perhaps suffer from want of water. The treatment they ought to receive after blooming is to place them in a cold frame and water them freely. In May, plant them out of doors in a border in rich garden soil, and after that they require little attention until it is time to repot them in autumn. A quantity of plants grown and forced for many years is now in flower, and very satisfactory they are; some of them are in pots 10 in. or 12 in. in diameter.

With Deutzia gracilis, loaded with snowy blossoms, our houses are now crowded, and all of them are home grown; indeed, they were propagated from cuttings made of young wood struck in hotbeds in spring. Our best plants are just twenty-one years old. They have been grown in pots for the whole of that time, and are now in 13-in. ones. We pot them once in three or four years, and the reason they flower so well and strongly every year is because they are encouraged to make their young wood without any check to their growth. When done flowering they are kept in the greenhouse until the weather is favourable enough for their being placed out of doors; indeed, nearly all failures in such matters may be traced to the plants being exposed to cold after they have done flowering. It is very difficult to get people to understand that plants require quite as much care after they have passed through the blooming period as they did before it. Another plan is to inure the plants to the open air, and plant them out the same as is done in the case of Spiræas. Spiræa palmata is a very pretty plant, and well adapted for forcing, but it requires good treatment and it well deserves it. It makes a much taller plant than the more elegant S. japonica, but its pleasing rose-coloured flowers are so pretty that they are admired by everyone; its bright green leaves, too, are very attractive.

Lily of the Valley, when forced, often fails. Sometimes the cultivator is to blame when imported crowns

do not succeed. In other cases it may have happened that they have been packed together in too large masses, and have heated in the crates or boxes in which they are imported. Those who force Lilies of the Valley for market early in the year seem to push them on into flower without caring to have the leaves well developed with the flowers. Perhaps their customers do not care whether the leaves are well grown or not; but the beauty of both the wild plant and the garden plant is to see it with leaves full-sized and bright green, with the flowers partly hid amongst them. I hold that the nearer our forced plants approach this condition, the more credit ought to belong to the cultivator. In order to get leaves as they ought to be, and flowers at the same time, the plants must be forced with bottom-heat, and they must not be forced too rapidly. 55 deg. is enough, and they ought to be well exposed to light. Crowns are certainly the best; but they are useless after they have been forced. Home-grown clumps were used for forcing long before crowns were imported, and they are used now by many people. It is not necessary to plant them out again; they may be grown in pots all the year round, and be forced again the following season. I know a grower who took a prize in London for Lily of the Valley, and e told me that the plants with which he gained the award had been grown in pots for nine years.—*J. D., in The Field.*

HAREFIELD GROVE, UXBRIDGE.

A short time since you gave, from *The Walsall Observer*, a somewhat complete and interesting account of this place. It is, indeed, in respect of its manifold glass structures, one of our great English gardens, and an army of workmen is now employed on four or five more commodious vineries, &c. On the 25th ult., George Webster, Esq., the proprietor of the Grove, gave a dinner to the whole of those employed on the place, numbering about 120, and a number of visitors brought the number up to about 150. A substantial dinner was served in what was formerly a chapel on the estate, but which has since been used for other purposes; Mr. E. Bennett, of Potters Bar, being in the chair, and Mr. J. Gough, the gardener at Harefield Grove, in the vice-chair. Among the visitors were Mr. B. S. Williams, Holloway; Mr. William Dean, of Walsall; Mr. J. C. Mundell, Moor Park Gardens; Mr. G. J. Brush, High Grove Gardens; Mr. R. Dean, Ealing, &c. Some loyal and complimentary toasts were given, the healths of Mr. Webster and Mr. Gough being received with great enthusiasm.

It is truly marvellous how the glass structures on this place grow in extent. At the present time, something like four new vineries are in course of erection, in addition to a huge Gardenia house of very large and, we should think, unprecedented dimensions. And these by no means represent all that it is proposed to add to this huge garden of glass. Extensive orchards for hardy fruits are also being planted, and fresh ground is shortly to be broken up in order to add to what already exists on so large a scale.

In walking through this place one is almost bewildered by the constant succession of houses and their varying contents. The extent to which Tomatos are grown is astounding. It would tire one to count the many hundreds of plants that can be seen here. Melons are largely planted, and both crops are doing exceedingly well. French Beans are also grown on a most extensive scale. Standing at one end of a long range of Cucumber houses one can see for a space of 300 ft. three lines of Cucumber plants, and two of French Beans. Thousands of fruit of the former will be taken from this range. The leading sorts are Verdant Green, one of the earliest and best bearers, Improved Telegraph, and Smith's Frame. Then there are early Potatos in pots, coming on rapidly.

It is not necessary that I should repeat details that so recently appeared in your columns. I never before saw Gardenias planted out doing better, or blooming more freely, than the plants seen here. There is a collection of stove-flowering and foliaged plants that make a splendid exhibition in themselves. Eucharis are grown here largely, and with very great success, the plants throwing up many flower stems. Chrysanthemums are grown by the thousand, indeed, in enormous quantities. Ornithogalum arabicum is a charming subject, forced into flower in pots, and so is Allium Neapolitanum, both white flowered and valuable for decorative and cutting purposes. Violet Lady Hume Campbell is a charming variety of the Neapolitan type, of a fine robust habit, and large deep coloured flowers; it is also very free.

In the fruit forcing houses the Vines look highly promising. Peach and Nectarine trees are laden with blossoms; those that have set their fruit are laden with the same. There are a large number of Strawberries being forced also.

Tea Roses are a great feature. There are two commodious houses devoted to the growth of these, containing some 3,000 plants in 32 and 24-sized pots. Cutting commences in January, and is continued for seven or eight months. The leading varieties are Niphetos, Madame Falcot, Perle des Jardins, Isabella Sprunt, and Safrano. Maréchal Niel is planted out at the backs of the houses, where it flourishes like a Bay tree.

What an interesting sight the Banana house is. There are eight plants planted out, four on either side, and they are doing so well as to be producing huge clusters of fruit. What a place it is! It really requires a day to look over it, and be able to take in all the details that are so varied, and at the same time so successfully carried out.—*R. D.*

CALADIUMS.

Among plants which have beautifully-coloured leaves, Caladiums have always held a high position, being of easy culture, and equally attractive whether grown in a small state for general decorative purposes or into specimens for the exhibition table; but having recently had the pleasure of looking over a collection containing many of the more recent additions to this popular genus, I think they may now justly claim a higher position than has generally been accorded them. Since the advent of Chantinii, Belleymei, and a few others, the hybridist has been steadily at work among them, and has now achieved results which may justly be styled marvellous. In no class of plants has the hybridist's endeavours to improve nature met with more successful results.

Those whose acquaintance with Caladiums is limited to such varieties as were grown some ten years back, such as Albert Edward, Prince Alexander, Max Kolb, and other fine varieties, must be forcibly struck with the immense strides which have been made since then; colours of the most exquisite tints, substance, and size of leaf, which would then have been thought unattainable are now surpassed, presenting to the eye a picture of beauty which no other tribe of plants can surpass. Considering that they are usually grown in the summer months, when there is in many establishments more room to spare for extra subjects, and being dormant during the winter, it will be a marvel if many of these improved varieties fail to become popular and extensively cultivated, the management of them to those having command of a temperature of from 60 degs. to 80 degs. during the summer being of the simplest character.

The following may be named as among the most beautiful of the newer varieties:—Aida, Amœnum, Albo-luteum, Anna de Condeixa, Bellini, Baronne James de Rothschild, Candidum, Elsa, Gaze de Paris, John R. Box, L'Aurore, Le Tetian, Madame Fritz Kœchlin, Madame Lemoinier, Madame Marjolin Scheffer, Mons. D'Halloy, Raoul Pugno, Souvenir de Dr. Bleu, and Souvenir de Madame Bernard. Among older varieties may be mentioned A. Bleu, Argyrites, Dr. Lindley, Emile Verdier, Felecien David, Herold, Laingii, La Perle du Brésil, Louis Duplessis, Louis Porrier, Madame Hunnebelle, Meyerbeer, Mons. Barillet, Princess Royal, Regale, and Triomphe de L'Exposition. This latter selection may meet the requirements of beginners with moderate means, but to those who are in a position to procure a selection from the first list, they cannot be too highly recommended.

In the nursery of Messrs. J. Laing & Co., Forest Hill, some of the best of them may at the present time be seen in fine form, showing that while so well adapted for summer culture, they are equally available for decorative purposes during the earlier months of the year, when, if possible, their unique colours effect a finer contrast with the other occupants of the stove than later on in the season. It has often been a matter of surprise to me that no progress has been made with the golden-leaved varieties since the set which was raised at Chiswick by Mr. Bause was sent out.—*W. B. G.*

THE HIBISCUS.

It is only occasionally that we see an odd plant or two in gardens out of the number of varieties that are known of this genus. Many years ago there was a plant of H. rosa-sinensis rubro-plenus growing in a 12-in. pot on the back wall of one of the stoves at The Fence, Macclesfield, which covered several square feet, and was seldom out of flower. Few plants would have stood the roasting that this plant received, occupying as it did the back wall of a Pine-stove, having as its companion the night-flowering Cereus, which periodically flowered freely.

We have here H. luteus plenus, at least, that is the name a neighbour has it under, who was good enough to give me a couple of cuttings about a year ago. I enclose a flower, and you will observe that its stem is of sufficient length to admit of it being used for many purposes that cut-blooms are in request. Our plants, two in number, are in 8-in. pots, and for the past four months not a day has passed without from one to six flowers being fully developed. My neighbour is still more successful, as his plants are trained near the glass, whilst ours are on the stage several feet from it, but in a position to catch every ray of sun. A stove where a minimum temperature of 55 degs. is kept will preserve them in good health, but 60 degs. to 65 degs. will maintain a better supply of flowers.

From my present and past experience I can affirm that the Hibiscus gives as little trouble as any stove-plant grown, as it does not suffer from the incursion of insect pests like the majority of stove-plants, and they will, when in a 10-in. or 12-in. pot, thrive for two or three years without being repotted. In the summer they would be better in the greenhouse or pit than in a heavily-shaded stove, as they require full exposure to the sun. The soil we use is three parts of loam to one of leaf-mould, and one-eighth of sand.—*W. P. R.*

VINES ON HOUSE FRONTS.

The ivy-clad cottage, or vine-fronted house, has always a pleasant aspect for the wayfarer, and to the residents of such dwellings, a charm which is well appreciated. Sometimes other climbing plants intermingle, as Virginia Creeper, Wistaria, Jasmine, Honeysuckle, &c., blending their foliage and fragrance into one charming harmony. But when this sweet medley exists, it is not to the advantage of the Vine, which, while aiding its companions to climb and cluster up to the eaves, is prevented by them from bringing its Grapes to perfection, if indeed it bear any.

Yet the Vine may be made to bear Grapes without destroying or injuring its companions. The plan we have adopted may perhaps best explain how this can be generally accomplished. Our cottage, over 50 ft. long, had its front covered with Ivy and Vine, with other creepers commingling in almost wild luxuriance, and each year some gay or fragrant creeper was added to the tapestry of nature; but Grapes were wanted, and to obtain them the following plan was adopted:—

Along the front of the house are flower-beds, 5 ft. wide, then a path about the same width, and a grass plot extending to the lane; on the edge nearest the lane are Lime tree arcades from end to end of the plot.

Along the outer edge of the path are iron standards about 18 ft. apart, connected together. These standards of 1 in. square iron are fixed securely into the ground; at 5 ft. high is a shoulder on each standard, which serves as a bearing for the square holes in the light iron rods which are intended to be the future home of the Grape-bearing part of the Vine. These rods rise in curved arches about 10 ft. high from the ground, so as not to exclude the light from the lower windows of the house; from the standards other arched rods are carried over to the front of the house, forming ties to support the whole against the pressure of the wind.

Opposite each standard a trench, 1 ft. deep, was cut through the flower-bed and path from the house to the standard. This was partly filled with good

manure and loamy soil; and a strong piece of the Vine, more than 12 ft. long, was taken down from the wall of the house and trimmed of its lateral shoots, and bent down into the trench, the ends intended for growth were trained up the standards, the flower border and the path being restored as before.

Pieces of young wood of the Vine were also trained along the arched rods from the wall of the house to the standards. The Vine left on the house was more vigorous in its growth of leafage, and those pieces which were trained to the arches grew very rapidly and bore a plentiful supply of Grapes.

The Vine was laid and trained three years ago, and this spring, finding it had made so much wood, we decided to lay a piece from each standard to the Lime tree arcades across the grass plot in the same way as it had been done from the house to the standards. We proposed to a friend whose Vine is on the east side of his house, and bears no Grapes, to adopt a similar plan to take the Vine to the south side to get a crop of Grapes.—*Lilian King, Ivy Cottage, Bulstrode Park, Slough, in Forestry.*

THE VICTORIA AND PARADISE NURSERIES.

Mr. B. S. Williams has arranged a most beautiful, varied, and interesting lot of plants in bloom, in which many rare species are represented. The great and showy classes of Hyacinths, Tulips, Imantophyllum, Cyclamens, Orchids, &c., are seen in such quantity, and in specimens grown to such perfection, that, while forming a most delightful display, or rather series of artistically arranged floral combinations, they at the same time offer a rare opportunity for those who are on the look-out for best varieties and good distinct selections to see and judge for themselves.

In the fine large conservatory, 100 ft. by 40 ft., which is always noted for the grand specimens of Tree Ferns, Dracænas, Palms, and other foliage plants which it contains, the splendid, well-grown collection of Hyacinths and Tulips are set up, the show being further assisted by many fine plants of the gigantic Cyclamen persicum, for which Mr. Williams is noted, a good display of Azaleas, Lily of the Valley, Arum Lilies, Cytisus, and other things, both handsome and fragrant. The whole is well arranged, and he must be difficult to please indeed who would not be gratified by an hour passed in the company of such beautiful objects.

The Hyacinths are represented by some hundreds of plants, grown quite up to the best exhibition form, and comprising a great number of varieties; but, notwithstanding the quantity of kinds grown, none can be found which, by reason of some special feature of colour or substance, may not be termed good and desirable. The varieties are nearly all of the single class, some of them being very attractive, from their new tints of mauve, violet, mulberry, or yellow. Of special merit are Obelisque, a very fine spike of well shaped flowers of a clear light yellow; Lord Derby, a well-known fine variety, with good spikes and large wax-like bells, of a clear lavender shaded with blue; Distinction is a very telling kind in an arrangement, the flowers being of an unusual colour; they are crimson, shaded with maroon, and have a maroon band down each petal; La Grandesse appears to be one of the finest of pure whites, and good in every respect; Schiller is very handsome, with bright rose-pink flowers, tipped and banded with dark crimson; King of the Blacks—as its name implies—is a fine lustrous black variety. But one might enlarge on the merits of a very great number of the fine kinds, and yet do nothing like justice to the display which it deserves, and which a visit will enable all those who are interested to better estimate.

The Tulips include two new doubles, Velvet Gem, crimson-scarlet, shaded and banded with yellow, and Leonard de Vinci, bright scarlet with broad yellow edges to the petals. The singles are a finely grown lot, most of the favourites being represented, among them, prominent by their excellence, being Van Spændonck, purple and primrose flake, and the old scarlet-vermilion Brilliant, and the purple Van der Neer. A fine representative batch of Narcissus is arranged beyond the Tulips, and the whole display of flowering bulbs is one of the highest quality.

The now numerous and lovely collection of Imantophyllums occupy the first division of a roomy span-roofed structure. A few years ago it would have been thought to be impossible to get such a variety of colour, shade, and form among the different forms of this one species, but the skill of the cross fertilizer and cultivator has accomplished wonders with it, both in giving ornament to the foliage and size and colour to the flowers. The number of flowers which are produced on each spike by many of the best forms is truly surprising. The whole house glows with the light orange to scarlet heads of bloom, which are so well shown up by the broad dark green foliage. As seen at Mr. Williams's, the best and most distinct kinds appear to be, General Gordon, a very showy variety, with flowers the nearest to scarlet of any, the brightness of the colours being well displayed by contrast with the clear white centre; Madame Van Houtte, bright orange-scarlet, with white star in the centre; Marie Riemers, soft orange-scarlet, flowers of great size and good substance; Aurantiacum, yellow tinged with light orange colour, very distinct; Lindenii, a grand variety, with broad handsome foliage, and stout flat spikes, bearing immense heads of large orange-scarlet flowers of the best quality; all things considered, it may be regarded as one of the very best. Cruentum compactum is a neat dwarf kind unlike any of the others; it is very floriferous, and has medium-sized flowers of a decidedly scarlet-tinted orange; Ambroise Verschaffelt, in the single flowers, for size and colour is a superb thing; it has not so many blooms in a truss as some of the others, but what it lacks in numbers is made up in size.

The Amaryllis occupy the whole of the second division, and a grand show they make. Some growers have of late years made seemingly unsurpassable strides in perfecting these plants, and all have made progress, each in their collections having certain strains peculiar to them. Mr. Williams excels in the rich, fleshy, dark velvety-crimson forms, and of these his last new one is a long way in advance of the others. It is called

Baron Ferdinand de Rothschild.—Its flowers (four on a spike) are of the most perfect form, the petals being all nearly equal. Colour, shining, rich velvety dark scarlet, veined with dark crimson, the centre having a purplish-crimson hue.

Prince Albert Victor is one of the same strain as the preceding. Flowers, velvety crimson, with darker veining and shading.

Dr. Masters is also a magnificent dark scarlet kind, of good shape, substance, and habit.

Johnsoni grandiflora, among the lighter kinds, is very telling. Its flowers are white, heavily veined with crimson and tipped with scarlet.

Fascinator is a very fine white, with purple pencillings.

Exquisite has scarlet flowers of the Johnsoni type, each petal having a broad band of white, veined with crimson.

Many good seedlings are also in bloom, as well as some of the fine kinds of olden times, which it would be a pity to let drop.

The greenhouse Rhododendrons are now getting very showy. The earlier Azaleas are in bloom, and the great collection of Heaths and New Holland plants is full of interesting things, and so are the occupants of the stoves, and especially that containing the fine collection of Pitcher plants. But let us not forget to mention the ferneries, for, while these graceful plants are now neglected by some, they have yet numbers of ardent admirers, particularly among the ladies. Mr. Williams is one of the few nurserymen who give room to a general collection of them, and the grand specimen of Gleichenia, Adiantum, Filmy Ferns, and most others, new and old, should not escape the attention of the visitor.

The Orchids at Holloway, as at other large nurseries, have to keep garrison, and are to be found with colours flying all the year round; while the other great detachments each in their turn come in, do duty, and depart until the next year. The Odontoglossum house has a good show of exceptionally fine forms of O. crispum (Alexandræ) and O. Pescatorei; one rare variety of the latter, with a good branched spike, has flowers of Alexandræ size, but of the usual Pescatorei form. Also very good in bloom are some O. triumphans, many varieties of O. luteo-purpureum, including hystrix and radiatum, O. Oërstedii, O. Rossii majus, O. Hallii leucoglossum, O. H. xanthoglossum, a fine specimen of the true O. nævium majus, O. cirrosum, and some very pretty hybrids. An extra fine variety of Oncidium phalænopsis has snow-white flowers, with heavy violet blotching, and Masdevallia Harryana lilacina, M. Veitchei, M. ignea coccinea, and the showy orange-coloured Ada aurantiaca all assist to make this department not the least important in Mr. Williams's Spring Flower Show. The noted collection of Vandas is now beginning to make their house very attractive with their handsome sweet-scented flowers. Many of the best kinds are already in bloom, among them being a good example of the Dalkeith tricolor, with five spikes.

In the other Orchid houses we noted well-bloomed specimens of Dendrobium Wardianum, D. crassinode, D. Farmerii, D. fimbriatum oculatum, D. nobile nobilius, Phalænopsis Schilleriana, P. Stuartiana, many Cypripediums, Cymbidium eburneum, Calanthe Sanderiana, and the pretty Ionopsis paniculata. The Cattleya house has yet some good Trianæs, C. T. niveum, with its waxy white flowers, being very telling. The labiate varieties are very healthy; one superb piece of the true old C. l. Pescatorei is perfection. Innumerable flower-sheaths of Lælia purpurata, spikes of Calanthe, the sheaths of the fine specimens of C. Mossiæ, and other summer-flowering things, tell that, although the spring show now on should be visited where possible, any later period will not find the nursery without a show, and that a good one.

WORKING CLAY SOILS.

I would advise your correspondent "Sussex (p. 462) in the first place to drain his garden, for in such a soil as he appears to have, satisfactory crops cannot possibly be grown. Drainage has a great influence in altering the character of soils, beyond merely conducting surplus water away.

The garden here was something like that of "Sussex," resting on a clay subsoil, soddened and sour in winter, and of a strong binding texture in summer. When I first undertook its management, some five years ago, it was nothing but a home for slugs and snails, which delight in such soils; and what vegetables did appear above ground were soon devoured by them.

I commenced with a series of drains in the first place, running from the highest part of the garden to the lowest, and 3 ft. deep. Two-inch tiles were laid at the bottom; but stones will do as well, if to be had, and placed in the bottom, one against the other, in the shape of ʌ and filling up with stone-rubble, clinkers, or ashes 18 ins. deep, with soil on the top. The clay taken out of the drains was wheeled away, and the drains were laid 15 ft. apart. The next move was to hunt up sand, road-scrapings, ashes, lime-rubble, or anything of a porous nature through which water will pass quickly, and this was trenched and dug into the soil, with the result that it is surprising now what a great difference there is in the crops and the texture of the soil. I can now work it at any time of the year.

Another important point I would impress upon "Sussex," and this is to rough dig, or, better still, ridge the soil in the autumn so as to expose it as much as possible to the winter frosts. Jack Frost, in my opinion, is one of the gardener's best friends in the case of such soils as that of "Sussex," and I am always sorry if he does not pay me a good visit, of course at the proper time. It is a well-known fact that frost is one of the most powerful ameliorating agents, as by freezing the particles of water contained in the soil, and then expanding and bursting it asunder, it makes the soil loose and crummy.

As to cropping, I do not see much use of attempting it until the draining and mixing recommended have been practically carried out; but "Sussex" may try such vegetables as Cabbages, Cauliflowers, Kale, Broccoli, and Brussels Sprouts. Potatos on such a soil would only be of second-rate quality unless he planted them in a mixture of coal-ashes and manure in equal proportions. Celery, Beans, and Peas would do if trenches were thrown out and the seeds given a start by planting or sowing them in a mixture of fine soil and manure.—*B. L. Lindley, March 25.*

The Amateurs' Garden.

THE GREENHOUSE.

Already the sun is beginning to tell on flowers in the greenhouse, which, during very bright days, will be all the better for a little shade, just to break the rays, a good material for the purpose being a fishing-net drawn over the roof, the meshes of which will be quite enough to do all that is wanted till later on in the season. To keep the temperature cool, air must be admitted freely on all favourable occasions, and it is a good plan also, when the weather is mild, to have the ventilators slightly open by night, which will prevent the damp from condensing on the bloom and injuring the petals. Such plants as Pelargoniums, Calceolarias, Cinerarias, and others of that class that are subject to green-fly, will now require close watching, as these parasites breed at a great rate, and if not destroyed soon cripple the foliage. As tobacco smoke is fatal to flowers by causing them to drop, plants that need fumigating should be removed to a place by themselves—a close shed or room being the best situation—as there a very little smoke will kill all the insects.

Ferns will now be starting into growth, and should at once be repotted, the soil most suitable being a mixture of peat and loam, in equal parts, with a good dash of sand to keep the whole open and porous. As the plants require a great deal of water during the summer, free drainage is essential, and it is advisable also to have some finely broken charcoal or crocks in the compost. If the plants are larger than are wanted, or an increase of stock be desired, most sorts that have spreading crowns may be divided by simply cutting them through.

BEDS AND BORDERS.

These will now be gay with the many spring-flowering plants, and should be kept neatly raked and clean, with the edges trimmed by running the shears round, so as to have all in good order, as nothing adds so much to the enjoyment of a garden as to see it well kept. If the hardy annuals, such as Sweet Peas, Eschscholtzias, Godetias, Nemophila, Nasturtiums, Collinsias, Candytuft, Larkspurs, Mignonette, Stocks, and others of that class are not in, no time ought to be lost now in sowing, as they come much stronger and better before hot weather begins. The best way is to make the surface of the soil fine, and then sow in patches, after having made a circle by pressing down the rim of a pot, and if the seeds are then just covered, they will soon be up, and the plants ready for thinning.

Tender annuals, like Asters and Zinnias, must be sown under glass, and planted out later, the middle or end of May being quite time enough for them, as cold soon cripples their growth. Perennials and biennals, such as Wallflowers, Snapdragons, Pentstemons, Hollyhocks, and Pansies, should likewise all be sown now, the easiest way of treating these being to make up a bed of fine soil that can be covered with any old light, and sow in rows, or the same under hand glasses, as the plants need a little protection till they are large enough to prick out in the open. Dahlias are generally started before being planted, but that is not necessary unless cuttings are wanted. These are made from the shoots, which should be taken off with a heel and inserted singly in small pots filled with light sandy soil, and stood in a warm pit or frame till they root.

Gladioli ought to be planted at once, for if left longer out of the ground they shrivel and lose much of their strength. Rich sharp sandy soil suits them best, the proper depth to plant being about 4 ins. for the large growing sorts, and less for the smaller. Spanish Iris are lovely things, and do well in borders that suit Gladioli. Bulbs are moderately cheap, and should be planted now, the way the plants look best being in clumps of three, a few inches apart.

THE FRUIT GARDEN.

Although we have now a very desirable change in the weather, Peaches, Nectarines, and Apricots will still require covering by night, as frosts may be expected for some time if the wind shifts into the cold quarter, which it may do suddenly, and as the blossoms at their present stage are very tender, it is necessary to be particularly watchful for the next week or two to save them from harm. To aid their setting, nothing is so helpful as keeping them dry, as then the pollen has a chance to ripen and disperse, and therefore a temporary coping board should, if possible, be arranged over the tops of the trees to ward off snow or wet, if they come.

If there are any trees or bushes without mulching that have been recently transplanted, no time should be lost in putting it on, as it conserves moisture and encourages root-action, and thus enables the trees to become quickly established. Strawberry-beds and Raspberry plantations are greatly benefited by the same kind of attention, and on no account should either be dug, as by breaking up the surface soil the principal feeders are destroyed or injured, and the plants greatly weakened through the loss, from which they are slow in recovering.

Vines, if treated as advised, by having the house shut up early, will now have broken and made considerable progress, and as it can be seen which shoots are showing fruit, those that are not well situated, or wanted for laying in, should be rubbed out, and others stopped by pinching out the points one or two joints above the bunches.

THE VEGETABLE GARDEN.

The weather during the past month has been all that could be desired for the vegetable garden, and land, if it has been worked about as it ought to be, will now be in first-rate order for cropping. The most important of the many things to get in now are the early Potatos, which generally do best planted during the first or second week in April, as then they seldom receive any check, but grow on strong and rapidly till the young tubers are formed. In planting the Ash-leaf, care is required not to knock off the crown shoot, for if the set so injured breaks again, it is never so good. A capital dressing to put on the ground for Potatos is soot, which makes them come very clear in the skins, and should be sown over the surface before the drills are drawn, as then it gets mixed up with the soil. Those who have not tried the plan of planting Potatos at 4 ft. apart, and cropping between with Cauliflowers, Broccoli, or Winter Greens, can have no idea what they lose, and should carry it out, as the produce, when the plants have the benefit of so much light and room, is quite double.

The same remarks apply to Peas and Scarlet Runners, the rows of which should never be sown side by side, unless at wide intervals, but one here and there in different parts of the garden, or sown 8 ft. or 10 ft. asunder, and a trench of Celery grown between, which situation exactly suits the latter, as it is fond of half shade. A good way of getting Scarlet Runners early, is to sow a few in a box or pan of light soil under glass, and plant the plants out, as it may be done without disturbing the roots much, or causing any great check. French Beans may also be treated in the same manner, but as they are more tender than the Runners, it is useless venturing out with them till quite the end of the month, and then a warm place must be chosen. If a frame or pit can be spared where there is a little bottom-heat, they come rapidly on there and pay well for the room.

As Asparagus will soon be putting the heads up through the soil, the beds should be hoed and raked to destroy any weeds now showing, to keep which down after, and improve the Asparagus, a sprinkling of salt may be put on at once, and another by-and-bye when the cutting commences. Seakale being also a marine plant, will be much benefited by the same kind of dressing, and to blanch the heads at this late season, there is nothing so cleanly as litter, which, if put over the crowns moderately thick, will keep the light and air from them, and render the heads very white and tender for cooking.

Brussels Sprouts stalks, Winter Greens, and Broccoli stumps should be cleared off the ground directly they begin to run or the Broccoli are cut, as when left standing they rob the land seriously at this season, owing to the very strong root-hold they have. To expedite the growth of Cabbage, Spinach, and Lettuce that have stood the winter, there is nothing like hoeing, which, by breaking up the hard close surface, lets in the air and quickens root-action by the chemical change worked on the soil.

DAFFODILS.

Showery April is the month of bulb beauty in gardens, and no bulbous flowers are more welcome at this season than are the Daffodils. Some few kinds, however, are tender, and require special culture, but as a class all are hardy, and will flourish for years undisturbed in any good, well-drained garden soil. They have existed for centuries in English gardens, and must have been popular in the time of "good Queen Bess," since soon after her time Parkinson published his old folio work, containing woodcuts and descriptions of nearly a hundred kinds. This was in 1629, "when Charles the First was king." It is a matter of doubt whether the Daffodil is a real native, or an immigrant to our shores. Be this as it may, they are found near old castles and abbeys, and even exist in some localities long after the buildings themselves have vanished.

Just now the Daffodils are in the heyday of fashion, and one may meet their golden beauty everywhere, in markets, gardens, drawing-rooms, orchards, meadows, and cottage gardens alike. Only the other day we had a Daffodil Wedding. Pen rivals pen in describing them, poets sing their praises, and artists paint them at their highest and best. Mr. Thomas Ware has a grand selection of these lovely flowers at Tottenham, and I have great pleasure in quoting his remarks anent these charming flowers of the April days.

"There is no class of bulbous plants," says Mr. Ware, "which has become so popular during the last few years as this, and there is no other family more deserving, on account of its great usefulness, its hardiness, and its adaptability to the climate of this country. They can be used for the rockery, for the borders, the shrubbery, woodland walks, for naturalizing in almost any position or soil, by the side of streams; for pots, for forcing, and where cut flowers are wanted in quantity, there is no family that can equal it. There are but few sorts which cannot be grown in any ordinary border, and most of these are simply botanical curiosities, so that we may consider all worth cultivating to be hardy. There are now hundreds of varieties, all interesting and exceedingly beautiful, and well worthy the attention of amateurs, as I know of no family possessing so much interest, so easily grown, and capable of being improved upon, so much as these."

So, too, would we give them the honour which is theirs by right, by illustrating some varieties well worthy of a place in all gardens.

"Sir Watkin."—Our first flowers of this, the finest of all the peerless Daffodils (the top flower in our illustration), opened its great chalice to the sunshine of March 24th, a still, showery day quite genial to the growth of these blossoms. Our illustration gives a good idea of the flower. The leaves are broad, nearly as broad as N. Horsefieldii, but more pointed, and here with us the flower opens on scapes 16 ins. in height, but will be 18 ins. to 20 ins. high, at least, ere the blossom reaches its fullest development. The periauth divisions are of a clear pale yellow, while the expanded crown is full rich chrome-yellow, and of a size and conformation bespeaking some Ajax or Daffodil parentage. This plant is a most interesting study, and the history of its appearance will be welcome to the readers of The Gardening World. In 1884 a few flowers found their way from Mr. Pickstone's garden, in Merionethshire, to the Liverpool and Manchester flower markets, and amateurs who saw them there, while noting their beauty, did not fully recognize them as the blossoms of a new variety. One thought them flowers of Emperor, a giant or Imperial Daffodil, and the next observer thought them something else.

But the flowers of our "Sir Watkin" (oh! that good wishes could give the great original health and strength to-day!) were handed to the writer on "Daffodil Conference" Day, April 1st, 1884, having been sent from Messrs. Jas. Dickson & Sons, of Chester. Mr. Barr was the first person to whom I showed the flowers. He, good man, was busy. People would get speech of him, and besides, he was superintending his sons, who were arranging his Daffodil and Narcissus flowers. "Oh!" he said, "simply a large Incomparabilis!" "Ah! yes," I replied, "but is it not the biggest and best Incomparabilis you ever saw?" Just then Mr. Barr was called away, and

other people brought flowers which were interesting, and so poor "Sir Watkin" lay limp on the table begging for a drink of water, while I read my paper, reproaching me every time my eyes fell on him for leaving him in such a sorry plight. That night, after the whirl and bustle of the Conference was over, I wrote to Messrs. Dickson to tell them that the Narcissus they had sent me was quite new, adding that they could call it N. "James Dickson," or "Dickson's Peerless," as best pleased them. On April 8th, they sent up more flowers, which were exhibited at South Kensington and certificated as "James Dickson." To this name afterwards some objection was raised, and finally it was unanimously agreed that it should bear the honoured name of the "Prince in Wales," "Sir Watkin."

We have said that this variety was distributed from Mr. Pickstone's garden; now comes the question how did it get there? Did Mr. Pickstone raise it from seed? Did he buy the bulbs, or were they presented to him? In a word, while other people have said much in print, this gentleman has told us nothing! Further, Mr. Pickstone will be quite within his rights if he refuses to say how, where, and when he first became possessed of such a fine Daffodil! But at the same time his personal account or narrative of the whole matter would, I am sure, be most welcome to our readers, and many doubts would be removed if he would kindly, and of his own generosity, unfold the tale. That this fine variety should have existed in Mr. Pickstone's garden for sixteen years ere it was discovered, exhibited, and named, is little short of a miracle, and this fact is encouraging to those who believe that there are many fine plants yet lingering on in old fashioned and secluded gardens. I need scarcely say that as the writer, I shall take care that a copy of this article be forwarded to all whom it may concern, in order that all possible information may be obtained. Finally, I may say that the good opinion I had formed of "Sir Watkin" Narcissus, is fully maintained now that I have seen it in bloom here.

A GROUP OF DAFFODILS.

Since the above was written, I have received from a friend fine flowers of a giant Daffodil, one which I only saw once before. It was then sent to me as Narcissus "Grand Trunk," from Mr. Smith, of Newry, and now it comes again from an Irish garden, and, singularly enough, on the label are the words, "Came mixed with 'Sir Watkin,' what a splendid trunk!" There is not a word of complaint, mind, at this "Grand Trunk" Daffodil being mixed with "Sir Watkin," nor need there be, for it is a great beauty, and one of the rarest of all true Daffodils. It may now dawn upon our readers, as it has dawned upon myself, that this "Grand Trunk" Daffodil having apparently grown along with it in Wales, may possibly be one of the parents of the "Sir Watkin" variety. But as I have before said, while fully admiring the distinctness and beauty of this new peerless Narcissus, every true lover of Daffodils will await with interest more light as to its origin and early history in Welsh gardens.

N. OBVALLARIS, seen on the right-hand side, below "Sir Watkin," is also a Welsh variety, naturalized, even if not really wild, in the meadows near Tenby, in South Wales. How it came there no one knows to-day, but it is one of the most distinct of all the true Daffodils, having a broadly imbricated perianth, and a stiff and sturdy trunk a little flanged at the brims. Once well planted N. obvallaris increases quickly, and its flowers endure a long time fresh and beautiful. It will always be a puzzle to us as to how this variety originally became naturalized at Tenby.

N. PALLIDUS-PRÆCOX, the flower opposite to the last-named, is a beautiful sulphur-white Daffodil, which after a lapse of nearly 300 years, was re-introduced into cultivation by Messrs. Barr & Son, through the kindness of W. D'Arcy G. Osborne, Esq., and has been found, both in Holland and England, to be the earliest of all Daffodils and one of the handsomest. In 1884 it flowered in the open ground at Tooting in January, and at the first meeting in February was awarded a First-Class Certificate by the Committee of the Royal Horticultural Society. To many it may be interesting to read Parkinson's quaint description of this Daffodil, written in 1629:—"Pseudo-Narcissus pallidus præcox, the early straw-coloured Daffodil. The leaves of this Daffodill are of a meane size, betweene the broadest and the narrower kindes, of a grayish-greene colour, and not very long: the stalke riseth up a foot high or more, whereon standeth one large great flower, equalling the greatest Spanish bastard Daffodil in the largenesse of his trunke, and having the brimmes turned up a little, which maketh it seeme the larger: the wings or outer leaves are in a manner as short as they are in the greatest Spanish kinde (and not long flagging down, like unto the mountain kinds), and stand straight out right. All the whole flower is of one even colour, that is of a fine pale yellow, somewhat like unto the colour of a Lemon peele or rinde, but somewhat whiter, which usually we call a strawe colour; the greatnesse of the flower, the earlinesse of the flowering, and the difference of colour from all the rest of this kinde, hath made me entreate of it apart by itselfe, as being no lesse worthy."—Parkinson's *Paradisi in Sole Paradisus Terrestris*, edition 1629, p. 99.

This early variety is quite distinct from all other Daffodils as noted by Parkinson, but bulbs kindly sent to me by the Rev. Wolley Dod, from near Bayonne, are extremely like it in earliness and colour, and with N. pallidus-præcox would seem to be the connecting link between the yellow Daffodils and the white ones.

N. POETICUS ORNATUS.—This variety represented by the two flowers on the lower left-hand side of the illustration, has during recent years come to the front, being grown by the acre near London for the production of cut-flowers. It is a bold shapely flower of good substance, and is one of the earliest of all the poet's Narcissi to bloom. As shown in our illustration, two flowers are sometimes borne on the scape, but this can never be depended upon, since experience proves that bulbs which give two-flowered scapes one year may be single-flowered the next, or *vice versâ*. This variety is well worth culture in quantity, and if N. poeticus recurvus and N. majalis are grown also, the supply of cut-flowers will be prolonged two or three weeks, the latest to bloom being the sweet-scented double-flowered, or "Gardenia Narcisse," which carries the Daffodil season into the time of Roses—flowery June.

N. MACLEAII.—The small flower at the bottom is not a showy kind, and its claim to be regarded as a species rests on very slender grounds, it having never been found in a truly wild state. It is quite distinct in foliage and flower, and will always have the respect of Narcissophiles, seeing that the new seedlings of the Nelsoni and tridymus types owe to it their parentage. The leaves are short, broad, of a greenish hue, and the sturdy scapes each bear one, or rarely two flowers, these having a white perianth and a deep yellow crown or cup.

N. "CAMBRIDGE DON," the large flower in the centre, is a fine bold flower, well worth a place even in the choicest selection, its blossoms being of good substance, and so enduring fresh and fair in water for a long time.

N. CERNUUS PULCHER, figured on the right of "Cambridge Don," is one of the late Mr. Leed's seedling Daffodils, and a great beauty in its way; but unfortunately, like all the white Daffodils, its bulbs are delicate, and apt to decay in cold, wet, or stiff soils. In order to enjoy the tender beauty of all the varieties of N. cernuus, a special course of culture is in most gardens quite essential. A sunny position should be chosen, sheltered from biting north and north-east winds, which soon shrivel up their beauty. The soil, if good, should be thrown out to a depth of 18 ins. to 2 ft., and a foot of drainage placed at the bottom, consisting of stones, or builders' rubbish. Over this place a layer of turf, grass-side downwards, and then throw back the soil, which will now be a foot or more above the ground-level. Each bulb should be surrounded with clean dry sand at planting time (July or August). Raised beds or borders are used even in Holland and the Scilly Islands for bulbs, and are especially suitable for tender Narcissi.

In conclusion, I would beg of all Narcissus growers to cut their flowers in the bud stage, *i.e.*, just as the perianth lobes begin to unfold. So treated, they open out in water even fresher and better than if left exposed to rough weather on the plant in the open air; and besides, one can more thoroughly enjoy their grace of form as they open their petals near to the eye.—*F. W. Burbidge, Trinity College Botanical Gardens, Dublin.*

FRUITS.

Fruit Culture under Glass.—VINES: The disbudding, tying down, and stopping of the shoots at a couple of joints beyond the bunches will now require prompt attention, as also will the removing of superfluous bunches as soon as they appear. Vines having long spurs which are allowed to increase in length year after year, not only become unsightly but are also antagonistic to the production of good Grapes, inasmuch as the sap cannot circulate so freely as could be desired through the tissues of the gnarled shoots; therefore a young shoot should be allowed to grow at their base for fruiting next year, the old spurs being cut close back to the main stem at pruning time. Vines thus treated are rendered more vigorous and fruitful.

ATMOSPHERIC MOISTURE AND TEMPERATURE.—A dry, warm, and somewhat airy atmosphere should be maintained in houses in which Grapes are beginning to colour to give flavour and finish to the berries. The same remark applies also to houses in which the bunches are in flower, in which case the rods should be tapped with the hand twice a day to distribute the pollen. But in the case of shy-setting varieties, such as Muscat of Alexandria, and Muscat Hamburgh, it will be advisable to pass some light soft substance over the individual bunches about mid-day, until a good set is secured, and for this purpose there is nothing more efficient and simple than the tail of a rabbit tied on to a stick sufficiently long to reach all the bunches from the floor line. The pathways, walls, and surface of the border—especially under the hot-water pipes, and between them and the front wall—should be well damped with tepid water early in the morning and again at closing time in the afternoon, and once between during bright sunshiny weather. These remarks are also applicable to Vines during their progress from the opening of the leaves to the bunches coming into flower.

Grapes in the early houses which have completed the stoning process and commenced their second swelling, should have a night temperature of 60 degs. to 65 degs., 70 degs. to 75 degs. in the day-time by fire-heat, and 10 degs. higher with sun, and plenty of air—running the temperature up to 90 degs. at closing time, with the house well charged with moisture. The temperature of succession houses should range at night from 60 degs. to 65 degs. by the time the bunches come into flower, when in the case of Muscats it should be raised to 70 degs., and 10 degs. to 15 degs. higher by day, with sun-heat and a free circulation of fresh air. After the berries are set, the night temperature may be lowered—that in the Muscat-house to 65 degs., and the Black Hamburghs and other varieties should range between 60 degs. and 65 degs.

VENTILATION AND WATERING THE BORDER.—Open the ventilators a little in the morning when the thermometer registers 75 degs. to 80 degs. in houses in which the vines are swelling their bunches, and at 70 degs. to 75 degs. in successional houses, and afterwards increase or decrease the quantity of air given according to the rise and fall of the temperature in the individual houses until closing time, which should range from 2.45 to 3.15 in the afternoon on bright sunny days during the next few weeks. If the vineries are pretty nearly air-tight, the front and top ventilators should be opened a little late in the evening, and closed first thing in the morning, except houses in which the Grapes are beginning to colour or are coming into flower, which should have more or less air on day and night. See that a sufficient supply of tepid water—say at a temperature of 80 degs.—is given to the roots when necessary; let there be no surface waterings, but a thorough soaking of the entire mass of roots and soil. Should red spider attack the leaves, sponge those so affected carefully with soft soapy-water, and if mildew puts in an appearance—which it will do if a low humid atmosphere prevails—dust the leaves with flowers of sulphur, and maintain a rather warm, dry, and airy atmosphere for a few days and it will soon disappear. —*H. W. Ward, Longford Castle.*

Grafting Apples and Pears.—It often happens that Apples and Pears are unsatisfactory through being unsuited to the soil or district in which they are growing, and an easy remedy for this state of things is grafting, which is a very simple operation that may be performed now with a certainty of success if a few easy rules are observed. The first preliminary with the tree to be worked is to behead it, in doing which all the smallest and best branches should be left from 6 ins. to a foot long, as arms or places for inserting the scions. As the branches will have to be severed with a saw, it will be necessary to smooth the cuts with a knife after, or the jagged bark will not heal.

The way to prepare the grafts is to get nice young shoots of the sorts of Apples or Pears that are known to be good and to do well in the locality, and shave them off on one side at the lower end, in the same manner as when making a quill pen, making the cut between 2 and 3 ins. long, and the scion double that length, when it will be ready for inserting under the bark of the stock. To enable this to be done without bruising the graft, a slit should be made by drawing the point of the knife up the rind at the end of the cut back branches, so as to make a slit through, when by having a hard piece of wood made the shape and size of the graft, the bark may be raised by pushing it down under, and after pulling it out, the scion may be put in; and if then tied securely and covered with a mixture of equal parts of clay and cow-dung, so as to form a large lump or ball around, to keep the grafts moist and plump and the air out, they cannot fail to grow.—*Alpha.*

BESSERA ELEGANS.—The best of this little-known genus, producing a pair of erect radical leaves and a scape, about a foot high, supporting a terminal umbel of ten to sixteen drooping bell-shaped flowers, of bright vermilion on the outside, inside rosy-white margined with vermilion, and a line running down the centre of each petal of the same colour; a very remarkable and telling plant. It is easily grown in pots or in a warm house; or planted out in April in a warm dry border, and lifted in autumn, the same as the Milla biflora.—*T. S. Ware.*

FLOWERS.

Seasonable Work in the Plant-houses.—Gloxinias: The early batch which should now be coming into flower, must have careful attention. The best position for them will be on a stage that can be covered with cocoa-nut refuse, and the plants stood on inverted pots. If grown in too dry a position they are very liable to the attacks of thrips, and if these once get established the plants will be greatly damaged, for although thrips may be kept in check by fumigation, it is almost impossible to thoroughly eradicate them. From the time the plants begin to show flower, they should be regularly supplied with liquid manure, but this must be allowed to stand some time before it is used, so that it may be quite clear, otherwise the foliage will get stained. The plants must on no account be allowed to become too dry in the pots, or the flower-buds will become dormant.

Seedlings should be potted off as soon as large enough. It is by giving them proper attention at this stage that success mainly depends, and if allowed to stand too long in the store-pots it will be impossible to make good plants of them the same season. On the other hand if well managed they will make good flowering plants, and come in very useful to succeed the old plants.

Achimenes.—It is a good time now to start a batch of these for flowering in August and September, when they will be found to be very useful by way of a change. We like to start them in shallow pans or boxes, and transfer them to the pots or pans that they are to flower in after they have made a good start; growth, say, from 1 in. to 2 ins. The compost that suits them well, is fibrous loam, leaf-mould, and well-rotted manure in equal parts, with a good sprinkling of sand added, or if leaf-mould is not to be had, peat may be used instead. The pots must be well drained, and the plants should be potted loosely, so that the roots can work through the soil freely.

Tydæas.—This is another useful class of gesneriaceous plants, and some of the varieties are very beautiful, the foliage being of a rich deep green, and the flowers can hardly be excelled in brilliancy of colouring. Like all plants belonging to this order, the time of flowering can be regulated by starting them into growth at different periods. Those started now will come into flower early in the autumn, and, if well managed, will continue flowering for a considerable time. When started they should be kept in as small pots as possible until they are well advanced in growth, and in potting them on the size of the pots must be regulated according to the growth they have made, but care must be taken not to over-pot them. Although they must not be allowed to become too dry in the pot, yet over-watering must be carefully avoided. The same compost as recommended for Achimenes will suit them very well.

Nægelias (Gesnerias).—Although a few varieties, such as N. exoniensis, N. zebrina, &c., are often met with, yet it is surprising that the beautiful Continental varieties are not more generally grown, as, apart from their beautiful foliage, there is such a grand variety of colours in their flowers, including white, yellows of various shades, and all shades of red, from pale pink to deep crimson. These will also succeed well under similar treatment to the above.

Dwarf-flowering Bedding Plants.—Dwarf plants are frequently sought after for bedding purposes, and for several reasons. In exposed places the wind has not so much effect on them as it has on tall plants, and in geometrical designs, plants of one height are indispensable. I have grown the Dwarf Jacobæas (Senecio elegans) for several seasons, and like them very much, and I have seen other people, both gardeners and visitors, stop to admire them. They are easily raised from seed in spring in a gentle heat, and they keep on flowering with us until cut down by frosts. They do not exceed 9 ins. in height, are very free-blooming, and can be purchased in three distinct colours, viz., crimson, purple, and white. Another very dwarf plant is the Evening Primrose, Œnothera macrocarpa. This is not an annual like the foregoing, but a hardy perennial. It makes a pretty bed, producing large yellow flowers, that open in the evening. It soon covers the ground after planting, and can be raised from seed in spring. It is very distinct from the well-known Gazania splendens, another very dwarf yellow-blooming plant; this is raised from cuttings, the same as the ever popular Verbena. Some gardeners of our acquaintance make it a practice to save their own seeds of the Verbena, and never propagate it by cuttings, and they are plants that keep green in the beds after many other subjects have been cut off by frost. The last dwarf bedding plant I shall notice is Cannell's Dwarf Blue Ageratum. This does not grow above 4 ins. or 5 ins. high, and is very distinct from Ageratum Imperial Dwarf, but it must be propagated by cuttings.—*T. W.*

Rhododendron Countess of Haddington.—Though by no means common in gardens, this grand hybrid Rhododendron is one of the gems of the genus, and well deserving of cultivation in those gardens where there is not the convenience of a warm greenhouse for the more modern hybrids of the Indian section. It is a good free grower, with large dark green leaves, and produces large flowers of a delicate blush white colour. There was a splendid specimen shown at the recent exhibition in St. George's Hall, Liverpool, by H. Cunningham, Esq., which bore quite fifty trusses of flowers. I have also seen a fine specimen in Mr. Lee's garden at Downside, Leatherhead.—*Scotus.*

Useful Greenhouse Plants.—Among the many greenhouse plants, few, if any, are more serviceable than the good old Scarborough Lily, Vallota purpurea, which everyone should have, as it is easily managed and comes into bloom freely, the flowers being very bright, showy, and lasting long in perfection. Imantophyllum miniatum is also a fine thing, and quite as easy to grow, as all it needs is plenty of water and little or no interference at the roots, the way it does best being that of allowing it to stand in the same pot for years. Agapanthus umbellatus also succeeds well under similar treatment, and all the Palms will bear pinching at the roots; but to keep these of a good colour, and most other plants that are short of soil, liquid manure should be used two or three times a week. This may easily be made by steeping a little soot and cow manure in water, but it is better to buy some of the many artificial compounds and apply them according to directions, as they are inodorous, and have a very beneficial, stimulating effect, that soon shows itself by the improved health and strength of the plants it is given to.—*Alpha.*

Portulacas for the Front Row of Borders.—The attention of amateurs and others is often directed to plants that are of doubtful hardiness and refractory to manage unless the exact conditions favourable to their cultivation are hit upon. Those who want a bright front row for a warm sunny border should try the Portulacas, and note their effectiveness for the position. A single row of plants will form a band about a foot in breadth of dwarf mixed, orange, yellow, crimson, rose, striped, and spotted flowers, of an unusually attractive character. If seeds are sown now under glass, and planted out in June, they will make a grand display during the summer and autumn months.—*Cambrica.*

The White Mexican Tiger-Flower.—Those who have the well-known scarlet-flowered Tigridia pavonia (and it is a plant which every amateur should grow in pots for its striking blossoms) should make a point of getting for it as a companion the new white variety of T. speciosa, which was certificated by the Floral Committee last autumn. Its flowers are well described by its introducer, Mr. Ware, as being "simply lovely, of enormous size, produced in great abundance, and distinct in appearance from any other plant in cultivation. The colour is a delicate white, with a slight creamy tinge, while the centre is heavily spotted with crimson, violet, and red. The family, taken as a whole, is one of the most gorgeous of the Iridaceæ, and can be strongly recommended to every lover of beautiful flowers. The blossoms are very transient, yet are produced in such rapid succession that a clump is always covered with bloom from August to October. They can be easily grown in pots, or planted out in a warm dry border."

VEGETABLES.

The Kitchen Gardener's Calendar.—Globe Artichokes: Now that the plants have made sufficient growth to admit of offsets being taken to make good any vacancies that may have been occasioned during the winter, and also for making new plantations, it is a good plan to destroy a few rows of the old plants every year, and to plant an equal number of rows of young ones. These may be planted in clumps of three plants set triangularly, in rows of clumps 4 ft. apart, and at the same distance from clump to clump. When planting, the soil should be made firm around each plant with the hands, after which they should be watered (in the absence of rain) to settle the soil about the roots, and the ground between them should be afterwards mulched with a few inches thick of rotten dung. These plants will yield a good supply of Artichokes late in the autumn and long after those planted a year or two previously have ceased to bear. Though the purple variety of Artichoke is somewhat earlier, the green one is the best for general use.

Seed Sowing.—Make a small sowing of the Pine-apple short-top Beet in good open soil, in drills 15 ins. apart, and from 1 in. to 2 ins. deep. Then close the soil over the seeds with the feet, treading and afterwards raking the soil so as to render the surface firm and level. The general crop of this esteemed vegetable may be sown about the middle or 20th of the present month. Make another sowing of Peas of the Telegraph and Stratagem type for gathering from early in July, also make small sowings of Turnips (Early Snowball) at intervals of two or three weeks.

Thin out Carrots and Turnips to a couple of inches in the rows; they can be finally thinned out a few weeks later, which, in case of mishap to the plants while young, will be the safer practice. Use the Dutch hoe freely between the rows of young crops, as also between those of autumn-sown Onions, Spinach, Cabbages, Broccoli, and in every place where weeds appear.

Forcing Department.—Attend to the thinning, stopping, and tying of Tomato shoots, and give copious supplies of tepid diluted liquid manure to plants swelling their fruit, and give plants intended for planting out and training against south and west walls about the middle of May larger pots, as they require more room at the roots, so as to secure good large plants as the time for planting them out arrives. By following this practice, which we have done for several years, Tomatos may be gathered from plants out-of-doors from the middle of July till the plants are cut off by the frost.—*H. W. Ward.*

Alesander or Alexander.—Is this plant grown still in kitchen gardens? Its botanical name is Smyrnium Olusatrum, and it is said to have received its common name from the Greek, which means "a helper of man," because formerly believed to possess powerful medicinal properties. It is called Alesander from its Italian name, "herba Alesandriana," it being supposed to have been brought originally from Alexandria. Fifty years ago its cultivation was generally mentioned in calendars of garden operations. Probably the more extended cultivation of Celery during the past half century has had something to do with the almost entire neglect of the Alisander. When grown it was for its leaf stems, which, when branched, were eaten as we now do Celery.

The seed was sown during the early part of April, and on to that of May, in drills some 3 ft. apart, and when the seedlings were large enough they were planted out in rows at similar distances. When about a foot high they were earthed up, for the purpose of becoming blanched in the same way as Celery. Unlike Celery, the plants would last for a couple of years, but it was always considered best to raise seedlings annually, growing them in a rich light soil, and giving an abundance of water and liquid manure. I do not think any one would find the seed of this plant quoted in a single seed catalogue published in London. Some day it will be re-introduced, as Dioscorea battata is just now being done, and sent out as a new salad plant at a high price.—*Quo.*

THE

Orchid Growers' Calendar.

Potting Lycastes, Dendrobes, &c. — The varieties of Lycaste Skinneri and most other Lycastes of that section now about to grow are in the best condition to re-pot, but any which have not yet gone out of bloom should be left until a little later. All the varieties of Lælia anceps, L. albida, and L. autumnalis which have not been done, but which require re-potting, could not be potted at a better time than now, but in the case of fresh imported plants they had better be crocked up for a while until they get acclimatized and are about starting to root. Fibry peat alone is the best potting material for all these plants.

Dendrobium Wardianum, D. crassinode, D. primulinum, and a large number of other winter and spring-flowering Dendrobes will now, after flowering, be eager to push on their growths for next year, and such as require it should now be re-potted or basketed and placed in the warmest and moistest situation available, where with plenty of air and water they may push up strongly in the early part of the season so as to ensure a good stout well-ripened growth to bear the next crop of blooms. When the growth is got well on in early summer, the plants easily perfect them in almost any house in the autumn, whereas if not well advanced in spring, no amount of forcing can make up for lost time.

Baskets are certainly most natural and suitable for all the heavy pseudo-bulbed Dendrobes like D. Wardianum, and in them they are safe with any ordinary amount of attention; but if grown in pots, even the most skilful and successful are liable to have frequent accidents with them. Baskets which are shallow in proportion to their depth are the best.

The present time is the best to take a general look through the whole collection, potting any plants which by their condition of root and growth indicate that their potting time has arrived. Whilst these odd plants are being attended to, a general review and cleaning should be done, as now is the time to destroy the aphis and other insects, and thus prevent that rapid increase which renders them so destructive in spring and summer. The temperatures for April should be—

Warm House—East Indian.—65 degs. to 70 degs. by day, 60 degs. at night.

Cattleya or Intermediate House.—60 degs. to 65 degs. by day, 55 degs. at night.

Cool or Odontoglossum House.—55 degs. to 60 degs. by day, 50 degs. at night. Deg. Fahr.

Fires should be kept well in check, and air properly admitted, according to the weather.—*James O'Brien.*

ORCHID NOTES.

The Orchid Conference.—The arrangements for the Orchid conference to be held at South Kensington on the 12th and 13th of May, are now complete, and as many of our readers are interested in the subject we append the following details:—The Conference Committee is composed of Colonel Beddome, Hon. and Rev. J. T. Boscawen, J. C. Bowring, Esq., W. E. Brymer, Esq., M.P., The Rt. Hon. J. Chamberlain, M.P., John Day, Esq., W. T. Thiselton Dyer, Esq., F.R.S., Sir Nathaniel de Rothschild, Bart., M.P., Prof. Michael Foster, F.R.S., Holbrook Gaskell, Esq., Geo. Hardy, Esq., Dr. Harvey, J. S. Hirst, Esq., Sir Trevor Lawrence, Bart., M.P., Wm. Lee, Esq. (of Downside), Major F. Mason, Rev. John B. Norman, Alex. Paterson, Esq., M.D., Fred. A. Philbrick, Esq., Q.C., Baron Schroder, and W. Thompson, Esq.

The Exhibition will be open to Fellows of the Society at noon on May 12th, and at ten a.m. on the following day; and the subjects exhibited will be arranged in the following eight classes:—

I.—Collections of Orchids in flower. With a view to economy of space, exhibitors are requested to show duplicates as little as possible.

II.—Species and varieties of (1) the genera Cattleya and Lælia; (2) the genus Odontoglossum; (3) the genus Masdevallia; (4) the genus Cypripedium.

III.—Species and varieties of (1) the genus Oncidium; (2) Epidendrum; (3) Dendrobium; (4) Vanda, Saccolabium, Ærides, and Stanhopea.

IV.—Single plants of any Orchid.

V.—Hybrid Orchids, *i.e.*, those raised by cross fertilization. It is hoped that the parents will be shown, if possible, with the hybrid.

VI.—Orchids in fruit.

VII.—(1.) Orchids indigenous to Great Britain. (2.) Hardy Orchids from any other countries. (3.) Cut flowers of Orchids. In order to ensure uniformity and accuracy, it is requested that the plants exhibited bear the labels which have been specially prepared for this Conference, and with which, through the kindness of Mr. Pollett, the Society is prepared to provide the exhibitors. Exhibitors are requested to apply for these at the Society's Office, on or before May 1st, giving the exact name of the plants which they intend to exhibit.

VIII.—Materials, such as sphagnum and other mosses, peat and other soils, baskets, rafts, pots, pans, labels, &c., &c., used in the cultivation of Orchids.

The Conference will commence on May 13th, at 10.30 a.m., when the President will offer some introductory remarks, to be followed by (1) Communication from Prof. Reichenbach; (2) Discussion on the Hybridization of Orchids, opening paper by Mr. Harry Veitch, F.L.S.; (3) Discussion on the Cultivation of Orchids, opening paper by Mr. J. O'Brien; (4) Discussion on the Nomenclature of Orchids.

The Conference Committee have also arranged for a dinner to take place at the "Albion," Aldersgate Street, on Tuesday, May 12th, at 6.30, for 7 o'clock precisely.

Orchids in Flower at Oakholme, Sheffield.—The Orchids at Oakholme, the residence of T. Wilson, Esq., fill three good-sized houses; and at present there are in flower several plants of Phalænopsis grandiflora of the best type; Vanda tricolor, which is very distinct from the ordinary variety; several plants of Odontoglossum Alexandræ, with fine broad petals; O. cirrosum, many strong plants; O. Hallii, O. luteo-purpureum, O. nebulosum, O. gloriosum, Saphronitis grandiflora, Trichopilia suavis, a fine plant with numerous flowers; Dendrobium Wardianum, D. nobile, and others which have a very pleasing effect in the flowering Orchid house. Mr. Wm. Hannah, the gardener, has at all times a feast for the flower-loving eye.—*J. W., S.*

Cattleya Lawrenceana.—From what could be seen of the dried flowers and the plants offered for sale at Stevens's Rooms on the 26th ult., there can be little doubt but that this new introduction from the Roraima is one of the most distinct Orchids imported of late years. It seems to us to form the connecting link between C. Eldorado from Rio Negro, and the C. superba from Guiana, and to possess many of the good qualities of both those species. A considerable amount of variation was noticeable in the plants, so that a considerable number of distinct varieties may be anticipated when the plants flower. There was a considerable number of buyers present, and good prices were realized, a few of the best being 10 gs., 15 gs., 17 gs., 20 gs., £26 5*s.*, and £27 6*s.*

Vanda Strangeana.—Prof. Reichenback records in *The Gardeners' Chronicle* the flowering recently in Sir Trevor Lawrence's collection of Vanda Strangeana, a species described by him in 1858, and named in honour of Mr. Strange, the well-known grower of Disa grandiflora, Sarracenias, Darlingtonias, Cattleyas, Ferns, &c., at Hamburgh. "The lax inflorescence of four or five flowers is comparable to that of the blue Vanda Roxburghii. Sepals and petals inside at first greenish, afterwards ochre-coloured, tesselate with dark purple-brown." It was sent home to Messrs. Sander & Co., from Assam, by Mr. Freeman, and it is believed that only ten plants were imported.

Cypripedium Godefroyæ.—This remarkably pretty introduction from Cochin China is well illustrated in the March number of *The Orchid Album.* It is a dwarf evergreen species, with spreading dark green leaves, spotted with a lighter green. The sepals and petals are very broad, white, heavily spotted both on front and back with rich purplish-brown; the lip is white, more lightly spotted with brown.

THE HIGHGATE NURSERY.

Messrs. William Cutbush & Son's Annual Spring Exhibition was opened to the public on Monday last, at the Highgate Nurseries, and will remain open for the next ten days. The Exhibition is arranged in the large conservatory, with a temporary canvas erection adjoining, in which the whole of the collections of Hyacinths and Tulips are staged.

There are about 250 specimens of Hyacinths in most of the leading varieties, including many new introductions. The most conspicuous are such sorts as the following:—Single Red: Garibaldi, Josephine, King of the Reds, Solfaterre, Von Schiller, &c. Single Lilac: De Candolle, The Shah. Single White: Alba maxima, Gigantea, La Grandesse, Lady Derby, Mount Blanc. Single Blue: Blondin, Czar Peter, Duke of Connaught, Grand Master, King of the Blues, Queen of the Blues, Marie, &c.

The Tulips are very fine, as may be imagined from the fact that the firm took the first prize for twelve pots at the Royal Botanic Society's Show, Regents Park, and the first prize for thirty-six pots at the Crystal Palace Show last week. The most showy varieties are the Pottebakker White, Red, and Yellow, Keizerkroon, Joost van Vondel, Proserpine, Vermilion Brilliant, Queen of Violets, Ophir d'Or, &c. The Tulips are edged with a fine collection of Crocuses in full bloom.

The conservatory itself is filled with miscellaneous spring-flowering plants, such as Azaleas indica and Mollis, Lilacs, Camellias, Cytisus, the beautiful sweet-scented Boronia megastigma, Magnolias, and the beautiful pure white Laurestinus, which was exhibited last week at most of the London Shows.

Anyone interested in spring flowers will be well repaid by a visit to these Nurseries during the next ten days.

PACKING CUT FLOWERS.

From this time onwards for some months many gardeners as well as amateurs will be sending away flowers from their gardens to adorn the rooms of those who are not so fortunately placed as themselves, or who are living in towns where flowers of almost any kind are always welcome, so that a few hints as to the best methods of packing may not be out of season, as, judging from inquiries often made, this kind of work is not always performed in the best possible way. Since the advent of the parcels post, the majority of owners of small gardens have doubtless availed themselves of this means of sending flowers to their less favoured brethren, and for so doing there is nothing to surpass the light wooden boxes which are specially manufactured for that purpose. Very useful boxes may also be bought very cheaply of grocers, and when thoroughly scrubbed out, removing the conspicuously printed paper as far as possible, they answer the purpose very well.

When it is anticipated that several lots of flowers may have to be sent away, a few boxes of different sizes should be kept in hand, and when the flowers are cut and laid on a bench or table, a little judgment should be exercised in the slection of a box of a suitable size so that it will just hold the flowers, without undue pressure, and so that over much packing material has not to be used. The sides and bottom of the box inside should be damped a little by dipping the fingers in water and sprinkling it on the box, but it should never be used to such an extent as that it will run through. A sheet of tissue paper should then be laid in the bottom and about the sides, after which the flowers may be placed, choosing the heaviest and coarsest for the bottom layer, that is if the box is sufficiently deep for two layers, and in no case should any more than two layers be put in. Those with the longest stalks also should come first, commencing close up to one end and contiuuing by placing one after another sufficiently close to avoid crushing till the layer is complete, finishing up the end with some short-stalked flowers.

If the second or top layer of flowers is likely to be deep and heavy, it is a good plan to put a few sticks across, of sufficient length to fix themselves either at the ends or sides of the box; another sheet of tissue paper over the top of these will take the weight off the flowers and prevent one lot from injuring the others, but if the second layer is of light and delicate

flowers, it is not so necessary to put in the division sticks. Proceed to arrange the second layer in a similar manner, and over the top place another sheet of tissue paper, which should be damped to make it soft, so that it will not injure the most delicate flowers. A very thin layer of cotton wadding, or, better still, soft moss, over this will make it fit for the lid, and the whole will be complete and safe after being tied round with a cord and labelled.

Where a quantity of flowers, such as Rhododendrons, Kalmias, Azaleas of the Mollis type, Delphiniums, Digitalis or Foxgloves, Arum Lilies, &c., have to be packed, larger boxes have to be used, and in the summer time we have made it a practice to immerse the box looked out for conveying the flowers in a tub or tank of water, and there let it remain until the flowers are collected, when it is taken out to drain. In addition to paper for lining the bottom and sides of the boxes, we frequently use Rhubarb and Cabbage leaves, after first removing the strong mid-ribs of the leaves. The choosing of the box and the arranging and securing the layers is performed after the same manner as that for the smaller boxes, and, like them, never more than two layers are admitted. Such flowers as Maréchal Niel and other Roses are each placed either in a separate piece of tissue paper, or in a leaf of Spinach, which is wonderfully cool and soft.

For all the commoner kinds of flowers, what is called kitchen paper is used instead of tissue paper. No flowers are ever damped when packing, but the paper over and about them is generally damped, which seems to seal it down and make it almost air-tight. Care is necessary to have the box filled, but not so as to crush the flowers in placing on the lid. A half sheet of wadding over the top of the flowers, if there is any space left, will be of good service in keeping the whole from moving; owing to its elastic nature, tender flowers may be pressed against it slightly without injury.

For conveying bouquets, or I should say a hand bouquet, a box of the form of a cube about 15 ins. square, inside measure, will be found the most suitable for an ordinary-sized bouquet. This box should have a partition in it about halfway up the sides, and a circular hole cut in the middle about 4 ins. in diameter, to take the stem and lower part of the cup of the bouquet. Two small holes should now be made through the bottom of the box 6 ins. apart, that is, 3 ins. on either side of the centre. When the bouquet is complete, tie a piece of string on the stem, leaving two long ends, and these pass through the holes in the bottom of the box, one through each, and then tie them tight on the outside bottom of the box. The bouquet is thus secured in such a way that it cannot move one way or the other, and provided the string does not come untied, it would ride as well upside down as any other way. Put a piece or two of tissue paper over it, damp slightly, and the whole will go safe. Place on the lid, and secure with a piece of cord, as nailing down flower-box lids only knocks the box to pieces, and is unnecessary.

In these days of floral offerings, it is not uncommon for gardeners to be called upon to make either a wreath or cross of flowers, to send as a tribute of respect to some departed relative or friend, and here again a suitable box for the purpose is of great importance. For a wreath 15 ins. to 18 ins. across, the box should be a few inches more, to prevent the outer fringe of flowers and fern from becoming damaged. Three inches deep, inside measure, is generally sufficient. Two holes at opposite corners should be made. When the wreath is complete, a sheet of paper should be laid in the bottom of the box on which to place it; a long piece of string should then be taken, having a noose at one end. Pass the string with a packing needle through the hole in one corner from the underside of the box, pass it carefully under the flowers—but over the wreath or wire on which it is made up, over the other side of the wire in the same manner, and down through the hole in the other corner. Pass the needle through the noose and draw and tie tight, so that the wreath is perfectly secure on the bottom. Cover the wreath of flowers with a sheet of tissue paper and lightly sprinkle the same with a little water; cover with the lid, and all will be safe for a long or a short journey. If the weather is frosty, a sheet of wadding placed over the damp paper will secure them against cold, but I do not consider it otherwise necessary. A box of a similar depth is also the most suitable for conveying a floral cross—viz., three inches. It should be of length and breadth according to requirements, and four holes bored in the bottom of the box, one on either side, a little distance from the top and the same towards the bottom. Two pieces of string should be brought through similarly to those for the wreath, over the wood of the cross and under the flowers; tie securely both top and bottom, and cover the same as for the wreath. Proper boxes for packing purposes are half the battle, so that those who have that kind of work to do should keep an eye in that direction, and it is well to look up all empties of such as are used for the conveyance of bouquets, wreaths, and crosses, as they cannot be had without trouble and expense.—*C. Warden.*

HORTICULTURAL SOCIETIES.

The National Chrysanthemum.—Prosperity still smiles upon this useful Society, for at a meeting of the General Committee held on Monday evening last, E. Sanderson, Esq., President, in the chair, twelve new members were elected, bringing the total up to 271, and the following Societies were received into affiliation:—Bristol Chrysanthemum and Spring Show, Yeovil Chrysanthemum, Ancient Society of York Florists, Chelmsford and Essex Horticultural, Canterbury Gardeners' Mutual Improvement, Dorset County Branch of the National Chrysanthemum Society, Lincoln Chrysanthemum, Sheffield and West Riding Chrysanthemum, Brighton and Hove Chrysanthemum, Weald of Kent Gardeners' and Cottagers' Mutual Improvement, Highgate, Finchley, and Hornsey Chrysanthemum, Scarborough Floral and Horticultural, the Ascot, Sunninghill, and District Horticultural, the Bath Floral Fête, Lincoln Chrysanthemum, and Ealing, Acton, and Hanwell Horticultural. Unlike the National Rose Society, the National Chrysanthemum in no way interferes with local and provincial Societies as to the duration of their Shows, stipulating only that their medals shall be offered for worthy objects. The scheme of affiliation is altogether on broader lines than that of the sister Society. One excellent feature is the privilege accorded to affiliated Societies of nominating a representative on the General Committee of the National Society so long as the affiliation holds good. This is found to bear excellent fruit, in that it brings provincial Societies into closer touch with the head quarters in London, and enables useful suggestions to be made in person.

As it has been decided that the Special Exhibition of Winter Flowering Chrysanthemums shall take place on January 13th, 1886, and in the Royal Aquarium at Westminster, growers should exercise some forethought if they would prepare themselves for the contest, which it is fully expected will be a very interesting one.

Bath Spring Show, *March 25th and 26th.*—The late Bulb Show at Bath was one of the most successful that the management have been favoured with, the display of plants being excellent in every respect and the attendance of visitors large on both days. The display of Hyacinths grown in the locality, a very good one, was augmented by a group of a dozen plants of the best Highgate quality, sent by Messrs. William Cutbush & Son. The most successful exhibitor with these charming flowers of spring was S. P. Budd, Esq. (Mr. Taylor, gardener), who secured first honours for eighteen, twelve, and six varieties respectively; while the first prize in the largest class for Tulips went to M. Dunlop, Esq., Mr. Budd again coming to the front with four pots of doubles. Messrs. Cooling & Son had the best examples of Lily of the Valley and forced Rhododendrons and Azalea Mollis, and came in second to Mr. W. Thomas with Polyanthus Narcissus.

The best Indian Azaleas were contributed by C. J. Bryant, Esq., and T. Jolly, Esq., and the finest pot Roses from General Doherty. For three Orchids, distinct, Mr. James Cypher, of Cheltenham, was invincible with first-class specimens of Cypripedium villosum, Cattleya Trianæ, and Dendrobium Wardianum. Mr. Cypher's specimen of Cypripedium villosum, with seventeen flowers, was also the best in its class; and Colonel Landon was second in both. With a collection of plants arranged for effect, Messrs. Cooling & Son beat Mr. W. C. Drummond, and, with a group of smaller dimensions, E. E. Bryant, Esq., came in first, as he did also with ornamental-foliaged plants, exotic ferns, and flowering stove or greenhouse plants. The best collection of twenty hardy herbaceous plants in bloom also came from the Messrs. Cooling's nursery.

Mr. Cypher contributed a very effectively-arranged group of plants, containing above eighty examples of well-grown specimen Orchids, including Cattleya Trianæ, C. Percivaliana, Lycaste Skinneri, Dendrobium speciosum, D. Wardianum, D. primulinum, and D. Ainsworthii, &c. Messrs. W. Cutbush & Son also sent a large group of plants, including the fragrant Boronia megastigma, Azaleas, Palms, Ferns, Acacias, Aralias, &c. In the fruit classes, Mr. W. Cooper took the first prize for a bunch of Grapes; while the best dishes of Apples were of Ribston Pippin, shown by F. J. Walker, Esq., and Blenheim Orange, from J. Butler, Esq.; while Beurré Rance was the best Pear. Mr. G. Garraway had the best Seakale and Cucumbers, and Mr. Stuckey the finest Mushrooms.

NOTES AND QUERIES.

Snow and Snow-guards.—Snow comes down so seldom in the neighbourhood of London as it came down on the 22nd ult., that we are afraid it must have caught many a one napping. We hear of much damage to glass from snow shooting off the roofs of houses, and we have before suggested that the snow would some day or other do a lot of damage where snow-guards had not been erected. Properly made, ornamental or plain guards are very inexpensive, and are soon fixed by using a few hold-fasts. Where the tenant does not wish to go to the expense, he may, however, protect his glass by fixing over it a length of ½-in. or 1-in. mesh wire netting to catch the snow that shoots off the house-top. The netting should be attached to a few hooks driven in to the back wall and then drawn down to others below, and it should be far enough above the glass to save the rebound.

It is probable that we shall hear of damage having been caused to shrubs by the weight of the snow lying on the branches and leaves. Where there is a likelihood of broken branches, it is a good plan to shake the snow off as soon as possible, and in doing this to be careful how it is done. Over-weighted branches should be propped a little by using a forked stick or a hay-fork, till the greatest weight of snow has been removed, and then they may be shaken clear. Snow is productive of real advantages in the economy of nature, and in the instance of the last fall it came very opportunely to moisten the dried surface of the ground, which was very much needed for small seeds, &c.—*Abel.*

Clay's Fertilizer.—I am pleased to see Mr. J. King, in his interesting Mignonette note at p. 475, doing justice to this excellent gardener's assistant. I have had a long exprience with it, and I have found it unfailing in the remarkably good results obtained on plants of all sorts by using it. I am convinced that if our suburban and other small gardeners were to spend one-half of the money on Clay's Fertilizer which they now do on that strange and abominable mixture of rotten straw, weed-seeds, worms and insect germs of all descriptions, called dung, or manure, their gardening would be much easier and more pleasant. This fertilizer not only does not introduce weeds, slugs, &c., but it is a certain check to all noxious insects. For window boxes too it is marvellous. We have some boxes in our windows filled with the most beautiful bushes of Euonymus, both green and variegated, which have had no other fresh soil for nearly four years, except the surface waste being replaced spring and autumn by turfy loam three parts and Clay's Fertilizer one part. Thus the present soil is fertilized better than fresh soil, and some of the boxes, although only 5 ins. deep and 5 ins. across inside, have lovely healthy bushes 2 ft. 6 ins. in height in them, and can so be continued for an indefinite period.—*J.*

Moss on Grass Land.—Your correspondent who asks information on this subject, may dismiss from his mind all the mechanical means that have been suggested for destroying moss on grass land. Moss simply grows there because the soil is deficient of something that the grass requires for it to make vigorous growth. I saw a remarkable illustration of this some years ago. In front of a farm-house in Essex, there was the finest mossy lawn I ever saw. It was like treading on three inches of sponges. I was there on business at the time the farm changed hands. I was there in the autumn of the next year. The new or in-coming tenant neglected to keep the grass closely cut early in the spring, and he afterwards concluded that he might then as well leave it as a crop for hay! After this grass had been cut for hay, every vestige of this fine moss-bed had disappeared. As the grass was thin from the moss having previously been master of the situation, instead of there being a velvety tread on this lawn, the surface under the feet appeared to approach the condition of a gravel path. Now, your correspondent must feed his grass. In the absence of a knowledge of the locality from which he writes, it cannot be said what fertilizers would be suitable food for his grass. In Cheshire there is nothing like or equal to raw bone, or super-phosphate, while in Essex and the eastern counties generally, and in some other counties, or districts of counties, a dressing of phosphate, or bone, is scarcely perceptible in the following crop. But, as a rule, a dressing of two or three cwt. of super-phosphate, and one cwt. of the best Peruvian guano, or nitrate of soda, will be quite sufficient to push the grass forward for killing the moss. As your correspondent appears to be an amateur, or in a small way as a grower of grass, I may suggest that, after the hay-crop is off, he might advisedly procure five or ten sheep, and six or eight hurdles, and feed the sheep well with cake and corn, and any green food he had at his command, or could procure. This would renovate his pasture for years. There is no plan like folding sheep on pasture to bring it up to a high condition of fertility. If he bought a few lambs in July, he would have both the pleasure of seeing the way in which they progressed, and of growing his own early mutton. I may add, if your correspondent does not care to enter into the suggestion of folding sheep on his pasture, he should consult his neighbours as to what artificial manures are best suitable to the soil of his district.—*Bono.*

Insect Pests in a Greenhouse.—After thoroughly clearing out all useless lumber and rubbish, I should advise "Suburbanist" (p. 462) to shut up the greenhouse, making it as air-tight as possible, and to give two or three good fumigatings with sulphur. Next he should make up a wash of black soap, sulphur, and paraffine, an equal quantity of each, using about a pint of it to each gallon of boiling water. With this liquor wash well every part of the wood-work and the walls, going over it all twice, and scraping out the crevices with a knife point. The walls and brick-work may then have a nice coat of whitewash, or, better still, a wash over with thin cement; and the wood-work a coat of paint.

To kill woodlice: "take 1 drachm of powdered arsenic and 1 lb. of dry grated cheese, mix well together, and keep dry. Bore holes an inch in diameter and an inch deep into small pieces of wood, and put a portion of the mixture into the bottom of each hole, squeezing it down firmly with a stick. Lay the pieces of wood about with the holes downward, or place them against the wall with the holes next to it. The speedy destruction of the woodlice will soon follow, if the operation is repeated every two or three days."

After this, "Suburbanist" may safely risk a stock of plants, and it will be his own fault if he is again troubled with mealy-bug or woodlice.—*Authentes.*

Old Gardening Book.—Your correspondent "T.," at p. 461, inquires for information respecting an old gardening book, of which I think I have a copy. The title-page runs as follows: "The Theory and Practice of Gardening, wherein is fully handled all that relates to fine gardens, commonly called Pleasure Gardens, by Le Sieur Alexander le Blond. Done from the late edition printed at Paris, by John James, of Greenwich. The second edition, with very large additions, and a new Treatise on Flowers and Orange Trees. London: printed for Bernard Lintot, at the Cross Keys, between the Temple Gates in Fleet Street, 1728." To assist further in its identification I may say that Chapter five, "Of Walks, Counter-walks, and Hedges," commences on p. 51.—*R. Maher, Yattendon Gardens, near Newbury.*—["T." desires us to thank Mr. Maher for his note, which has given him the information desired. —*Ed.*]

Lapageria rosea.—Your correspondent "C. E.," p. 475, should not cut the old growths down to the ground, but he may with advantage reduce them in length if it is necessary to do so. I would advise him to wait until the plant begins to break, as gardeners term the early stage of bud growth, and then cut back to a strong bud. I would not recommend the use of tan bark as a mulching, but leaf-soil instead—a sweeter and better material. "C. E." can easily keep the slugs off by wrapping some cotton-wool around the shoots.—*South Hants.*

Vine Borders.—I am about making a vine border, and shall be glad if some experienced gardener or amateur will tell me what is the best soil to use, and whether it should have manure mixed with it or not; also is drainage necessary, and, if so, what is the proper material to use? As the house is to be only heated to keep out frost, can I grow other than Hamburgh Grapes? I should like a good white, if there is one hardy enough.—*Caractacus.*

Fig for Out-door Cultivation.—What is the best kind of Fig to grow out-of-doors, and will the plant bear away from a wall without protection, and can I plant now? In doing this, will it be necessary to make a border, or prepare the soil in any way, or confine the roots to a limited space to prevent the Fig making too much wood, as I am anxious to have it bear well?—*Scarborough.*

Transplanting Evergreens: Propagating Rhododendrons.—Will some one tell me what is the proper time for transplanting evergreens, and whether I can increase my Rhododendrons by layering. I know such things as Laurels root in that way, but the wood of the Rhododendron seems so very hard. Is grafting difficult, and if not, when should it be done?—*A Lover of Hardy Plants.*

ANSWERS TO CORRESPONDENTS.

Walnuts: Grafting.—*Young Gardener.*—You must not graft them before the leaves begin to expand in the month of May, as the flow of sap is too excessive before then for a union to take place.

Lindley Library.—*Reader.*—Any gardener or member of the general public can obtain permission to use the Library from the Trustees or the Assistant Secretary of the Royal Horticultural Society. We would not advise you, however, to go there on the days when the Committees meet, as the Council and the Scientific Committee meetings are held in the same room, and the Library is virtually closed on the days of all others when it should be open.

Herbs.—*J. Brown.*—Hyssop, Pot Marjoram, Tarragon, Mint, and Pennyroyal, are most generally propagated by dividing and replanting the old roots, and the sooner it is done the better now. Let the soil be good, and as most of them are surface-rooters, mulch the bed with short manure. Chamomile, Tansy, and Liquorice are also propagated by root-cuttings.

Roses.—*J. T.*—To get them in flower in June, introduce the plants into gentle heat now.

Glycerine Barometer.—*H. A. H.*—Try Messrs. Negretti and Zambra, High Holborn.

Chrysanthemums.—*J. A. C.*—Keep the rooted cuttings in the cold frame for a few weeks longer, but let them have plenty of air. You should watch them carefully now, and keep them regularly potted on before they get pot-bound.

Gladioli.—*J. A. C.*—You can plant them as late as the end of this month, but the sooner the better if you want them to bloom in the early autumn. Plant the corms about four inches deep, and put some sharp sand under and over the corms when planting them.

Names of Plants.—*S. M. A.*—1. Puschkinia libanotica. 2. Fritillaria lanceolata. 3. Allium neapolitanum.—*G. B.*—Saxifraga (Megasea) ligulata.—*Scotus.*—Your Camellia is the old Red Warratah.—*T. B.*—Dendrobium chrysotoxum.—*G. S.*—Dendrobium nobile, true, and not a bad variety.

Communications Received.—J. J.—J. W., S.—Scriho.—D. P. L.—M. C.—R. A. R.—H. W. W.—W. D. M.—A. B.

Trade Catalogue Received.

Rawlings Brothers, Old Church, Romford.—Descriptive list of Dahlias.

NOTICES TO CORRESPONDENTS.

The Editor *begs to inform his readers that special attention will be paid in the columns of* The Gardening World, *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's bona fides. No notice whatever will be taken of anonymous letters.

COVENT GARDEN MARKET.

March 26th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6- 6 0	Kent Filberts and Cobbs, per 100 lb.	55 0-
— Nova Scotian, per barrel	12 0-18 0	St. Michaels	3 0- 8 0
Grapes, per lb.	5 0-10 0	Strawberries, per lb.	6 0-12 0
Pine-apples, Eng., lb.	1 0- 2 0		

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Garlic, per lb.	0 6-
Asparagus, English, per bundle	10 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	- 2 6	Horse Radish, bundle	3 0- 5 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	2 0-
Brussels Sprouts, p. lb.	0 4-	— Cos, each	0 6-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	3 0- 5 0
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	1 0- 1 6	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
		Tomatos, per lb.	-
		Turnips, per bunch	0 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Marguerites, 12 bun.	4 0 -9 0
Arum Lilies, 12 blms.	3 0- 6 0	Narciss, various, French, doz. bun.	4 0- 9 0
Azalea, 12 sprays	0 6- 1 0	Pelargoniums, per 12 sprays	1 0- 1 6
Bourvardias, per bun.	1 0- 1 6	—scarlet, per 12 sprays	0 9- 1 0
Camellias, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 6- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun	4 0- 6 0
— large, 12 blooms	-	Pyrethrum, 12 bun.	-
Cyclamen, doz. blooms	0 3- 0 6	Roses (coloured)	2 0- 6 0
Cineraria, per bunch	0 6- 1 0	Roses, indoors, p. doz.	1 0- 4 0
Epiphyllums, 12 blms.	0 4- 0 6	Roses (French), per doz.	1 0- 3 0
Encharis, per dozen	6 0- 9 0	Stephanotis, 12 spr.	8 0-12 0
Gardenias, 12 blms.	4 0- 8 0	Tuberoses, per dozen	-
Heliotropes, 12 sprays	0 6- 1 0	Tulips, per doz.	0 9- 1 0
Hyacinths, Roman, doz. sprays	0 6- 0 9	Violets, doz. bun.	0 4- 0 9
Lapageria, white, 12 blooms	2 0- 3 0	— French, per. bun.	0 6- 1 6
Lapageria, red, 12 blms.	1 0- 2 0	— Parma, per. bun.	3 0- 4 6
Lily of the Valley, doz. sprays	0 9- 1 6	White Jasmine, bun.	0 6- 1 0

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ferns, in var., dozen	4 0-18 0
Arum Lilies, per doz.	9 0 18 0	Ficus elastica, each	1 6- 7 0
Azalea, per doz.	18 0-42 0	Foliage Plants, various, each	2 0-10 0
Begonias, per dozen	4 0-12 0	Genista, per dozen	9 0-15 0
Bouvardias, dozen	9 0-18 0	Hyacinths, doz.	6 0- 9 0
Cineraria, per dozen	9 0-15 0	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargoniums, scarlet per dozen	4 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	18 0-24 0	Spirea, per dozen	12 0 18 0
Evergreens, in var., per dozen	6 0-24 0		

Prices for Easter are not to be depended upon, the price varies according to demand and supply.

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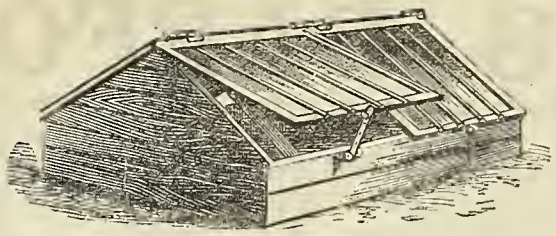

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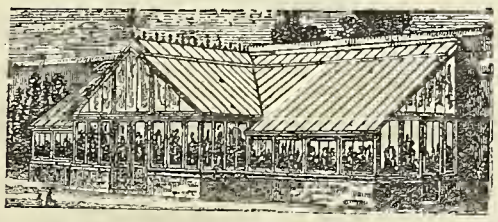

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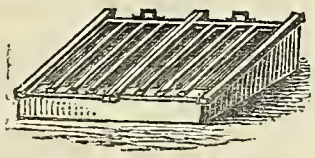

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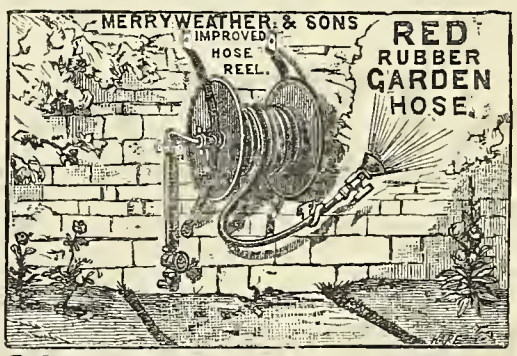

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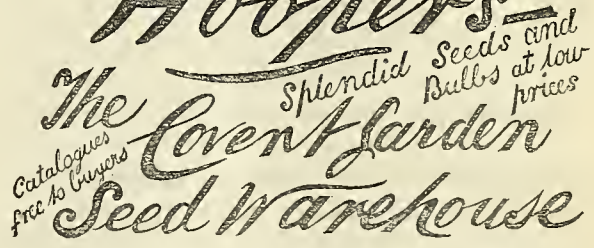

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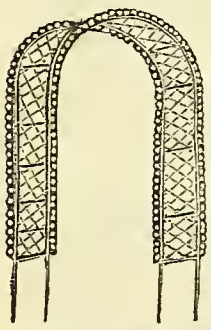

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THE GARDENING ILLUSTRATED WORLD

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MESSRS. PROTHEROE & MORRIS are instructed by Messrs. F. HORSMAN & CO., to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY next, April 14th, at half-past twelve o'clock precisely, a splendid importation of Odontoglossum Rossi majus, their superb strain, in large masses; Odontoglossum vexillarium, the beautiful spring and early summer flowering rich-coloured form; Epidendrum vitellinum majus, true, large-bulbed strain, in fine masses, together with about 150 lots of choice established Orchids, from Mr. J. E. BONNY, of 88, Downs Park Road, Hackney, including many rare and valuable species.

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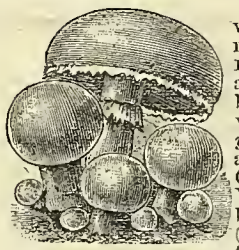

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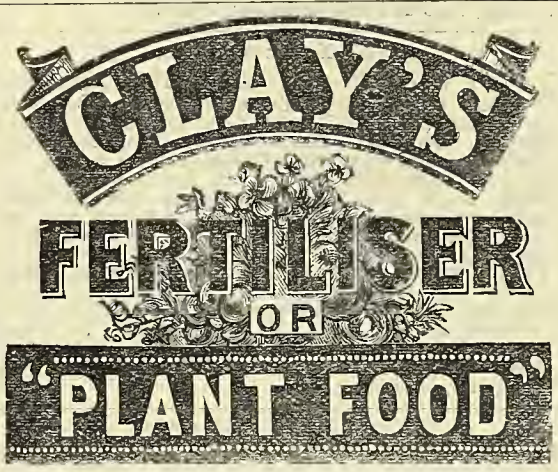

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, APRIL 11TH, 1885.

THE HYACINTH.—There can hardly be found for decorative purposes a more intractable plant than the Hyacinth. Of course we refer to its state when in bloom, as prior to that condition it has no decorative merits whatever. But though there is much gaiety and sweetness about the spikes of bloom thrown up, and some variety of colouring, there is in the build and form of the bloom-spike so much of stiffness and monotony that it seems impossible to feel towards it any degree of admiration. A large collection of Hyacinths is stiff and formal to a painful degree. There is about as much of charm or sentiment in such a group as there would be in a series of wooden posts. Even if there be some diversity of colouring, and that diversity is not very varied, there is just the same formation, and that sameness becomes distressing to look upon. Those who have seen Hyacinths in flower-beds in some well kept garden in the month of April, the spikes dotting a carpet of Pansies, Violas, Daisies, Aubretias, or similar hardy flowers, have thought the effect singularly pleasing, and not the less so that the spikes were not of that painfully precise form aimed at in show flowers, and that they were looked down upon.

Collections of Hyacinths at shows are, however, rather like soldiers drawn up in ranks for inspection. They are seen rather laterally than obliquely, or vertically, hence whatsoever in them is stiff and formal is too evident. Sometimes too there seems to be a painful impression that such a collection resembles a gathering of ninepins, and is set up that they may for sport be knocked down again. Unfortunately in such case one knocking down would suffice, and the setting up again would be as difficult as in the case of the celebrated Humpty Dumpty, whose overthrow was a cracker even for all the king's horses and men.

Of course we have no intention to decry the Hyacinth, for it has its myriads of admirers as a spring-blooming plant, and it is a very important article of trade and culture. The Hyacinth cannot well alter its nature, and everything done towards its improvement does but tend to make the spikes denser, stiffer, and, from an artistic point of view, the more objectionable. It is ever the case that a spike just a little lob-sided, and with bells not too closely set, so that they may hang somewhat irregularly, is the most natural, and to those who view flowers as essentially natural, of course the more pleasing. That view of course is not the one taken by the connoisseur and florist, for he looks for solidity, stiffness, height, and fulness, with the bells of good substance and form, and evenly arranged. Given those elements, and the spike is perfect. The wild Hyacinth of the woods is to the artist far more picturesque than is the grandest spike ever seen on a show table. But whilst we refer to these things, we are neither carping nor objecting, only so far as relates to the present mode of staging Hyacinths, and that certainly is open to improvement.

The show season is now over, but ere it comes round again will someone generously offer to our big growers prizes, not for the best collections, but for collections most elegantly and artistically grouped or arranged. For this purpose, absolutely the finest show spikes are not essential, still less needful is it that the plants should be all presented as if in uniform, and in abnormally big pots in which they are not grown. A base of fern or other decorative plant, such, for instance, as Spiræa japonica, not in bloom, should form the dressing, and in this the Hyacinths, grouped in circles of colours, or in serpentine lines, or in diamond patterns, the small groups either of self or mixed colours, or in any way which may seem to produce the most pleasing effect. Plant decorators or floral artists ought to find no difficulty in creating patterns or designs in which stiff and stark Hyacinth spikes, intractable as they are, might yet be found to play an artistic and pleasing part. There can be no doubt that in these more art-loving days the absolute formality seen in collections of show Hyacinths militates against their wide sale and culture. The common remark is, "Rich perfume certainly, but the spikes are far from pleasing." It should therefore be the aim of large growers, in presenting their collections to the public gaze, to lend to them some artistic charms they now fail to display.

GARDEN CROPS.—It is a curious fact, but true, none the less, that many hardy garden crops when exposed to the wind, and feeling the full intensity of its dryness, really look less healthy and vigorous than they did at mid-winter. To put the matter clearly, we find now in what should be the pleasant springtime the weather to be colder and more harsh for plants than it was at Christmas. That is, however, no uncommon feature in our seasons now, for springs are almost invariably cold, cheerless, and deterring. After March has past, naturally we look for those genial April showers, which are, according to the ancient tradition, to bring us forth May flowers; but we look in vain. It is not so long since we felt that we had rain enough to tide us over till May at least, and yet we are at the time of writing not only seeing crops at a standstill, or receding for want of moisture, but feeling no little anxiety lest the drought of last year is to be repeated this season. Such a prospect may well create alarm in our minds, the more so indeed that all nature seems so laggard. If this drowsiness is not due to natural intelligence on the part of vegetation—and the suggestion will perhaps provoke a smile—certainly it is evident that the continuous low temperature and dry harsh wind is prolonging it to an unusual degree. Not a few persons regard this retardation as full of hope for the safety of the bloom in all our fruit trees, when it shall expand. That is sound philosophy, provided the continued low temperature has not already done mischief. In any case, the anxiously looked-for April showers can hardly come too soon.

THE NEW WINTER GARDEN AT THE ROYAL PAVILION HOTEL, FOLKESTONE.—This elegant and spacious structure, which has been some time in course of construction, was opened to the public on the 1st day of April. The idea of a large covered promenade and rendezvous in connection with an hotel is, as far as we are aware, quite novel, and can hardly fail to prove a great attraction, especially during those seasons of inclement weather and cutting winds which so frequently visit our sea-coasts, and which are so trying to those in delicate health. The building has three entrances, all with vestibules, one of which is connected with the hotel by means of a corridor, so that visitors can pass from one to the other without going out into the open air. The building is of considerable extent, being 168 ft. long by 51 ft. wide, and is tastefully adorned with Palms, Ferns, and shrubs of large size and elegant foliage. The roof of the building is well broken-up on what is called the "ridge and furrow" principle, which gives a graceful and picturesque sky line, and this is still further enhanced by an octagonal lantern 43 ft. high which surmounts the central span. The whole of the work, to the minutest detail, is well designed and constructed by Messrs. John Weeks & Co., of Chelsea, in their well-known style, and the architectural embellishments throughout are tasteful and appropriate. Great attention has been paid to the arrangements for warming and ventilating, as the health and comfort of the visitors is rightly regarded as the most important consideration. The warming is effected by means of hot-water pipes heated by Weeks's Patent Duplex Boilers, and the whole is contrived so that the heat can be regulated and an even and healthful temperature maintained at any time of the year, and in any weather.

GARDEN ANEMONES.—Some collections of cut blooms of these beautiful hardy spring flowers, shown recently at South Kensington and Regent's Park, hardly attracted the attention they deserved, because, perhaps, overshadowed by the more striking, if less varied, hues of masses of Daffodils. There seemed to have been some reasonable doubt whether the fine and pure flowers thus shown were of home or foreign growth, but they, at least, bore no evidence of exposure to the heavy snowfall of a few days previously. It is notorious, however, that large quantities of Anemone blooms are sent over here from the south of France, and, set up in water, recover their wonted air of freshness and beauty. Still it must not be assumed that we cannot have Anemones in bloom in this less favoured land quite early in the spring also. We have but recently seen a large bed of these plants growing in rather cold soil and in an exposed position, almost covered with grand blooms, the majority scarlets and crimsons of the richest and most glowing hues, interspersed with pink, white, blue, and other tinted flowers of exceeding beauty. This bed was the produce of home-saved seed, so that it is evident we have as fine strains in our midst as our French neighbours have, and that they thrive equally well with us. We should like to see just such a bed of Anemones as the one under notice in every garden. Really it is impossible to do justice to the gorgeous colouring of the flowers, and how valuable would such a lot prove to any gardener who has to furnish an ample supply of cut flowers. As such a bed as this may be obtained by sowing at once a packet of seed, it is within the reach of all who have gardens to be thus blessed.

A GRACEFUL BAMBOO.—In the April number of *The Botanical Magazine*, a very graceful and interesting little Bamboo is figured. It is confined to the mountainous interior of the Island of Jamaica, where it is said to "climb the loftiest trees, its pendulous branches forming masses of great beauty." Plants introduced to Kew "promised to be a charming addition to the Tropical Garden, when they, in December last, suddenly burst into flower." Since then they are said to have thrown off many of their leaves, and fears are expressed that like so many other Bamboos they may not survive the flowering process. It is remarkable to see a Bamboo with leaves only ¾-in. to 1½-in. long, and not a sixth of an inch wide. The flowers are pale green and purple, and altogether it is quite an attractive species.

Gardening Miscellany.

Flower Shows and Meetings to be held Next Week.—*Tuesday:* Fruit and Floral Committees at South Kensington, and Exhibition of Daffodils.—*Wednesday* and *Thursday:* Newcastle-upon-Tyne Horticultural Society's Show.

Messrs. James Dickson & Sons, of Chester, have received a royal warrant appointing them Nurserymen to H.R.H. the Prince of Wales.

November 18th and 19th are the dates selected for holding the Burton-upon-Trent Chrysanthemum Society's Show.

The collection of plants grown at Caversham Park, Reading, will be sold early in next month by Mr. J. C. Stevens, owing to the death of Mrs. Crawshay.

The specimen stove and greenhouse plants so well cultivated and exhibited by Mr. J. Child, gardener, Garbrand Hall, Ewell, are to be sold on Wednesday week by Messrs. Protheroe & Morris, owing to the death of their owner, George Torr, Esq.

A Children's Flower Show and Industrial Exhibition is to be held on June 26th in the Agricultural Hall and Grounds at Ball's Bridge, Dublin.

On Wednesday evening a paper on the Cultivation of the Poinsettia, by Mr. John Marsden, Westbourne, was read at a meeting of the Sheffield and Hallamshire Gardeners' Mutual Improvement Society.

Mr. John Matthews, of the Royal Pottery, Weston-super-Mare, who went out to Chili, South America, in October last, arrived home this week. His many friends in the gardening world will, we are sure, be pleased to hear that he has enjoyed the trip, and that his well earned holiday has been the means of greatly improving his health.

Mr. Maclean, who has been gardener at Beaumanor, Park, Loughborough, Leicestershire, for forty years, is retiring on a pension, and Mr. Hamshere, late of The Brand, Loughborough, has been engaged to succeed him.

Mr. Edward Rowe, florist, Northampton, died on the 30th ult., aged forty-six years. Mr. Rowe was formerly gardener to the Viscountess Clifden, and was a very successful exhibitor of Chrysanthemums.

At the annual meeting of the Kislingbury, Beds., Sparrow Club, held lately, it was stated that nearly 7,500 sparrows had been destroyed in the parish during the previous twelve months. Every member is supposed to produce twelve sparrows a month, or forfeit a penny for every one deficient, and no birds are allowed to be destroyed on Sundays!

The first new Black Hamburgh Grapes that we have seen this season appeared in Covent Garden Market early in the week. Some samples of Beurré Superfine and Glou Morceau Pears, imported from the Cape, have also appeared in the market lately.

Photinia serrulata, a very ornamental evergreen, best known in many gardens by the name of Cratægus glabra, is beautifully in flower against the mansion at Vinters Park, Maidstone. Its rich panicles of small white flowers, and handsome shining foliage, render it an object of great beauty.

Pteridologists will be pleased to learn, says a writer in *The Gardeners' Chronicle*, that two very interesting Lycopods have recently been added to the collection of living Ferns at Kew; they are Phylloglossum Drummondi, a truly remarkable little plant, not much more than 1 in. high when fully developed, and Tmesipteris Forsteri, which has a habit somewhat similar to the allied Lycopodiums, but differs in having the leaves arranged in threes and in their being large, falcate, and bilobed, with the capsule seated in the base of the fork.

The twenty-ninth edition of the Official Guide to the Royal Botanic Gardens, Kew, enlarged and considerably improved, has just been issued from the press.

The first annual exhibition of the Newcastle, Staffordshire, Rose and Horticultural Society will be held in July next.

The Aberdare Horticultural Society will hold its annual exhibition on Thursday, August 6th.

So that the Daffodil Committee, at its meeting at the Royal Horticultural Society on Tuesday, may have an opportunity of examining as many new forms of Daffodil as possible, amateurs and others are invited to send up any forms which they think to be new.

MIGNONETTE IN POTS.

In reference to Mr. King's note on the cultivation of Mignonette at p. 474, allow me to say that I do not think the system of stopping the plants is to be commended if the production of large spikes of bloom is desired. The mode of culture that I have found to answer best is to sow the seed in the autumn for early spring flowering, using 4-in. pots filled with sandy loam and leaf-mould in equal parts, and placing them in a cold frame. The seed is sown rather thickly, so that a good selection can be made of four to six of those with broad round foliage, as plants with laciniated leaves invariably produce short, puny spikes. It is a good plan to make two sowings in the autumn, one about the end of August, and another towards the beginning of October. The first sowing will, by thinning early and giving a 2-in. shift, using some good rich loam and removing the plants to a light position in a warm greenhouse, be in bloom by Christmas.

But it is to the late sowing that we must look for the production of large spikes. As they are sown late and wintered in a cold frame the plants will make a steady growth until the end of the year without showing flower, which is an object of importance, for if the plant should show flower prematurely, it is better to cut the plant out entirely than to stop it and so produce three or four weakly ones. Towards the turn of the year, before the flower buds form, they should have a shift into 6-in. pots, using some good turfy loam, with a liberal admixture of bone meal or other manure in the soil, and a small portion of fowl or pigeon-dung over the drainage will be especially beneficial. They should be potted firmly, and have a neat stake put to each plant, and when the pots are filled with roots, liquid manure should be given freely, and care be taken that the soil is never allowed to become dry at any time.

If extra large spikes are desired, all side shoots must be closely stopped. I consider the chief points in Mignonette culture to be (1) to obtain a good strain of seed, (2) to pot firmly, and (3) to feed freely. I have frequently, by following this system, produced spikes of bloom averaging 9 ins. to 12 ins. in length; the longest one I ever remember seeing attained the extraordinary length of 17 ins., but it is only by careful selection of seed and the free use of stimulants that such results can be obtained.

The reason I prefer 4-in. pots for sowing in is that owing to the extremely tender roots peculiar to this plant, and the slowness in producing them, and to the soil being made quite firm, they can be shifted on without a check. After the plants have done flowering some of the best may be selected for potting on into 8-ins., but for general decorative purposes 6-in. pots will be found quite large enough. Where required for decoration during the summer and autumn, seeds should be sown every other month, and it is surprising with what ease a few dozen convenient-sized pots can be nicely filled with sweet, healthy-grown Mignonette.—*M. C., Somerset.*

THE AMARYLLIS AS AN AMATEUR'S PLANT.

The notes published in this journal at p. 455, on the Amaryllis at Messrs. Veitch's, and the gorgeous display produced by them in their nursery, have doubtless produced a feeling in the hearts of many amateurs that they would like to possess a few of them, if they had but a suitable place in which to grow them. To all such as have any doubt as to their facilities for growing these popular plants, I would say that, according to my experience, they are among the easiest cultivated plants with which I am acquainted. Anyone possessing a vinery and a greenhouse, or even either the former or the latter only, may successfully grow and flower the Amaryllis, the main essentials to success being a good growing temperature after they have done flowering, and perfect rest during the winter months.

Assuming one to be in possession of plants now in flower, or about to flower, an ordinary greenhouse or conservatory will suit them well until they have passed out of flower, when a light position in a vinery which is now in growth, and therefore kept at a growing temperature, would suit them well. They should at this stage be supplied with an abundance of water at the root, whenever they become at all dry, and also have occasional waterings with diluted liquid manure through the whole of the growing season. Towards autumn, when the plants begin to show signs of going to rest, the liquid manure should be wholly withheld, and water also to a certain extent, no more being given than is necessary to keep the foliage from suffering by flagging; and as soon as the leaves have turned yellow, no more water should be given until the following spring at starting time. Too much stress cannot be placed on this system of wholly withholding water, for if by any means the bulbs are excited into growth before they have had their full season of rest and ripening, the reward will be a crop of leaves and no flowers. Neither is it necessary to remove them to a cooler structure when the resting commences, as they will be perfectly at home in the vinery even till the following spring, provided frost is excluded.

It is well-known what a baking the bulbs of Nerine will bear—indeed it is necessary to their successful flowering. I have known pots of these stand on shelves in the summer months, exposed to the blazing sun without a particle of shading, or even water, the whole of the time. It is well known that A. Belladonna seldom flowers in this country, except after hot and drying summers, without it is specially favoured by some artificial means. Where watering and such like work is left to others who do not thoroughly understand the nature of these plants, there is an hankering desire to give the plants going to rest just a little drop of water, thinking that to be the safest plan, and the consequence is the plants are started into growth again and no amount of drying will remedy the evil done during that season. To avoid this, the pots in which the plants are growing should be turned over on their sides and remain so until started again in spring.

Those who do not care to go to the expense of buying flowering plants will welcome the opportunity now offered in the way of seed, and it is to be hoped that by one of these two means these delightful plants will be found in almost every garden where one or more glass structures are at command. Seed purchased now, or a little earlier, as would have been more desirable, and sown in a sandy mixture of peat and loam, and placed in a Cucumber or Melon frame, would in a few weeks be fit to pot off. These should be potted on as they require it and kept in a growing temperature in a light position not too far from the glass. It would not be advisable to dry off young growing plants so much as those that it is intended should flower, and if well treated these young plants will flower after their second year's growth.

The best time to pot old flowering bulbs is at starting time, shaking them clean out of their pots and placing them in fresh ones well drained, in a mixture of peat, loam, and a little powdered dry cow-manure, with a good portion of sharp sand. Give them one watering to settle the soil, and place them in a brisk heat, if at command; water with care till growth in leaf and root has taken place, after which liberal supplies will be necessary. By starting a few at a time they may be had in flower for many weeks and will not fail to produce an imposing effect when mixed with other spring and early summer-flowering plants.—*W. C. C.*

THE CARNATION DISEASE.

I may be repeating something already said about this matter, but it is of such importance that I think most of your readers interested will excuse it. I think we have demonstrated that the cause of the Carnation disease, and, in fact, of most of the other diseases of plants is, first, from lessened vigour in the variety, first caused by treatment contrary to what the nature of the plant demands. To begin with, the Carnation for the past twenty-five years has been forced for winter-flowering in almost every section of the country, and nearly in all cases by the same process of keeping a temperature at night averaging, from November to April, at least 55 degs., with perhaps 15 degs. more during the day. Cuttings are taken off from the forced plants, put into a propagating-house, often at a high temperature, and when rooted are grown along at the same temperature at which the plants that are forced for flowers are grown, until they are planted out in the open ground in May, where the

temperature outside is nearly as high as that they have been enduring under glass.

Now when we consider that the Carnation is nearly a hardy plant, demanding for its best growth a period of rest in winter, the wonder is that it has not rebelled long ago against such bad treatment; but the complaints are now so general that it is evident that unless some means are used to avert the trouble, it will soon be the exception to find a healthy stock of Carnations in winter. Some kinds seem to succumb sooner than others. La Purite was one of the first to give out, but there is hardly now a variety that has been grown for six years, but in some locality or another is failing. There are two ways in which the trouble may be prevented, the first of which we have been practising for a number of years with complete success with every variety except La Purite, and even

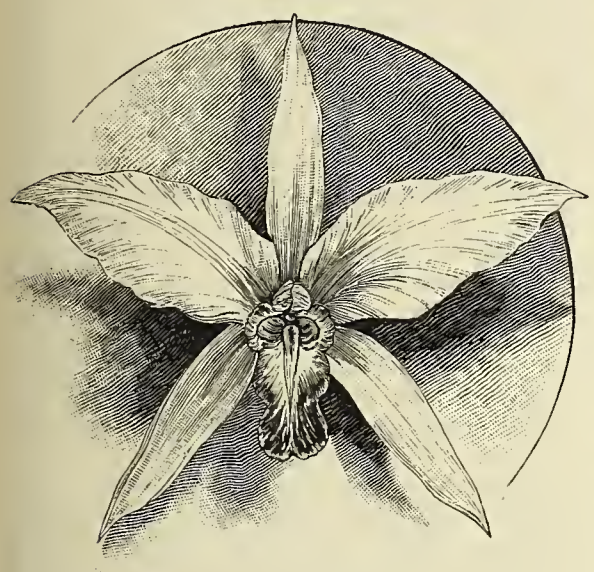


FIG. 1 —LÆLIA ANCEPS VEITCHIANA.

that has much improved. Our plan is to take the cuttings off during November and December. They get rooted enough to fill 2-in. pots by about the 1st of February, when they are knocked out of the pots and the balls packed close in shallow flats, holding 100 or so, and they are then put either into cold houses or the ordinary cold frames, and covered up with straw mats so as to keep them from being severely frozen. Kept in this way, they can be planted out just as soon as the ground is dry enough in the spring, usually about April 1st.

The other plan, which we tried for the first time last winter, is to heel away our stock plants in cold frames, and take the cuttings from these any time from January to March. The object in both cases is the same—to rest the plants as their nature demands. Mr. John Murchie covers the whole ground, we think, when he says, "Quit striking your plants from plants that have been forced." Now, if it be true that the Carnation disease is a consequence of uninterrupted "forcing" from year to year, I think we need not look further to find the reason of many of the other ills that plant life is heir to. The "sickness" among Violets is so general now, that it is rare to find a healthy stock. They, too, like the Carnation, have been forced for a generation, and though at not quite so high a temperature as the Carnation, yet certainly at a higher temperature in winter than they would be in their natural habitat. If this is the cause, the remedy is obviously the same as in the Carnation—give the stock from which you propagate a rest in winter. That debility in vegetable life invites parasitical germs cannot be doubted. All experienced propagators know that excessive cutting of a new plant for stock, not only renders the original plant itself liable to parasitical attacks, but the weakness follows into the progeny for years.

We have several cases in point this season. The new Heliotropes, Swanley Giant and King of Night, are both affected with black rust, while in over twenty other varieties in our stock not a sign of it is present. "Black Rust," so termed, affects many species of plants, but is best known as affecting Verbenas and Heliotropes. When examined by a powerful microscope it is found to be caused by a lobster-like insect which rarely attacks plants in health. In fact we have proved again and again that when plants such as Verbenas and Heliotropes have become pot-bound the insect attacks them, while those shifted at the proper time and stood alongside of them have been completely exempt from its ravages. But to return to Carnations. It is probably correct to say that we cannot combat with the disease when its attacks are made in the forcing benches. If, however, the debilitated state invites fungus there may be a temporary remedy in using lime water, made by using about half a pound of lump lime to each gallon of water and putting it on clear, when the soil is dry enough to require water. The best Rose growers in this vicinity use lime water in the same way whenever there are indications by paleness of the leaves that this insidious parasite may be sapping the roots.

Another parasite of the Carnation that attacks the shoots is what, for want of a better name, has been called the "Carnation Twitter." The indication of its presence is a twisting or curling of the leaves, and on examination of plants in that state it can be seen with the naked eye. It is a quick-moving insect, like the point of a cambric needle, and about the twentieth part of an inch in length. In its different stages is green or black in colour. Whenever any of the Dianthus tribe is attacked by this insect they rarely recover. So far there seems to be no remedy for it, as it burrows down in the heart of the shoots, getting out of the reach of anything that might destroy it. It, however, does not seem to be always invited by debility of the plant. I remember several years ago, when we used to grow the hardy garden Carnations largely for summer flowers, that it once struck into a batch of nearly 20,000 plants that had stood unprotected in the open ground all winter. Its action was peculiar. Beginning seemingly with one plant it radiated sometimes to a diameter of 20 ft. in patches all over the bed, rendering utterly useless all that it attacked. The only consolation is that it seems to come only at long intervals.—*Charles Henderson, New Jersey, in American Gardeners' Monthly.*

CULTIVATION OF CACTI.

ALL the species of Cactus may be treated as follows: Pot them in loam and peat, or sandy loam mixed with about a fourth part of lime rubbish. Use always the smallest-sized pots they will go into; always give ample drainage, and never water till the plants require it, and then only sparingly.

In summer turn the plants out-of-doors, shelter from wind but not from the sun, and stand them on slates or boards to keep out the worms. Here have a covering of some kind to break off heavy rains; and also pack the pots round with moss or cocoa-nut fibre, or the pots may get hot and burn the tender roots. By the middle of September return the plants to the greenhouse, and place them where they will get the most light and air. Early in spring remove them to the warmest structure, and they will soon break into bloom and flower finely. They would flower without being stood outside in summer, but the flowers would not be so fine, and the reddish hue seen on the stems and foliage when grown in the open air, shows that they relish that treatment, and that the plants are in a high state of health.

Propagate by cuttings, seed, and grafts; cuttings or off-sets must lay for a week or ten days to dry and heal up before being potted, using the same compost as recommended for plants, smallest-sized pots, and as little water as possible. Place them on a shelf near the glass, and be sure not to flood them with water. In re-potting shake off a little of the old soil, and place in pots one size larger than before.

Seeds must be sown as soon as ripe in equal parts of peat and sand. Plunge the seed-pans in a hotbed, shade lightly, and, if the seed is good, they will be up in a month. Have the soil in the seed-pan pretty wet, and do not water again till necessary, when it should be done through a cake of moss, so as not to float the seeds.

GRAFTS.—This is very simple; merely make an incision in the plant to be operated on, and fit in it a fresh cutting of another kind, rubbing a little clay over the wound to keep out the air. The union is soon effected, and the new branch grows freely. —*Authentes.*

LÆLIA ANCEPS VARIETIES.

(*Continued from p.* 473.)

LÆLIA ANCEPS BARKERIANA (fig. 2).—This fine form was imported at the same time as the original L. anceps, and distinguished on account of the bright tint of its flowers, and the shining, velvety crimson of its lip. Since the original was named, many false L. a. Barkeriana have been named; but that which Baron Schroder grows at The Dell, Egham, and from which our illustration was obtained, is the true plant. Arranged as Baron Schroder has it, among the fine white forms, its flowers have a cheerful glow, which is pleasing in the highest degree.

L. ANCEPS PERCIVALIANA is a free-flowering form, with very pale pink sepals and petals, and clear rose lip, with sulphur disc. There is also a form of Percivaliana called pulcherrimum, which differs from the type in having the disc of the lip orange, and the coloured portion light mauve. Both are very pretty and distinct.

L. ANCEPS HILLII is much like Percivaliana, but its sepals and petals are white instead of pale pink or blush. Like all the rest of the L. anceps varieties, good culture works wonders with it, and when well grown it is very handsome.

L. ANCEPS CALVERTIANA.—This pretty form is allied to L. a. Dawsoni, but its petals are narrower than those of Dawsoni, and the lines in the labellum are not so distinct and clear as in that variety. It is, however, very pretty.

L. ANCEPS VEITCHII (fig. 1).—This is a most charming plant, with clear white sepals and petals and well-formed labellum, which is clearly marked with crimson lines and stained on the front lobe and on the wings

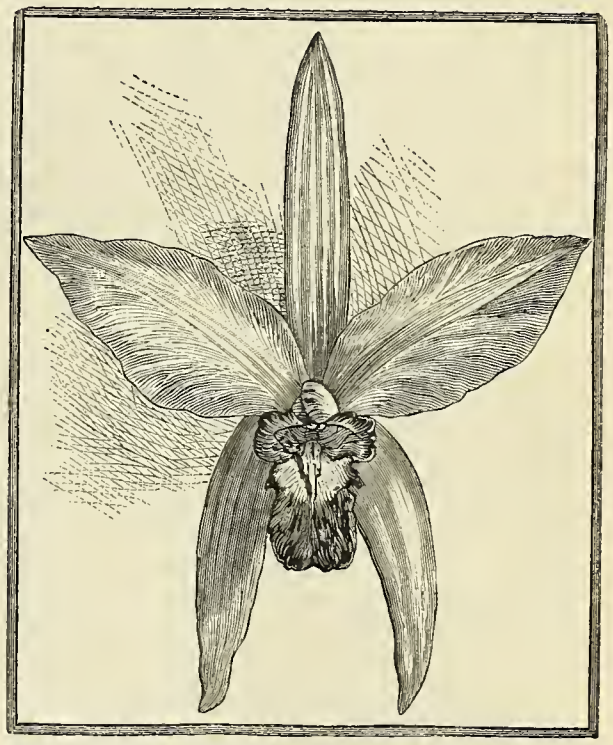


FIG. 2.—LÆLIA ANCEPS BARKERIANA.

which clip the column with purplish-blue. L. a. Veitchii is a worthy companion to Dawsoni.

L. ANCEPS SANDERIANA has not yet flowered in this country, but the dried flowers show it to be one of the largest of the white L. anceps, as well as one of the most floriferous. Its labellum is very brightly coloured, and it is said to bear five or six flowers on a spike.

L. ANCEPS ROSEA.—This pretty variety has delicate blush sepals and petals, and clear pink front portion to the labellum, the upper part being yellow, with dark lines.

L. ANCEPS VESTALIS is a grand white variety which flowered with Sir Trevor Lawrence, Bart., M.P. Its petals are tinged with pale green, lip stained with sulphur and lightly marked with purple. Its flowers are wax-like, and very distinct.

VIOLAS.

"What pretty Violas," said a person recently, when showing them a few blooms that had opened thus early in the season while growing in a cold frame. They were pretty. But charming as they are, it is very difficult to impress lovers of flowers with a sense of their beauty and usefulness. They appear to have gone out of cultivation. A few years ago there was something like a rage for them, and a garden appeared to be incomplete without some of these pretty things. But there are rapid changes in the aspects of gardening. For a time certain subjects appear popular, and then they recede into a sphere of popular indifference. In many cases this is to be regretted, for very useful things may be undeservedly neglected, and an injustice done them in consequence.

I am about to give the names of a few good Violas, and they represent flowers of divided colours. Many Violas have been introduced of a really worthless character, for they proved what is termed "washy." Violas, for bedding purposes, if they are to be effective, should be of divided colours, dwarf, compact habit, free and continuous of bloom. The following varieties answer to this description: Cliveden Purple compacta, in the way of the old Cliveden Purple Pansy, but singularly compact in growth, and very free and continuous; Countess of Kintore, deep bluish-purple, edged with white; this beautiful and novel variety has not so good and compact a habit as one could desire, but it is very pleasing indeed; Elegans, delicate lavender, very pleasing and effective; Golden Queen of Spring, deep golden-yellow, the flowers without marking a pure self, of good habit, early, free, and continuous; Lord Darnley, rich deep blue-violet, good in all respects, but a little late in flowering; Mrs. Gray, snowy-white, a pure self, free and effective; Queen of Lilacs, a variety in the way of the old Blue Bell, fine, free, and excellent habit; Queen of Violets, deep purple-violet, very free and an excellent bedder; and True Blue, probably the very best blue bedding Viola yet sent out, habit robust and compact, very free, and in every respect first-rate.

This is a good time of year to obtain plants. They do well when planted out in good soil in moist weather. They soon take root, and their low, compact, and somewhat prostrate growth serves to keep the soil moist about the roots, and helps the plants in summer.—*Quo.*

CHEAP HARDY ANNUALS.

How much gardening, and what kind of display can anyone make for a shilling, or—shall we say—half-a-crown? Let us see. Twelve penny packets of hardy annuals will go a very long way, if the most be made of them; and thirty packets will stock a good sized garden. Having committed myself to the above statement, I must proceed to explain the method of proving it. Suppose we have half-a-dozen beds, and two or three long borders now bare, and which we purpose to fill up at the cheapest rate; it would be only fair to suggest that the soil in them should be sweet, and in good condition, and if not rich enough that we should be allowed to dig in a few barrow-loads of good rotten manure. This course having been followed, and the soil being in a loose, friable condition, we may arrange our stock of seeds. Nothing like an indiscriminate mass of clumps and patches will satisfy our conditions; we must have order, beauty, and effect equal at least to "carpet-bedding," or fashionable "bedding out." Shall we begin with our borders first? Can we manage a ball of twine and a few long hazel or briar rods? If so, we will make a trellis on the back wall, and cover it with (1) the Canary Creeper, (2) Major Convolvulus, (3) tall Nasturtiums, (4) Ipomœa coccinea, and (5) Sweet Pea. The seeds of these we put in in a single line at the foot of the wall, about 6 ins. apart, singly, with the finger and thumb, covering them over as we proceed, and gently pressing with the foot. Near the back of the border we will next sow a patch or two of (6) tall Sunflower, (7) Helichrysum, and more Sweet Peas. The Sunflowers we will afterwards thin out to three in a patch, each plant being left a foot apart. The Sweet Peas we sow in a ring, about 1 ft. wide, and we stick in a few twigs at once to mark the spot. We now begin to think that we must have some means of recognizing the various things again, so we had better make up a stock of labels to stick in. Having got these ready, and rubbed them over with a little very thin white paint, we will proceed with the border; and we next select some tall, free-flowering sorts of annuals for the third row. These we decide shall be (8) Cornflower (blue), (9) Love-lies-bleeding, (10) Malope grandiflora (red), and (11) African Marigolds (orange). These patches are all quite 6 ft. apart, and between them, here and there, we pop in a single seed of dwarf Nasturtium, or of (12) Minor Convolvulus, to hide the blank. The second row is now to be filled up, and must be very gay, in fact almost a solid mass of colour, but the plants must only range from 12 ins. to 18 ins, in height. For this row we choose (13) crimson Candytuft, (14) Clarkia elegans, (15) Gilia tricolor, (16) crimson Godetia, (17) Collinsia bicolor (purple and white), (18) Linum grandiflorum (scarlet), with here and there a seed or two of (19) Amaranthus (tricolor and ruber); and we sow the seeds of all these in patches of 3 ft. long by 6 ins. wide, with a blank of 1 ft. between each to give distinctness aud room. We shall thin out all these seedlings to 6 ins. apart, as soon as they require it, to give the plants more room, although 6 ins. is rather close. Next we get in our front row, consisting of plants from 6 ins. to 1 ft. in height—or rather we sow seeds of such. For this we have a measure 18 ins. long, which distance apart we proceed to mark off the entire length of the border, putting in a label at each place of the sort we intend to sow. Here we sow round patches, a foot across, of (20) Mignonette, (21) Dwarf Larkspur, (22) Saponaria calabrica, (23) Silene pendula, (24) Venus' Looking-glass, and (25) Annual Campanulas (blue and white).

Now we shall require a border or edging, and for this we fix the garden-line, and mark a very shallow trench by pressing in the handle of the garden rake. Along this line we sow very thinly (26) Nemophila (blue), (27) Virginia Stock (red), and (28) Sweet Alyssum (white), in lengths of 3 ft. each. Our border is now completed so far as the stock of seeds is concerned, and as we have a few seeds of each sort left over, we reserve them for another place. But as the seedlings begin to appear they will need attention. We shall have to keep down weeds, look after slugs, and to shelter and protect the plants from keen cold winds. To do the latter we shall require some sprigs or sprays of green yew, spruce, and laurel, which we will stick in around the patches of the most tender kinds. A cold wind or a pinch of frost will soon tell us which those are, and we shall have to be ready to protect them.

But we have not yet filled up our beds: for these we have reserved a part of our seeds. We have besides (29) Ten-week Stocks, and (30) Dwarf Asters; and as these are rather more tender, and we shall require all we can raise of them, we take a little extra pains in raising them. Having hunted up an old soap-box and a few scraps of glass, we let the box down into the ground by cutting it in with the spade in a sheltered but sunny spot, and we sow our seeds inside of this, having first knocked out the bottom of the box; we then lay our pieces of glass over, and wait till the seedlings come up. We give these air on all favourable occasions, and gradually harden them off, till at last we can draw up the box and lay it aside; but we still keep it ready in case of a very cold wind or sharp frost. We take care to leave blank circles in our beds for these, which, when ready, we plant out in the reserved places, and in the meantime we fill up the rest of the beds with the seeds we have kept back.

In the middle of one bed we sow a patch of blue Cornflower, and around that a circle of crimson Candytuft, surrounding the latter again with Amaranthus tricolor, and edging the bed with white Alyssum. In another bed we sow an edging of Nemophila (blue), next red Virginia Stock, then a ring of Collinsia bicolor, and in the centre a patch of Love-lies-bleeding. Another bed has Malope grandiflora for the centre, next Gilia tricolor, then scarlet Linum, and outside Saponaria calabrica. The other beds are similarly filled up, with the exception of spaces for the reserve plants before mentioned.

A few ornamental arches formed of slender rods, wires, and twine are also set up here and there across the paths, and seeds of climbers—Ipomœas, Convolvulus, Nasturtiums, &c.—put in at the foot and trained overhead as they grow, and we are then at the end of our half-crown's worth of seeds, and a very cheap and gay half-crown's worth I think it is.—*Authentes.*

THE FORSYTHIAS.

The Forsythias are among the showiest of early flowering shrubs, and at the present time their bright yellow flowers occur in profusion in many of our gardens. There are two species, F. suspensa and F. viridissima, both of them natives of China. They are equally well known in Japan, but as far as historical evidence goes they appear to have been introduced to the latter place as ornamental garden plants. Be this as it may, one of the plants was known to Thunberg, who, about the end of the 18th century, described it as Syringa suspensa, the name applying to the lax pendant branches. Thunberg thus perceived its natural affinity; for the genus is closely allied to the Lilac, but differs in the habit and colour of the flower, as well as in having numerous seeds in a capsule, not two-seeded as in the Lilac. Both the species agree in producing drooping flowers in the axils of the fallen leaves, but differ in habit, shape of leaf, size of flower, and in one other character which invariably separates the two species, namely, the shape of the calyx lobes. In F. suspensa these are invariably much longer than broad, but in F. viridissima roundish-oblong and much smaller. They are quite hardy with us, though the young foliage is apt to get injured with late spring frosts. They thrive well in ordinary garden soil, and may be propagated with the greatest ease by layering or by cuttings. In conclusion, a word as to the species individually, and the positions for which they are adapted.

F. suspensa, when in flower, is very similar to the well-known Jasminum nudiflorum, except that the flowers are drooping, and twice the size. It is admirably adapted for a pillar-plant, or for training on a wall; the most effective position we remember to have seen it in being loosely trained to the pillars of a verandah. In this position the pendant branches, clothed with bright yellow flowers, had a most brilliant effect. It appears to have been introduced to Holland as early as 1833, but not to have reached England till long afterwards. In fact, we find a statement in *The Botanical Magazine* for 1851 (F. viridissima being then figured) that it was not theu in cultivation in England. Not long afterwards, however, it put in an appearance, for we find that "charming specimens were received from Messrs. Veitch & Sons, of Exeter, in April, 1857," and these were figured in the aforementioned work. The leaves are ternate, and the flowers somewhat larger than in the following species. Siebold assures us that in Japan it is scarcely known except in cultivation.

F. viridissima is a small erect shrub, and a very handsome addition to the shrubbery border. The leaves are lanceolate, or ovate-lanceolate, and the segments of the corolla are somewhat narrower than in the previous species. For its introduction, we are indebted to Mr. Fortune, in 1845.—*X.*

AURICULAS.

As an Auricula cultivator, I may state with all truth and soberness that the past month has been nearly enough to drive one mad. See what the weather has been: a very cold and low temperature by night, accompanied by frosts, and some of them sharp ones too; by day chilling, cutting east winds, and occasional bursts of warm sunshine. Living to the west of London, and within six miles of Hyde Park Corner, the prevailing easterly winds, keen, sometimes boisterous, and always withering, have come to me laden with London smoke, that like a robe completely enveloped things. My Auricula house has a northerly aspect, and without a particle of shelter on the east, therefore it feels the full force of the cold-laden influence of the winds from that coruer. How can plants be expected to make headway under such circumstances? All I could do was to keep the house close by day and night, and by employing a paraffine lamp during the latter, endeavour to keep out as much frost as possible. I have Auriculas that have been endeavouring to expand their pips for a month past, and, at present, appear as far off as ever from

doing so. I am thinking of the Auricula Exhibition on the 21st inst., and wishing it were a week or two later. How fortunate are those exhibitors who can give their plants a little fire-heat by which to lend them a helping hand at this juncture. Not only does a little genial warmth accelerate blooming, but, judiciously applied, it materially aids the development of the pips, imparting to them form and substance. A low temperature has the opposite effect to this. It is only in the case of a very early warm spring that under present circumstances I could get Auriculas into flower by the third week in April. As far as personal enjoyment is concerned, I am able to enjoy them a good deal later in the season, as my plants are at their best about the middle of May.

Later on I will say something about varieties. The earliest to flower this year is the late Tom Mellor's Cymbeline, a self of a distinct and pleasing bright plum colour, a good tube and circular paste, but lacking in density; the pip is circular and flat, and whoever grows this variety cannot fail to be pleased with it, though I can scarcely imagine it will be regarded as a First-Class Exhibition flower. The new golden self Hetty Dean came into flower at the same time. It is such a free grower, and so quick to flower, that it turns in quite early, but I hope to have it in pretty good condition on the 21st. Seedlings, both Show and Alpine, are becoming very interesting. In both classes, and especially in the Alpine Section, something very good is necessary to compete with, much less excel, Mr. Turner's splendid strain. But there is an all-absorbing and something akin to a fascinating interest in looking for the opening of seedling flowers—there is so much uncertainty about the characters they will exhibit. Who can tell in what forms they will reveal themselves?

It is not well to be troubled with too many seedlings. I like to grow a few every year, and those raised from a good cross. The raising of first-rate varieties will always be in the hands of the few, and those who, like the Rev. Mr. Horner and Mr. Douglas, have obtained seedlings of a high class character, have in their hands valuable, we might say the very best, material to work upon. A grower on a lower level may, perhaps, obtain a chance seedling that shall make a great reputation, but the chances are against him. Still, the pleasure of raising seedlings is so great that the proprietor of the humblest collection should attempt this; if he draws all blanks and no prizes, the interest with which he watched the expansion of his seedling flowers will more than have repaid him for any labour bestowed upon them. —*R. D.*

THE VICAR'S GARDEN.

With the kind permission of our Vicar, and the consent of the Editor, I propose to take the readers of The Gardening World for an occasional stroll through his garden, which it will suffice to say is of moderate extent and under his own supervision, our Vicar being an enthusiastic amateur gardener, whose one aim in connection with it is to get as great an amount of enjoyment from it as he can, at a reasonable cost. It is no part of my object to describe in full its soil, situation, or aspect, there being nothing particular to say on these subjects. My remarks, on the contrary, will be generally directed more to the occupants of the garden, and whatever there is of interest in it will come under notice in due course. I can promise your readers that there will be much in the Vicar's garden to engage the attention of all true lovers of flowers, the collection of plants comprising many gems of the first water among hardy herbaceous plants, though not by any means restricted to these.

It has often occurred to me that one of the causes which has led to the present depressed condition of the gardening interest was the rage for bedding out, which led to the exclusion, to a large extent, from cultivation of many plants with greater claims to real beauty and interest than mere bedding-plants, and which made gardening, in the estimation of many, a mere matter of buying or growing some half-dozen kinds of Pelargoniums and a few coloured-leaved plants, and the capacity to mow grass and keep the place tidy the sum total of accomplishments required to constitute anyone a gardener—a poor, meagre conception, it must be confessed, but only too true. No wonder gardeners often find themselves the worst paid and worst treated individuals in many establishments. Gardeners should, so far as opportunity affords, encourage in the minds of the younger members of the families they serve a genuine love for flowers for their own individual merits, and certainly it is one of the first duties of the horticultural press to foster and encourage the taste of the community at large for flowers.

It will be with a view to fostering this good work that this series of papers will be written, calling attention to subjects which are really worth growing, and giving hints at times when thought desirable. The collection to be commented on consists mainly of those plants which, when once procured, will cost but little to renew, and which are easily obtained by those of moderate means, and includes, besides hardy herbaceous plants, Roses and hardy shrubs, and an occasional comment will be made on the fruit and kitchen garden, so that we hope to give experiences which will be of interest and value to all amateur gardeners, should their domains consist of only a few rods, or extend, as this does, to an acre or two. In our next we will review in detail some of the good things which have been and are now in flower, and hope to infuse into others a passion for flowers, which is one of the most elevating and refining influences which can be brought to bear on any community, speaking to the lost ones tender memories of childhood's innocence and purity, and kindling in us hopes of a resurrection to still more fairy-like forms of elegance and beauty.—*W. B. G.*

NEW PLANTS.

A New Aroid.—A new species of this remarkable family is figured in the April number of *The Botanical Magazine*, under the name of Dracontium fœcundum. The leaf has a grand appearance, the stalk attaining 6 ft. in height and the blade 4 ft. in diameter. The latter is much cut up into variously shaped drooping leaflets. The peduncle is pale purplish-brown, and 2 ft. to 3 ft. high; the spadix bluish-brown, and the spathe, which is 5 ins. long, is dull brown outside and inside deep vinous-purple. It is remarkable for the profusion of bulbils produced on the tuber, which completely surround it with a dense girdle of brown egg-like bodies, with dark acute tips. It is a native of British Guiana, and was obtained during an expedition to the Corentyn River in 1880, and the tubers were sent to Kew and flowered in March, 1882, but the leaves did not appear until the following January. It is a noble plant, requiring a large stove for its cultivation.

Anthericum echeandioides.—This is a deep yellow flowered Anthericum, native, probably, of Mexico, figured and described for the first time in the April number of *The Botanical Magazine*. It flowered at Kew in November, 1883. The flowers are borne in an erect raceme over 1 ft. long, and the five or six leaves are bright green, with wavy margins, and narrowly lanceolate.

The Hanging Gardens of Babylon were built by Nebuchadnezzar to gratify his wife Amytis. The gardens were over 400 ft. square, built terrace above terrace until they were 27 ft. higher than the walls, or 400 ft. The top was sustained by a series of arches one above the other, and each terrace was bound by a solid wall 22 ft. thick. On the top arches were first laid flat stones 16 ft. by 4 ft., over these weeds and bitumen; then two rows of cemented brick covered by sheet lead, upon which was laid earth sufficiently thick to nourish large trees. The gardens were filled with the blooming plants and shrubs which were admired by Queen Amytis in her native Media. The different terraces and groves contained fountains, parterres, seats, and banqueting rooms; in fact, all the splendour and magnificence of Eastern art seem to have been lavished upon these gardens by King Nebuchadnezzar in order that his Median bride should be happy in her new home. Pen cannot picture the grandeur of the conception or the perfection of the execution of these gardens, which have been and are the wonder of all ages. The greatest hanging structure now in existence is the Brooklyn Suspension Bridge, costing 15,000,000 dols. The whole length is 3,475 ft., and it connects New York and Brooklyn by a clear span of 1,595 ft.—*Building and Engineering Times.*

THE COCO-NUT PALM.

Of the many important, economic lessons taught us by the late International Forestry Exhibition held in Edinburgh, not the least was that appertaining to the numberless uses to which that family of the vegetable kingdom denominated Palms can be applied. Humboldt gives as the produce of this tribe, fibre, oil, wax, flour, sugar, and salt, and Von Martius, the great illustrator of this noble family of plants, adds thread, utensils, weapons, food, and habitations. The habit of growth and remarkable height, as well as its longevity and great fecundity, have been remarked upon by Xenophon Strabo, Plutarch, Aulus Gellius, and other early writers. Again, some have expatiated upon their majestic appearance and the character of grandeur they impress upon the landscape of the countries they inhabit. In addition to all this, they are, in economic importance, the most interesting of the vegetable world.

Of the Coco-nut Palm, in particular, an exhibitor, Mr. J. Alexander (who furnished one of the features of the International Forestry Exhibition with the products from Ceylon), showed numerous uses to which this member of the noble family could be supplied—truly multifarious! From this gentleman we learned the fact that the market value of the area covered with this Palm alone in Ceylon is upwards of twenty millions sterling. The Cinghalese native with twelve Coco-nut trees and two Jaca trees (Artocarpus integrifolia) in his garden, considers himself independent. The Coco-nut tree furnishes him with food, thatch for his house, oil for his lamp, utensils for his kitchen, charcoal for his fire, sugar for his board, baskets to hold his fruit, buckets for his well, mat for his bed, pouch for his betel leaf, leaves for his books, fences for his garden, and brooms to sweep and clean up his house. We may safely say that no other tree could furnish such a supply of home comforts. It may be interesting to some readers if we give the various portions of the tree which provide these useful articles.

The following are only a few of the countless uses for which the various portions of this valuable tree can be utilized:—The leaves for roofing, mats, baskets, torches, fuel, brooms, fodder for cattle; midrib of leaf, fences, yokes, fishing rods, and many domestic articles; the Cabbage or unexpanded cluster of leaves, when very young as a vegetable, afterwards for pickles and preserves; the sap for toddy, arrack, vinegar, sugar; the unformed nut, medicine and sweetmeats; the young nut and its milk, for drinking and dessert; the green husk, preserves; the nut and milk, for eating, curry, milk, and cooking; the oil, for rheumatism, soap, candles, light; koppara, or refuse of the nut after expressing the oil, for cattle and poultry; the shell of the nut, for drinking cups, charcoal, tooth powder, spoons, medicine, hookahs, beads, bottles, and knife handles; the coir or fibre within the outer husk, fuel, mattresses, cushions, ropes, cables, cordage, canvas, fishing nets, brushes, oakum, and floor mats; the trunk or stem, for rafters, laths, boats, troughs, firewood, &c., &c.

Tennent says with a Cinghalese enthusiast there is an interminable narrative of the uses and qualities of this his favourite tree. He also notices a claim in a case in a Ceylon Court for the 2,520*th part of ten Coco-nut trees.* In Ceylon alone 480,000 acres are under cultivation of this Palm, the average value of the exported products of which amount to £500,000. The value of that locally consumed is estimated to be at least £2,000,000.

An approximate estimate of the area cultivated in the various countries where Coco-nuts are produced is 3,375,000 acres, of the enormous value of upwards of £15,000,000. The annual export value of the products amounts to £2,500,000. The following represent some of the annual exports as taken from the Government Blue Books:—

Exports from India	£700,000
,, ,, Ceylon	500,000
,, ,, Australasia . . .	200,000
,, ,, Central and S. America	700,000
,, ,, West Indies . . .	100,000
,, ,, Eastern Archipelago .	300,000
,, Miscellaneous . . .	100,000

Of the Palmyra and other Palms of Ceylon, I may be induced to give some information on a future occasion.—*Œdipus.*

The Amateurs' Garden.

THE GREENHOUSE.

Watering, &c.—Now that the days are lengthening so fast and plants are beginning to grow freely, increased supplies of water will be needed, or the balls will soon become dry and the roots suffer, which quickly tells on the foliage and bloom, the one assuming a starved look, and the other falling long before it otherwise would. There are many greenhouse subjects that will now do best in cold frames, and among these may be mentioned the Japan Lilies and most of the things that have done flowering, such as Deutzias, Dielytras, Spiræas, Lily of the Valley, Hyacinths, and Tulips, the two latter, if just sheltered for a short time to harden them, being of value for turning out in the borders, where, next season, they will make a fine show. Instead of the other turned-out plants being left to themselves, they should be taken every care of by being properly watered and tended, as by assisting them to make a free growth, which they will if syringed and shut up early, they will do good service again.

Solanums that have been cut back may at once be planted out in an open sunny spot, as the little frost we are likely to get will not hurt them now, and by having them turned out early they flower more freely and set a great number of berries. Primulas are generally thrown away after they have done blooming, but it is a good plan to keep a few of the old plants, as they come in long before spring-raised seedlings, and bear quite double the blossom. The way to manage them is to slightly dry them off by only just giving sufficient water to keep them from severe flagging, and when they have been thus rested and lost some of their sap, they should be partially shaken out and re-potted in fresh soil and then kept close in any cold frame to give them a start.

Cinerarias.—Any plants that show exceptional quality are also worth saving, as the suckers or offsets they form may be taken off and grown into most excellent plants. Those who prefer seedlings of either Cinerarias or Primulas should sow at once in fine soil and just cover the seed, when if the pot or pan it is in is placed in gentle heat and has a pane of glass laid over, and the soil is kept just moist, the plants will soon be up and ready for pricking out to grow them on larger. Perpetual Carnations are very valuable winter-flowering plants that are easily managed, the readiest way of striking the cuttings being to put them in under a handlight stood on a slightly warm bed of manure, where, if the cuttings are inserted in sharp sandy soil, they will very soon root.

PITS AND FRAMES.

These will now be doing good service in hardening off the bedding plants, which should not be exposed to check them in any way, as there is plenty of time yet to have the lights off to inure the foliage to the air, a process that ought to be very gradual, or the leaves will be chilled and discoloured. Any frames to spare may be profitably made use of for Cucumbers and Melons, which do well in them after this if a little bottom-heat can be afforded to give them a start.

BEDS AND BORDERS.

Calceolarias being nearly hardy may be bedded out at once. It is much better to plant them early, as they get a firm root-hold before hot weather sets in. To enable them to stand heat and drought, the beds or positions intended for them should be deeply dug and manured, and if the plants are mulched after they are planted, the heads of bloom will be finer. In case the plants cannot be got out now, the best thing is to lift them with good balls and put them in fresh soil a few inches apart, when they will be in first rate order for removal when the beds are cleared later on.

Violets are favourites with everyone, but in few places are they well grown, or anything like the flowers got from them that they are capable of producing, the reason being that they are left from year to year, instead of being replanted in fresh positions annually, the secret being in getting fine bold crowns, without which there cannot be a great deal of bloom. The best site for Violets is a sheltered half shady position, and the ground should be manured or dressed with leaf-mould when dug. The plants may be dibbled in in rows, 9 ins. or a foot apart, and 6 ins. or so plant from plant, in doing which it is necessary to make choice of the strongest and best rooted offsets, which soon get fresh hold and grow away freely.

Anemones are now showing their worth, as they are ablaze with bloom, the big single kinds of A. coronaria being very fine and showy when they are open, the colours ranging from white through nearly all shades up to the most brilliant of scarlets. The best way with these Anemones is to treat them like annuals and sow yearly, as young seedlings begin to flower in winter and last on till quite late in the season. The most suitable place for them is a warm sunny border having light soil, which should be manured and dug, and, after being raked fine, the seeds should be sown in shallow drills or broadcast, and slightly covered, when the plants will soon be up and grow rapidly on.

Lily of the Valley.—Flowers of this charming plant may be had in quantity by making a bed or small plantation anywhere in spare ground, a good situation for it being between rows of fruit trees, or close along under a shady wall, in either of which positions the soil should be prepared by having plenty of leaf-mould or manure, of which Lily of the Valley is fond, dug into it. In planting, all that is necessary is to pull the roots apart, and put a small clump in here and there, when the plants will soon run and spread over the ground.

THE FRUIT GARDEN.

Fruit Prospects: Mulching.—The promise in the fruit garden is all that can be wished, and nothing but very bad weather can now prevent us having most excellent crops, as all trees are full of blossom, or buds that will open later, according to whether they are Plums, Cherries, Apples, or Pears. Except the protection of the most tender, such as Peaches and Nectarines against walls, there is little to do now in the fruit garden, but any grafting not carried out may still be performed, and if there are any fresh or late planted trees not mulched, that should be done, as it is a great help to them to have the ground protected over the roots, the mulching acting as a shade and non-conductor, thus keeping the soil uniform as regards heat and moisture.

Figs.—Although most people grow nearly all other kinds of fruit, very few are found to have Figs, and yet the Fig is more easy of cultivation than any, as no matter how poor the soil may be it will succeed, and the poorer it is the better it fruits, as when half-starved it makes firm, short-jointed wood, which frost does not harm. The most suitable situation to plant a Fig is a hot, sunny corner against any building, where it may either be trained against the wall, or allowed to grow at its will, as beyond a little thinning of the branches, if they become too thick, no pruning is required, the fruit coming on the ends of the shoots. In the warm and more favoured parts of England, especially near the sea-coast, and on chalk, the Fig flourishes as a tree or bush anywhere in the open, and now is the time to plant, as the buds start late, and it is safer to lift the trees after winter is over. Nurserymen supply them in pots, and if the soil is rich, it is a good plan to sink these with the plants in, and let them root out around, which will check any tendency to over strong growth.

The Peach-house, even after the fruit is set, should have air in the morning when the temperature rises to 55 degs., and be increased as the day proceeds to keep the glass below 75 degs., at which degree of heat the house may be closed at three o'clock in the afternoon, when a good syringing should be given, which will assist in keeping the trees clean and healthy. The same remarks apply to the vinery, which, if shut up early, will remain nice and warm for the night, and the syringing will create an atmosphere that will be good for the Vines.

THE VEGETABLE GARDEN.

Planting Potatos.—Now that April has set in, all early kinds of Potatos may with safety be planted, the best way of doing which is to draw drills about 3 ins. deep, when the sets may be laid regularly in the bottoms without breaking or injuring the shoots, which should have every care, as some sorts will not break again if the sprouts are rubbed off. Before covering the Potatos in, or previous to drawing the drills, it is a good plan to sow some soot over the land, as that is one of the best manures for keeping the skins of the young tubers clear, and preventing the sets from being penetrated and weakened by wire-worm.

Seed Sowing.—Seeds of late Broccoli and Winter Greens of all kinds should now be sown, as well as a little Cauliflower, Lettuce, Radishes, Turnips, and Short-Horn Carrots, to keep up a succession. As yet it is full soon for Beet, but a row may be got in for first pulling, and the winter supply at the end of the month or beginning of May. To have a regular succession of Peas, the way to manage is to put in a few every fortnight, or a fresh lot as soon as the other is through, at which time they will need protection from sparrows, as they are fond of the young tender tops. The best way to keep off these depredators is to strain two or three lines of black cotton just over the rows, and leave them there till the peas get on to their sticks.

French Beans may now be got in on any warm border, and Scarlet Runners in the open quarters; but it is quite as well to sow both in leaf soil or light mould under glass, and transplant later on. If there are any young Cabbage Lettuces or Cauliflowers that have stood the winter on beds, they should be got out at once, and others that are growing be hoed between to keep down weeds and let in the air.

Herbs need overhauling and replanting, in doing which Thyme may be divided and Mint separated, and the roots put in in fresh soil. Parsley makes a nice neat edging, and when grown in that way is very easy to pick. By sowing a bed, the plants may be pulled when large enough and dibbled in by the sides of walks, by doing which it is thought by some to come more docible. Thyme also makes a very neat edging, and bears clipping, as it breaks freely and grows very thick and regular after.

THE CHISWICK GARDENS.

Since the time when we looked upon one of the great exhibitions in the palmy days of Chiswick, thirty years ago, until now, many vicissitudes have overtaken these gardens, and changes have taken place, but the continuity of the good work done there has remained unbroken. Good, honest, useful, substantial work has been accomplished, and is being accomplished still, and if Chiswick has ceased to be fashionable, practical horticulture has not materially suffered thereby. Since the days when the Arboretum on the east, and the substantial line of ground on the south was cut off from the Gardens, the interest in Chiswick has been maintained, and it is, in all probability, as useful now as it ever was.

On the opposite page we give a view in these famed Gardens, the point of view being west of the great Vinery. Standing at the end of the walk leading due east from the Sutton Court Road, the visitor passes a little west of a large raised stone bed filled with handsome specimens of Yucca recurva—a striking object when viewed from any point of advantage. On the right, as on the left of this stone bed is seen portions of one of Mr. Barron's masterpieces—the rockwork, on which, at whatever period of the year it may be, the visitor will find something to interest him. In the background is seen the east end of the huge Vinery, with its "blazing arch of lucid glass," almost dazzling as it reflects the mid-day sun falling upon it out of an unclouded sky. Beyond there is seen the Arboretum, once one of its chief glories, now no longer a portion of the Gardens. It is a charming picture, notwithstanding that the trees are bare of foliage, though almost leaping with resistless energy into their spring verdure, as the swelling buds indicate.

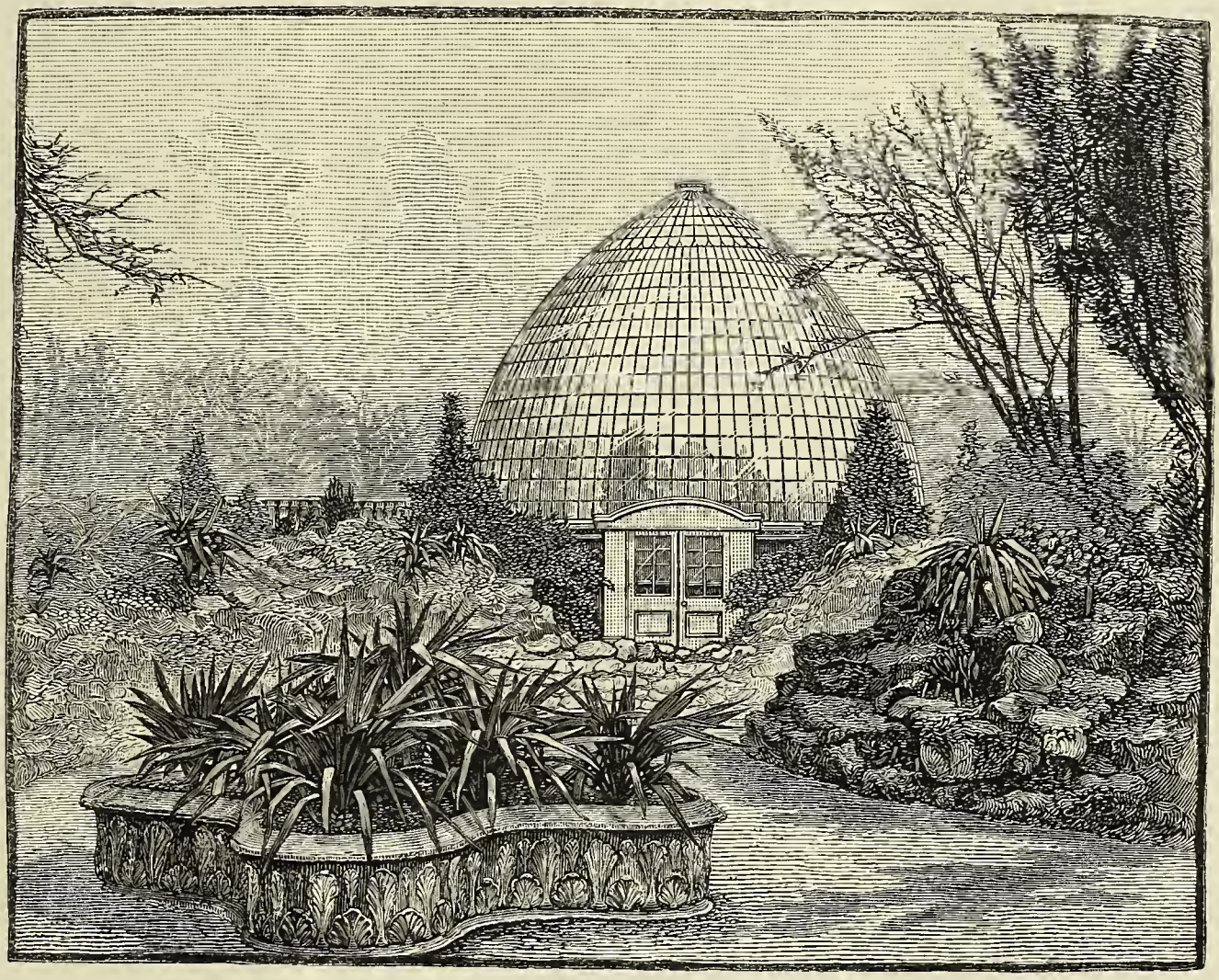
The nakedness of the rockwork is hidden by having its crests clothed with Evergreens, such as Irish Yews, Thuja, Juniperus, Yucca, &c. Mossy Saxifrages, Aubrietias, prostrate Phloxes, small-leaved Ivies, Arabis albida, Iberis in variety, and others of a similar character clothe the most prominent points. Here and there peep out the gay flowers of many a choice vernal gem. There is Chionodoxa Luciliæ, Scilla Sibirica,

Hyacinths, Vernal Crocuses, Hepaticas, Daffodils, Primula rosea, Hepaticas, &c., with hardy Ericas, Christmas Roses, the Shot-silk Pulmonaria sacharata rubra, the dwarf white Iberis saxatilis, the fragrant Coltsfoot, Primroses, and Polyanthuses, &c. Here and there are patches of the pretty golden-tipped Sedum acre aureum, Saxifraga muscosa purpurea, and S. elongata, both of which take on a bright reddish tinge in the springtime. But this is by no means an exhaustive list.

It is pleasant to walk round the Gardens just now. Peaches, Nectarines, and Apricots on walls are in full bloom. Plums are rapidly following suit. There is an exceedingly bountiful promise of bloom on the Pear trees; the Apple trees fall below them in respect of this, but Heaven granting a benificent season there will be an abundance of this fruit. In the houses there are signs of the keen activity peculiar to the springtime. There is a remarkable trial of Fuchsias coming on; there are Pelargoniums in abundance, and various other subjects. In one house is a large batch of seedling Hollyhocks, which Mr. Barron hopes to succeed with in the coming summer. In one of the flowering-houses, now gay with many charming subjects, there are some handsome Clivias (Imantophyllums); one, named Superba, is semi-double, and unusually deep in colour. But in the space of a short paper of this character it is impossible to do justice to all the plant-treasures found here.

Out-door trials of flowers will this season comprise bedding Carnations and Violas, with some other subjects of interest. In the vegetable department will be found Potatos, Peas, and Cabbages; many new varieties of the former have been sent for trial.

How much the Horticultural Society owe to their enterprising superintendent, Mr. Barron, it is scarcely for us to say; but we know something of the opinion held by the horticultural body outside the Society. Never was a greater amount of public confidence reposed in any former superintendent of the Chiswick Gardens. Those who entrust to his care new varieties of plants, fruits, and vegetables, do so in the full belief that he will do them ample justice. And the trials carried out by Mr. Barron are felt to be reliable; for a high-minded conscientiousness, added to sterling ability and character, attracts and justifies this public confidence.



VIEW IN THE CHISWICK GARDENS: THE ROCKERY AND LARGE VINERY.

STRAWBERRIES AND SLUGS.

In your issue of the 14th ult., at p. 442, a reply is given to "An Anxious One," who asked for advice as to planting a patch of Strawberries, and I can scarcely fancy any one recommending the Vicomtesse Héricart de Thury to any amateur asking for the best kind to grow. It is doubtless a valuable Strawberry to the market-gardener, as it forces well, is tolerably early, and a great cropper, but in quality it is very far behind Dr. Hogg, Carolina superba, River's Eliza, President, and numerous other kinds. It has lately also been found to perish, plants here and there in the same line drying up without any discernible cause. No one can give the advice asked for unless the nature of the soil is known. If very stiff, the Queen tribe will do well; in chalky marl River's Eliza is A 1; in lighter soils the President would perhaps be the best, but it is never advisable to grow one kind only. For a late Strawberry I may name Elton Pine, which will bear a greater weight of Strawberries than the Vicomtesse, is of much better quality, and first-class for preserving.

Again, the advice is given in the article before alluded to, to plant on the flat and then mulch. Can this be right? A plant requiring all the sun and air possible, and so subject to mildew, buried under half-rotten manure, why one may as well let them run altogether, as many gardeners do; but the best growers place their plants on mounds or ridges, the only way in which Strawberries can be properly managed and grown to perfection, and even in taking the runners, if the pots are filled by handsful, and every handful rammed as for forcing, the plants will have less succulent leaves, but finer crowns. Never use thumb-pots 4-in. pots are quite small enough, and in the former it is twice the labour to secure your runner.

I will now shortly describe my own plan of growing Strawberries. I take short manure from the cow-yard and pig-houses, and the stiffest soil I can get, place under cover and turn several times when wet weather prevents out-door work. As soon as the roots appear through the bottom of the pots, put half a bucketful of the mixture on the flat ground in heaps 2 ft. apart, and fill up between with earth, so that the ground is left in ridges 2 ft. apart; tread, beat, or roll the ground, and leave it in flattened ridges 6 ins. wide at the top, with sloping sides; and where you have placed the mixed earth and manure, take out a hole just large enough to take the pot to the rim, fill this with water, and make a thin puddle with some of the soil removed; press down the plant till level with the surface, thus removing all superfluous puddle, and when your lines are all planted mulch with long manure.

When the leaves fall in autumn, gather together a quantity, collect together in your hand the leaves of your young plants, and pack them well round with the leaves; this will save scores of plants of tender kinds, such as British Queen; throw a little stable litter on the surface to keep the leaves from blowing away, and the work is finished till the spring. At the end of March remove your leaves and any dead ones attached to the young plants, and mulch with fresh stable dung between the lines; take but one or two runners from each plant, and no fruit. In the fall treat them as before; in the spring, after removing the leaves, give the crowns a dusting with soot, place round each plant a collar made from long stable manure or rushes, about the size of a mop-stick, remove everything from between the lines, which water well with lime-water and then mulch. Long manure is better than reed or straw, and is quite clean before your fruit is ripe; but two years since, having none available, I used the young shoots of a laurel hedge which I was cutting back, and was surprised to find no slugs in the fruit or plants when gathering. Last year I purposely tried the same plan with the same result. I hope some of your readers will try the plan this year, and give you their report thereon.—*H. T.*

FRUITS.

Fruit Culture under Glass.—Making Vine Borders and Planting Vines: Where new borders have to be made in old vineries, the first thing that has to be done is to remove the soil composing the old border, and the drainage underneath; and then, unless the subsoil of the border consists of stone or chalk, it will be necessary to lay in the bottom 6 ins. thick of concrete, composed of five parts of gravel to one of stone-lime well mixed, with a series of deep gutter-bricks set in cement placed at the base of the front retaining wall, with sufficient fall to carry superfluous water into the main drain connected with the internal water tanks, &c. Then lay on the concrete floor 6 ins. thick of brick-bats broken rather fine on the top for drainage, afterwards covering the same with turves, grass-side down. If the brick-bats cannot be so easily procured as rough stones, the latter, by covering them with a sufficient thickness of coarse gravel to fill the chinks, will answer the same purpose.

Soil for the Border.—The most suitable compost for the growth of the Vine is a good fibry calcareous loam—such as the top 3 ins. of a sheep or deer park, or a down which has been grazed by sheep. To every five cartloads of this soil should be added one load of wood-ashes, one load of lime rubble, one load of fresh horse-droppings, and an ordinary-sized garden barrow-ful of fresh soot. Turn the whole over twice before wheeling it on to the border when dry. Supposing that space is provided for both an inside and an outside border, and that the front wall of the vinery is built on arches, so that when the inside border is filled with roots the latter can push freely into the outside one, the latter need not be made for some time. The border should be made in sections 6 ft. wide from the front wall—the arches and side being built up of turves—and sufficiently high to allow for the loosely thrown together soil subsiding 6 ins. or 7 ins. within as many weeks from the time of making it. The border must, therefore, be made 6 ins. or 7 ins. above the top of the arches supporting the front wall, whence it should slope towards the pathway.

Planting the Vines.—This may be proceeded with a few days after the border has been made. As soon as the young Vines which have been raised and tended during the interval, as recommended at pp. 347, 427, attain to a height of 2 ft. 6 ins., they may be planted as follows: Make the necessary number of holes 2 ft. apart, beginning at 2 ft. from the end, between the front wall and the hot-water pipes, the entire length of the border; then see that a sufficient complement of rather fine soil of about the same warmth as that in which the young Vines are growing is at hand to put around them when being planted, so as to prevent the plants from suffering any check in consequence of the roots coming in contact with a compost less warm than that in which they are growing. Turn the Vines carefully out of the pots and plant them about one inch deeper than they were in the pots, the permanent ones midway between the rafters, and those for yielding a crop of fruit next year between them, disturbing the roots as little as possible, and making the soil firm about them in planting them. Then put a stick to each plant for support, and secure them to the trellis, but leave them sufficiently long, and the ties loose, to admit of their subsiding 6 ins. or 7 ins. with the soil. This done, give sufficient tepid water through a rose to settle the soil about the roots, and afterwards lay on a surface-dressing of 2 ins. or 3 ins. thick of horse-droppings or decayed manure. In the event of cut-back Vines—that is, Vines one year old—being planted, it will be necessary, unless they were shaken out, the roots shortened a little and repotted some six weeks since, to disentangle the roots, cut the latter back to within 15 ins. of their base, and then spread them in every direction over the soil with a slight inclination downwards; cover with 6 ins. thick of soil and water as indicated above.

Temperature and Atmospheric Moisture.—Keep the water in the pipes sufficiently warm to maintain a night temperature of 60 degs., and 70 degs. by day, raising it to 85 degs. with sun-heat and a free circulation of fresh air, and run the temperature up to 90 degs. at closing time, with plenty of atmospheric moisture. The Vines and the house generally, especially underneath and between the hot-water pipes and the wall, should, in addition to the distribution of moisture in the afternoon, be syringed with tepid water first thing in the morning, and during bright sunny days the surface of the border and the pathway should also be damped about mid-day.

Ventilation.—The time for admitting fresh air in the morning and stopping it in the afternoon must be regulated in accordance with the weather at the time, as the temperature recorded in each house, and not the particular hour or minute, should be the guide in this important matter. Therefore, the ventilators may be slightly opened as soon as the thermometer registers 80 degs. on bright mornings, afterwards increasing or decreasing it with the rise and fall of the temperature until closing time. This should be varied from three o'clock in the afternoon to half-past three during the next few weeks; the ventilators should, however, be opened slightly late each evening and closed early in the morning, when the Vines and house, as already stated, should be well syringed.

Melons.—Plants swelling off their fruit, in order to relieve the former of the weight of the latter, should have supports in the shape of pieces of deal board 6 ins. or 7 ins. square and ½ in. thick, suspended by four pieces of string from the trellis, in a sloping direction, to prevent the lodgment of water. A little of Beeson's Manure strewn over the surface of the bed or fruiting pots prior to watering will greatly assist the plants in swelling off fine large fruits. Attend to the pinching and tying of the shoots, and the impregnating of the blossoms in successional houses and pits. Also see to the disbudding of Peach trees in the late house, and tying of the shoots, &c., in early and second early houses.—*H. W. Ward.*

TROPÆOLUM TRICOLORUM.

At the Preston and Fulwood Horticultural Society's Spring Show, held on the 17th and 18th of March, prizes were awarded for twenty plants in 6-in. pots, grown from bulbs, corms, tubers, or rhizomes. It is a most interesting class, and is always keenly contested by amateurs and gardeners. Now and then a plant is introduced that few people have any knowledge of, but which others recognize with pleasure as an old acquaintance. Such was the case this season, when the subject of these remarks made its appearance in the winning lot, and I have reason to believe that not half-a-dozen of the gardeners that visited the Show had seen the plant before. The specimen was about 18 ins. high and 15 ins. wide, and instead of being trained on a trellis it was supported by sundry twiggy pieces of birch thrust into the soil round the side of the pot, their points drawn together here and there at the top. On these the plant had been trained without a single tie, as far as I could see, and it presented a most natural appearance, the growth and flowers hiding all supports from view. I have frequently grown it, and in larger pots, and have had plants in my charge from 2 ft. to 3 ft. each way, on a balloon-shaped trellis as well as on pieces of larch.

After the plants have flowered they will show symptoms of going to rest, and the supply of water must be consequently reduced and ultimately entirely withheld and the pots turned on their sides. After being in this state for about six weeks or two months, they should be potted into a mixture of three parts of loam and one of leaf-mould, with a fair sprinkling of sand, or such a mixture as Fuchsias and Pelargoniums are found to thrive in. The number of tubers to be planted in each pot must be regulated by their size, and one the size of a pigeon's egg should fill a 6-in. pot with roots. They should be planted 2 ins. deep and be left unwatered until a few inches of growth is made, and then it must be supplied very sparingly, always waiting till the pot has a dry ring when tapped before it is watered, till the flower-buds appear, when there is little fear of over-watering.

Propagation is effected by seeds which should have the shell cracked to facilitate germination. The seedlings should be allowed to remain in the seed pot till the tops have died down, when the pots may be emptied, and the little tubers carefully picked out. Another and more expeditious method of propagating is to lay the stems down on the surface of the pots and cover them over with soil, which will cause them to root and form good sized tubers the first year.—*W. P. R.*

FLOWERS.

Seasonable Work in the Plant-houses.—Salvias: For making a brilliant display in the conservatory through the autumn and early part of the winter some of the Salvias will be found very useful. S. Betheli and S. splendens var. Bruantii are two of the most useful sorts for this purpose. Although there will be time enough to make good plants, if propagated a little later on, yet it will be advisable to look to the stock plants, to see that they are in a healthy condition, and, if the stock is scarce, what cuttings can be got should be put in as early as possible, and these, when rooted, will soon give another batch of cuttings; in any case it is as well to strike a few early, as the young plants will give better cuttings later on than the old plants. The cuttings will root very freely in an ordinary propagating frame, if kept free from damping. As soon as they are well rooted they should be potted off, and must be kept growing on freely, stopping them from time to time until they have made nice bushy plants. Six or 7-in. pots are good sizes for flowering them in, and until they are in their flowering-pots they must not be allowed to become pot-bound. The best position in which to keep the plants clean and healthy through the summer months is a pit where the lights can be taken off on all favourable occasions, and the pots should be plunged up to the rims. Red-spider is their greatest enemy; but this may easily be kept in check, unless the plants are allowed to become too dry or stunted during the hot weather.

Salvia Pitcheri is a much smaller growing kind than those referred to above, but makes a nice plant for flowering in a 5-in. pot, its bright blue flowers forming a very acceptable contrast to most other flowers to be had at the same season. They will succeed well either in an intermediate or stove temperature. Old plants may be cut back as soon as they have done flowering, but young plants will not require any stopping the first year.

Double Chinese Primulas.—These should now be ready for propagating. The earthing-up system, as recommended at p. 358, is a good method to adopt, and to get good strong plants by the autumn this should be done as early as circumstances will allow. If any of the old plants are to be potted on without dividing them, all the old leaf-stalks should be carefully cleaned off and the plants should be potted low enough to bring the lower leaves close to the surface of the soil. Many people seem to think that potting the plants low will cause them to damp off, but this is a great mistake, as they will be much more liable to do so if not potted low enough to keep the plants firm.

Eupatorium Wendlandi and E. riparium are also very useful winter-flowering plants. A few old plants cut back now and placed in a warm-growing temperature will soon give an abundant supply of cuttings, which may be treated in a similar manner to the Salvias, except that they will not require quite such large pots for flowering in, and E. riparium may be grown out-of-doors through the summer, but E. Wendlandi will do better under glass.

Hebeclinium ianthinum.—This is another useful winter-flowering plant. Although nearly allied to the Eupatoriums, it is a plant of very distinct appearance, being of stout growth, with broad, thick leaves, and the flowers, which are produced in terminal corymbs, are of a beautiful mauve colour. Cuttings put in as early as possible, and grown on freely, will make nice plants for flowering the following winter.

Rhododendron Veitchianum.—At Oakholme, Sheffield, there is now in full beauty a very fine plant of this handsome Moulmein species, bearing upwards of 450 of its large white flowers, which are beautifully crisp at the margins. The plant in question is planted out in a very narrow border at the back of the Camellia-house, and covers a very large space on the wall. It is surprising how well these greenhouse Rhododendrons will grow if planted out in a suitable situation, associated with Camellias. Of the latter there is a fine collection, some planted out, and others in pots. All are in the best of health, and many are still well flowered. I may also mention that several

other varieties of Rhododendrons are grown in pots; amongst them are two plants of Lady Alice Fitzwilliam, one of which I noticed would have as many as eighty of its large white and richly perfumed flowers. This comparatively new variety was raised by Messrs. Fisher, Son & Sibray, of Handsworth, and sent out by them a short time ago. It will form an excellent companion to Veitchianum. The display of flowers at Oakholme at all times of the year is of the choicest kind, and they are well appreciated by their owner, T. Wilson, Esq., a generous supporter of horticulture. —*J. W., Sheffield.*

Empress Anemones.—I have now, in the experimental garden at Wisley, a good instance of the advisability of trying plants in different situations. In October last year I bought a hundred of the large Empress Anemones from Messrs. James Carter & Co., and planted four beds in very different situations. In three of them the plants have been more or less checked and injured by the frost and snow, but in the fourth they are perfectly untouched, and the grand flowers are now in great beauty. This bed is in the warmest and most sheltered situation.—*George F. Wilson, Heatherbank, Weybridge, April 4th.*

Chrysanthemums as Border Flowers.—The value of these for borders can scarcely be overrated, and, especially as regards the early kinds, they may be depended on to come into flower before sharp frosts set in, when, in fine autumns such as the last, blooms may be cut nearly equal in size and appearance to those seen on plants under glass. The way to have them in this desirable condition is to plant out young plants and grow them in fresh positions, as it cannot be expected that they can do much good left in the same place year after year, where the soil must of necessity become exhausted and poor. To remedy this state of things the best plan is to dig up the old shoots, which may then be pulled to pieces and the finest and strongest-rooted shoots selected for replanting, or any in pots that have been saved through the winter may be shaken out and treated in the same manner, as they afford just as good stock. Before planting, the sites chosen for the plants should be dug out and have a spadeful of rotten manure worked in at each place, when the young Chrysanthemums may be put in and watered at once, and as soon as they get fair hold the points of the shoots ought to be nipped out to cause them to break, after which all the attention they will require is to give them stakes and ties and a soaking or two of water or liquid manure during the summer.

Greenhouse Rhododendrons.—We have received from Mr. Henry Thornber, gardener to Thomas Fildes, Esq., Fair Lawn, Lytham, some cut blooms of several white-flowered greenhouse Rhododendrons, which, as our correspondent justly remarks, deserve to be much more generally grown than they are. The three finest appear to be Countess of Sefton, Formosa grandiflora, and Countess of Skelmersdale. The two first named are large flowers, and the third somewhat smaller, but of more substance. Of the Countess of Sefton there is a specimen at Fair Lawn which measures 7 ft. in height and 6 ft. in diameter, bearing over a thousand expanded blooms; and a plant of Countess of Skelmersdale 5 ft. high and the same in diameter, has quite as many blooms to open. They must indeed be grand specimens—objects of beauty that can be better imagined than described. The other varieties sent are Mrs. James Shaw and Marchioness, the latter being of medium size, good substance, and flushed with pale rose. We should be obliged to Mr. Thornber for more information respecting these fine plants, and especially for any details as to his management of them.

Salvia Greggii.—This handsome little scarlet Salvia, which was introduced by Mr. W. Thomson, of Ipswich, from Northern Mexico, is figured in the April number of *The Botanical Magazine*. It grows in the mountains east of Saltillo, at an elevation of 10,000 ft. It is a compact little plant with bright green leaves 1 in. to 1½ ins. long, and bears racemes of deep carmine flowers. The drawing was made from specimens cultivated by Mr. Lynch, of the Cambridge Botanic Garden.

VEGETABLES.

The Kitchen Gardener's Calendar.—Seed Sowing: Where Cardoons are in request the seed should be sown at once in a box or pan and placed in a frame, and as soon as the seedlings have come through the soil they should be gradually hardened off and subsequently be planted in trenches prepared similarly to those for Celery, 1 ft. deep, 16 ins. wide, and 4 ft. from centre to centre, and the plants be put in at 16 ins. apart. Sow Salsafy and Scorzonera in drills an inch deep and a foot asunder. The present will also be a good time to make the main sowing of Broccolis and Kales, in beds 4 ft. apart, with an alley 1 ft. wide between the beds. The ground should be trodden over and raked before the beds are marked out. The seed should be covered with a quarter of an inch thickness of soil from the alleys, or, in the event of its being stiff and heavy, with sifted potting bench soil, which should then be neatly levelled, and the surface of the beds patted with the back of the spade so as to compress the soil and seed. After this the ravages of birds must be guarded against by putting a piece of garden netting, supported by short forked sticks, over the beds. Make another sowing of Early London and Veitch's Autumn Giant Cauliflowers, and Paris Cos and Grand Admiral Cabbage Lettuces, and Nantes Horn Carrot for drawing young.

Forcing Department.—See that French Beans located in vineries and Peach-houses are kept free from red spider by giving them copious supplies of water at the roots, and syringing the plants overhead thoroughly a couple of times a day. Sow a pinch of seed of Sweet and Bush Basil, Knotted Marjoram, and Summer Savory, in pots for planting in a warm border later on after the seedlings have been gradually hardened off. See that Celery plants in frames have sufficient water at the roots, and have the lights taken off on warm days and tilted up at night, so as to prepare them for planting out in the trenches shortly. —*H. W. Ward, Longford Castle, Wilts.*

Early Cauliflower without Heat.—Opinions differ almost as much as facilities. In the south of Ireland and the greater part of England, especially where the aspect is protected against northerly or easterly blasts, in nine years out of ten plants can be wintered in the open border and transferred from this time forward. As a matter of fact, I have at present two beds against a south-westerly wall, one with "Walcheren" and the other "Carter's Early Defiance"—a very early variety—sown in the end of last August, little the worse for the winter now passed through, and that can be transferred any day. The objections to this method are that every winter will not be like the last; and a stronger one is, that this system will not suit every locality. A far better plan is this: Make some long boxes to hold the number you want for very early use. Transfer the plants from the beds, say early in October, so that they will be established in the boxes before frost sets in. Leave them in the open air until very severe frost is indicated—a few degrees does no harm—and transfer to any open airy shed. I never saw satisfactory Cauliflowers coming out of a heated greenhouse, and every greenhouse is heated in severe weather. I put mine during the severe frost under a wooden airy shed, with light in front; removed to open in mild weather; lifted the plants with balls of earth into richly manured drills a week ago, and shall have fine heads, I hope, by the middle of May of Early Defiance.—*W. J. Murphy, Clonmel.*

Planting Potatos.—"D.," in writing upon this subject (see p. 475), mentions several methods of planting, all of which have some advantages to recommend them, and each, no doubt, under varying conditions of soil, situation, and other circumstances would be attended with success; but there is one method to which he did not allude, which is so simple and comparatively inexpensive, and has with me produced such good results, that I venture to refer to it. The ground is ploughed or dug either in the autumn or winter, so as to ensure its being well pulverized by the influence of the weather before the operation of planting begins. If the land has been ploughed, it is necessary, before planting, to run a light harrow over it, so as to make it fairly level, but when it has been dug, this operation is not required. The sets are then laid on the surface in perfectly straight lines, the rows being from 2 ft. 6 ins. to 3 ft. apart, according to the growth of the variety to be planted. The plough then follows between the rows, covering the sets over to a depth of 6 ins. In the garden the hoe is used, and, in order to save labour, the sets are frequently earthed over fully at the time of planting, so as to save any further necessity for this operation during the season. The results from this practice have been most satisfactory, and disease does not appear to attack Potatos so treated nearly so much as it does those planted in the ordinary way. Whether this arises from the fact that the tubers lie drier and healthier, and also that the ridges are exposed more freely to the sun's rays, or whether it be because I never apply manure when the ground is prepared, but prefer to give a top dressing of soot, guano, or superphosphate of lime when the Potatos commence to tuber, I cannot say, but the results have been such as to induce me to adopt the method generally, and I would strongly recommend it to those of your readers who are situated in a damp or low position.—*Scribo.*

HONEYDEW.

Soon after we lose our annual scourge of east wind, and the trees in our woodlands have developed their foliage to its full extent, we shall hear, as usual, that there has been a "great fall of honeydew." Though the origin of this mysterious deposit of sweetness has long been settled in the minds of naturalists, there are still those who, year by year, ask whence it comes. It is the nectar of ancient poets, who supposed it to be distilled from the skies, and even Pliny, observant as he was, could not satisfy himself whether it was the sweat of the heavens, the saliva of the stars, or was produced by the purgation of the atmosphere. No wonder that much dispute as to its origin occurred in those times, for the evenness of its distribution on the leaves, and in some seasons the amount of the deposit, would neither be likely to guide the investigator to the source whence it came. Chemists have analyzed it, and found that its component parts were almost identical with cane sugar.

To the aphides we must turn for an explanation of this phenomenon. It occurs only when the presence of plant-lice is observed, and it may be that it is intended by nature as the first food of the young of these delicate insects; but its use, or intention, has by no means been satisfactorily settled. As the whole first duty of aphis-life appears to be the extraction of large quantities of vegetable juices, these must turn to something after the absorption of the necessary support for the insect, and it may be that the excreta have something to do with the deposit of honeydew. There is, however, no doubt that it does come from the aphides, for by keeping certain species in an absolutely clean glass box, it will be found that the bottom will soon be quickly covered by minute specks of the unctuous fluid.

There are certain processes or organs, which are to be found on microscopical examination of the sixth abdominal ring of aphides, and which are known as cornicles or nectaries. These are of horny substance, and are connected with what are apparently excretory ducts. These cornicles are much more highly developed in some families of aphides than in others while in a few they are altogether absent, among the latter being the genus Phylloxera. That honeydew is deposited largely through these ducts, there is little doubt, and one observer has stated that he has seen the very young of some species sucking the limpid fluid as it exuded from the nectaries. So it is probable that they may serve in certain kinds of plant-lice the double function of getting rid of the fluids no longer required in the body, and these in turn may serve as the first food of the very rapidly-produced offspring. Ants are known to hunt closely for aphides, but not always to kill and eat them, for they are collected and even herded like man keeps his cows, that they may be milked and so produce him food. And so it is with the ants, they herd the aphides and feed upon this sweet exudation, rather protecting their aphid cows than doing them injury.—*Field.*

THE

Orchid Growers' Calendar.

Cattleya Brymeriana.—We consider this one of the most beautiful species of Cattleya yet introduced, the colours being brilliant, and the plants producing a goodly number of flowers. It is similar in its manner of growth to a short-bulbed Lælia elegans, and seems to us to be, not improbably, a natural hybrid. This fine novelty was introduced by Messrs. Low & Co., and has been named in honour of W. E. Brymer, Esq., M.P., Ilsington House, Dorchester. Cattleya Brymeriana is a compact-growing evergreen plant, similar in growth to Lælia elegans. The flowers are of medium size, the sepals and petals of a pale rosy-purple, the lip narrow, with a closely folded tubular base, nearly 2 ins. long, yellowish below, pale lilac above, the front part veined with magenta-purple, and showing a clear yellow throat, cut off abruptly in front. It blooms during September, and lasts some time in beauty.

This will be a most useful species, as it blossoms at a time when Orchid flowers are getting scarce. Our new Cattleyas are becoming very accommodating, several of the more recently introduced species flowering at the same time as our present subject, which makes them more especially valuable, as we already have so many Cattleyas blooming during the spring and early summer months. In fact we are now, thanks to these acquisitions, seldom without Cattleyas in flower. The energetic collectors who obtain them deserve our warmest thanks and the fullest encouragement for what they have done. We can scarcely doubt but that many more prizes will yet be found for them to introduce to the enrichment of our Orchid-houses.

Cattleya Brymeriana requires the temperature of the Cattleya-house, and should be kept at the warmest end, and grown in a basket or pot with rough fibrous peat and good drainage. It should be placed as near the glass as possible, for we find these plants require all the light we can secure to them, in order to ripen their pseudo-bulbs. Our sunny periods are so short that much vigilance is required to make the most of every available agency to keep them in vigorous health, and no time or opportunity should therefore be lost in securing for them all the light they require. Good sweet material must be kept about their roots, and sufficient moisture to keep them in a plump state must always be applied. The roots must not be injured in potting, which operation should be effected just as they are starting to make their new buds.—*B. S. Williams, in The Orchid Album.*

Dendrobium rhodostoma.—This little known Orchid is now in bloom with Mr. James Cypher, Queen's Road Nursery, Cheltenham. Its showy flowers are 1¾ ins. across, sepals and petals pure white, quaintly tipped with reddish-violet; the lip white, tipped with the same colour as the petals, and bearing a deep yellow blotch in the centre. The plant is a hybrid raised by Messrs. James Veitch & Sons, of Chelsea, between D. Huttoni and D. sanguinolentum. It is very handsome, and almost pepetual flowering. Mr. Cypher does his Dendrobes well, and has a fine show of them just now, including some superb varieties of D. Wardianum (grown on bare blocks), D. lituiflorum, with flowers twice as large as usual, and D. Bensoniæ, remarkably well flowered.

Cattleya Trianæ at St. Albans.—Notwithstanding that the C. Trianæ season is nearly over, Messrs. F. Sander & Co., of St. Albans, have over 1,500 fine blooms of it still in good order in their large Cattleya-house. Some of the varieties are superb, and particularly one very near to C. Trianæ Russelliana, and a grand pure white form. Their early-flowering strain of C. Mossiæ is just coming in, and of C. Mossiæ and C. Mendelii there are some 5,000 buds in all stages. It is also calculated that their superb strain of Odontoglossum crispum (Alexandræ) and its hybrids are giving over 20,000 flower-spikes on the sturdy, healthy-looking plants, which are a treat to look at. Many new plants are also in bud.

Dendrobium Farmeri.—A superb plant of this old Orchid now in bloom, with four heavy, drooping spikes, in Messrs. F. Sander & Co.'s Orchid Nursery at St. Albans, seems to remind us that although it is one of the finest of Dendrobes it is still very scarce, as collectors do not seem to drop on it in quantity. Its lovely pink-tinted flowers with their large yellow labellums will compare favourably with anything in its section. Some grand plants of Phalænopsis Schilleriana, with its handsome rose-coloured and rose-scented flowers, some of them having sixty or eighty on a branched spike, proclaim this species to be a lasting favourite.

Dendrobium Pierardii.—Although not so showy as many other of the genera, this species is, nevertheless, well worth growing, its semi-transparent flowers lasting for quite three weeks if kept cool and in a rather dry atmosphere. I find that if kept in the house in which it has been grown it flowers more freely and the flowers are larger than if rested in a cooler house with the majority of Dendrobes. There is with this species not so much variety as in some of the other members of the family; there is, however, a better form, having a larger and more deeply-coloured lip than the common type.—*E. Dumper, Summerville Gardens, Limerick.*

FLORICULTURE.

Concerning Dahlias.—Taking up the thread of my narrative where it was dropped last week, I may state that when Dahlia plants are received from a nursery, the invariable practice is to place them in a frame, sprinkle them overhead, and keep them close for a few days. Then they are repotted, and have two, if not three shifts, in many cases, so that by the time the second week in June is reached they are, if they have been well looked after, fine strong plants. If good blooms are to be expected at the proper season, care must be taken that none but strong, healthy, thriving plants are planted out. As "a corrupt tree cannot bring forth good fruit," neither can a weak, ill-conditioned plant, if raised from a cutting in the last stage of exhaustion, become the parent of a vigorous progeny. As a matter of course, in the case of new varieties the grower is very much at the mercy of the dealer, and must do his best with such plants as the latter may send him; but a house or firm famous for Dahlias will be pretty certain to supply good healthy plants. But, as a matter of precaution, the cultivator may order pot roots during the winter, and pot them up at the proper time. There is, of course,

The Preparation of the Ground.—The Dahlia is a gross feeder and needs to have a rich soil to do it justice, and to ensure blooms of a fine character the usual method is to deeply trench and ridge up the ground in January, leaving it rough so that the elements may act upon it. Some growers level the ridges down and dig in plenty of soil in spring; others manure at the time of planting, forking it plentifully into the soil about the roots. The plants should be at least 4 ft. apart, and it is a common practice to place a 5-ft. stake firmly in the ground, and then plant against it; a deep hole is dug out, the plants are turned out of their pots, the soil about the roots slightly loosened, and then planted, some fine soil being first added to give the roots a good start, and pressing all firmly about the plants, leaving it secure.

The following remarks comprise some excellent directions for planting:—"Choose a dry day for planting; bring out the pots and stand each where the plant is to remain; and pardon me, experienced reader, if I give the novice a rule for turning out plants without fear of injuring them. Open a hole with a trowel, and drop the plant into it, level with the general surface, and fill round the pot so as to imbed it neatly, pressing the earth to it with the hand, just as if the pot with the plant in it was to remain there. Then give the pot a twist round and lift it out, and there will remain a clean firm hole, ready for the ball that is to be dropped into it. Place two or three fingers of the left hand on the soil of the pot, making the palm of the hand into a hollow, so as not to break the tender plant; turn the pot up, give the rim a gentle tap on the side of the wheel-barrow, and, *presto!* you will have the bulb out and complete in your hand, and have only to turn it over neatly into the hole, which it fits exactly." It is, perhaps, scarcely necessary for me to give sterotyped directions for the management of the Dahlia with a view of producing

Flowers for the Exhibition Table.—There must be mulching the roots with manure, watering of the roots in dry weather, sprinkling overhead in the cool of the evening, searching for earwigs and other vermin; in fact, doing all that can be done to ensure a vigorous growth. As a matter of course, there will be manifest differences in the growth of the plants, their freedom of blooming, and the size and character of the flowers they produce. Some varieties will present such a mass of branches, shoots, and foliage as to prevent the free circulation of air through the interior; these are the sorts that require severe pruning. If in addition to this habit of exuberance, the same varieties have a tendency to excessive flowering, or if the blooms they furnish are below the medium size, free disbudding must be added to the liberal

Thinning of Shoots and Branches.—If the sorts requiring this treatment are tolerably constant, that is, if the majority of the flowers they yield are true to their best character, disbudding cannot well take place too early. But there are some varieties of Dahlias which, although they occasionally afford flowers of the most perfect shape, cannot be depended on for good blooms. To disbud these early, that is as soon as the buds begin to show themselves, will be seriously to impair the chances of obtaining a fine bloom. It is wise, therefore, to wait before the disbudding of these sorts is commenced. By exercising a little patience, the cultivator is able to ascertain which buds must, from their formation, produce faulty flowers, and these should be removed as soon as he has ascertained their true character, but not till then.

Liquid Manure is of great use in the production of large flowers, but it should not be had recourse to until the plant has nearly completed its growth, say three weeks or a month before the flowers are wanted. A good liquid manure for Dahlias can be obtained from a tank which receives the drainage from the house and stables. Manure-water may be used twice a week; and it is best applied in wet weather, taking care to avoid wetting the foliage. The water used for sprinkling overhead in the evenings should be exposed to the sun a few hours before use. For this purpose nothing is better than pure, clear water.

Here I stop for the present. I trust the foregoing suggestions may prove of service. Next week I hope to give some selections of varieties for exhibition purposes.—*R. D.*

LILY OF THE VALLEY.

Though quite common out-of-doors with us in its season the Lily of the Valley is, nevertheless, one of our finest winter and spring flowers when forced, not solely for its modest spikes of white bell-shaped blossoms, but also for its delicious fragrance. I have had a good deal to do with the forcing of the above, both imported and home-grown crowns, and with the latter I never failed, but with the former I never obtained results that I could boast of until three years ago, when I tried the following plan, which has been attended with complete success. On the receipt of the imported clumps and crowns, I immediately unpack them and put them in a cold dark cellar. I then give them a thorough drenching with cold water, which I repeat as soon as they show the least sign of dryness, and as soon as the first night's frost appears I turn them out-of-doors to get a freezing [What advantage is gained by doing this?—*Ed.*], returning them to the cellar in the morning before the sun breaks out.

When I commence forcing, I use pots for the single crowns and boxes for the clumps, the potting material being moss and sand. I place them in a forcing-case registering from 80 degs. to 90 degs. bottom-heat, keeping the case closed and dark, and supplying the roots with an abundance of moisture, indeed, it is impossible to give them too much. In fourteen days the spikes are 8 ins. or 9 ins. long, when I admit the light and a little air, and in seven days more they are in flower with a fair supply of foliage.—*S.*

HORTICULTURAL SOCIETIES.

Royal Caledonian, *April 8th and 9th.*—The Spring Show of the Royal Caledonian Horticultural Society was held in the Waverley Market, Edinburgh, on Wednesday and Thursday, and, on the whole, was a marked success. The Azaleas of Mr. John Paterson, Millbank, the Rhododendrons of Messrs. R. B. Laird & Sons, West Coates, the Orchids of Messrs. Ireland & Thomson, Craigleith, and Mr. Robert Grossart, Oswald Road, the Heaths, and stove and greenhouse plants of Mr. Paterson, and the Azalea Mollis varieties of Mr. Robert Grieve, Falconhall, were the chief features of the show, and all were of unusual excellence. Mr. Grieve's forced plants also deserve a word of praise. Hardy spring flowers were well represented, and the first prize for twenty plants was deservedly awarded to Mr. Sinclair, of East Linton, for an admirable collection. The competition with a "table of plants, 40 ft. by 10ft."—always a strong feature here—again brought Messrs. Ireland & Thomson to the front, with Messrs. R. B. Laird & Sons a good second. Excellent tables of flowering and other plants were also furnished by Messrs. T. Methven & Sons, Messrs. Dicksons & Co., Messrs. James Dickson & Sons, Messrs. Gordon & Son, and Messrs. Cunningham, Fraser & Co.

The best table of plants shown in the amateurs' and gardeners' division came from Mr. Robert Grossart, and in the class for a table of hardy spring-flowering plants the highest honours went to Mr. Charles Smith, Restalrig House. Other first-prize winners in this section were Mr. James Gordon and Mr. G. Greig, for greenhouse Rhododendrons; Mr. R. Cockburn, for three Orchids; Mr. J. M'Intyre, for pitcher plants; Mr. G. Mackinnon, Melville Castle, for exotic Ferns; Mr. John Richardson, Morningside Cemetery, for Standard Mignonette; Mr. J. Matheson, for Alpine Auriculas; Mr. R. Stewart, for Hyacinths; Mr. Grossart and Mr. Johnston, for Tulips; and Mr. Graham, for Polyanthus Narcissus. Mr. James Gordon, of Niddrie, exhibited the best twenty-four cut Roses, and Mr. J. L. Hunter, Lauriston Castle, had the best dozen. In other classes, the cut blooms of Camellias from Mr. J. Pearson and Mr. James Wynter, the Rhododendrons from Mr. McLeod, Brentham Park, and Mr. John Cumming, St. Roque, and the table bouquet of Mr. James Cocker, Bonnybridge, all won high praise.

In the classes confined to trade growers, Messrs. R. B. Laird & Sons were first, with twelve hardy Rhododendrons, four greenhouse Rhododendrons, six Palms, six new or rare plants, twelve Cyclamens, twenty-four Hyacinths, six pots of Tulips, Maréchal Niel Roses, Camellias, &c. In addition to the table prize before mentioned, Messrs. Ireland & Thomson had the best hardy Rhododendrons in 9-in. pots, Crotons and Dracænas, and twelve plants for table decoration.

Fruits and vegetables were well shown for the season. With a single Pine Apple Mr. George Johnston, Glamis Castle, was first, and Mr. McIntyre, The Glen, second; and with two bunches of black Grapes Mr. George Mackinnon, of Melville Castle, beat Mr. McKelvie, of Broxmouth Park. Mr. L. Dow, of Newbythe, was invincible with forced Strawberries; and of Apples, Mr. A. T. Killick, Weavering, near Maidstone, sent a fine collection, which secured the highest award. Mr. Peter Robertson, Hartrigge, Jedburgh, staged a collection of twelve sorts of vegetables of great excellence, which came in first; and from Mr. C. Smith came the finest lot of salads. The Cucumbers of Mr. C. Smith, Mushrooms of Mr. S. Smith, French Beans of Mr. Thomas Hogg, and the Asparagus and new Potatos of Mr. Peter Robertson, also secured leading awards.

Gooseberry Caterpillars.—For destroying caterpillars on Gooseberry and Currant bushes there is no better or cheaper remedy than the powder of White Hellebore. It has many advantages, not the least of which is that it does not spoil the fruit, nor leave any poisonous properties on the berry when washed. Want of success in using Hellebore is caused by the article used being often coarse and containing the outside and parings of the root, instead of the sound portion, which only should be used.—*E. Griffiths Hughes.*

THE WEATHER OF 1884.

For the agriculturist the year 1884 cannot, I think, everything considered, be regarded as having been by any means a remunerative one, although no doubt a decided improvement on many recent years. Yet it is not difficult to see in the weather of the past twelve months several features of an encouraging kind. For instance, in all the work of preparing and cleaning the land it proved the best known for some years past. The paucity of rain throughout its course must also have greatly tended towards an improved condition of the soil, which had become impoverished by a long series of wet years. On the other hand, this continued dry weather, although beneficial to the land itself, proved the reverse to all the farm crops growing upon it except the Wheat, which, in the metropolitan counties at least, appears to have been rather above the average in yield, and of excellent quality. This important cereal is, however, especially when planted under such favourable conditions as was the case with the last crop, well-known to resist drought better than any of the others, and indeed in most instances to be greatly benefited by prolonged dry weather. Barley, Oats, Peas, and Beans, although fairly good in quality, were, as a rule, more or less under average. In the early part of the year, owing to the very open winter, all kinds of fodder were unusually abundant. The Hay crop, through the dry spring, was necessarily very light, but in most cases gathered in excellent order. Roots generally had very unfavourable conditions, owing to insufficient moisture at sowing time, and from this cause, and the absence of good rains afterwards, were, as a rule, small and scanty. Potatos, although poor in quality, again proved a heavy crop, and were even freer from disease than in 1883. In the autumn, Wheat planting, except on the dry soils, was once more carried on very satisfactorily, and at the close of the year the young Wheats were looking as well as could be desired.

In the garden the horticulturist had many adverse circumstances to contend with, in front of which must be placed the want for weeks together of any rains sufficient to bring about more than a surface-wetting of the ground, and that too during some of the hottest months of the year. Next in order should be placed those bitter winds and frosts of April, which in one or two nights entirely destroyed the prospect of a most abundant crop of our so-called hardy fruits. And scarcely had the fruit trees begun to recover somewhat from this disaster than they, together with Roses and many other plants, were subjected to an exceptionally severe attack of green fly, which crippled much of their young foliage. In the flower gardens the dry weather was much felt throughout the year, but during the late autumn they were, owing to the open character of that season, looking particularly gay for the time of year. Throughout the winter and early spring vegetables were unusually abundant, but their growth after this was greatly retarded by the dry condition of the ground. Among kitchen-garden crops those noticed as being least able to withstand a prolonged drought were Peas, Lettuces, and Parsley. At the close of the year the wood of fruit and other trees, as well as that of hard-wooded plants, had become most satisfactorily ripened. The yield of fruit may be stated as follows:—Strawberries, Apricots, Peaches, Nectarines, and bush fruits about an average crop, while such fruits as Plums, Cherries, Apples, Pears, and Nuts were all below average, and in many cases their yield was very poor indeed.

During the early months of 1884 the number of "survivals" from the previous year amongst wild flowers was singularly large. Spring flowers also abounded, and made their appearance in most cases very much earlier than usual. The cold weather of the previous month, however, caused the Dates in May to be only about average. Throughout a great part of the summer the hot dry weather forced most of the wild plants into blossom before their accustomed time, but from the same cause their duration of flowering was comparatively very limited. Consequently, when the autumn came, the banks, woods, and fields were looking particularly bare of blossom. In fact, up to the close of the year, although the weather continued in general very open and mild, yet but few flowers of any kind were to be had, and, strange to say, none at all of those early spring varieties which in mild winters almost invariably appear in December. During the early summer the foliage of timber trees was noticed as being singularly luxuriant, and in October the autumnal tints were, if anything, even finer than in the previous year.

Taking the year 1884 as a whole, it was by no means a favourable one for insect life. The fact seems to have been that the larvæ and pupæ of many insects lay so much at the mercy of the birds and their other enemies during the very mild winter of 1883-4 as to make it almost an impossibility for any unusually large numbers, at any rate of grubs or caterpillars, to make their appearance during the following seasons. In June and July there was a perfect plague of green fly, which did considerable damage to fruit trees, Roses, &c. Ants, as might have been expected in so dry a summer, everywhere abounded. In the north of London the larvæ of the daddy longlegs (Tipula oleracea) are reported as having done much damage on lawns and pasture lands. Owing to the long continuance of dry weather, this proved but a poor year for bees and other Hymenoptera. Butterflies were also by no means numerous. On the other hand, in some localities, slugs and snails appear to have been particularly troublesome in gardens.—*From "The Weather of 1884," by Mr. Ed. Mawley (Stanford & Co.).*

NOTES AND QUERIES.

Vine Borders (p. 494).—"Caractacus" will, I think, find all the information he requires on this subject under the heading of "Fruit Culture under Glass" in another column. As regards varieties, Alnwick Seedling, and Madresfield Court Black Muscat, and Foster's Seedling (white), may be grown in the same house with Black Hamburgh, under the conditions mentioned by your correspondent; but if the house is only heated sufficiently to keep frost out, water must be distributed very sparingly in the house in the absence of strong sun-heat, especially at closing time in the afternoon, otherwise mildew would probably attack the foliage of the Vines.—*H. W. W.*

Carnations are of great service as border flowers, and should be much more largely grown by amateurs than they are, as, besides being very gay in borders or beds, they afford no end of flowers for cutting, which dress well in vases and last long in water. Although the named sorts are dear, plants propagated from seedlings, that are almost equal to those named, may be had cheap, and they answer every purpose except for show, for which they must come up to certain points that few care about except florists, who have a certain fixed standard. If the plants are got at once and planted without delay they will bloom freely during the summer, and by sowing seed now others may be raised that will be fine and strong for next year. The soil most suitable for Carnations is that fairly light, but they are not very particular, as they may be seen doing well in gardens ranging from clay nearly up to sharp sand.—*Alpha.*

ANSWERS TO CORRESPONDENTS.

Annual Chrysanthemums.—*Constant Reader.*—They are very pretty border flowers, and may also be grown successfully in pots. Sow the seeds now in a frame and transplant to the border when ready, or sow in the border at once, as they are quite hardy. If grown in pots the seedlings should be pricked off singly, and 6-in. pots should be used.

Orchids.—*A. E. Adlerstein.*—Take the imported pieces of Cattleya aurea off the apple blocks, and put them in rather small baskets, with a little moss and peat. See the illustration of this species at p. 297. You should not leave Oncidium loxense on the apple block, but pot it like an Odontoglossum Alexandræ, and put it in a cool house near the glass. It wants the same treatment as O. macranthum. What is the other Oncidium like, and what is your authority for the name? We do not know it.

Names of Plants.—*E. K.*—Clianthus puniceus, the scarlet-flowered Glory Pea of New Zealand, a hardy plant on a wall in favoured localities, but in most districts requiring the protection of a greenhouse. As to whether it is suitable for church decoration is a matter of opinion, but we should not specially grow it for that purpose. *W. D. M.*—Cypripedium venustum. *Ireland.*—1. Not recognized. Send again when in flower. 2. Anemone apennina. The orchid is Lycaste cruenta. The Tropæolum is pretty, but not new.

Communications Received.—E. D.—C. R.—H. F.—G. D.—W. E. D.—D. P. L.—C. H. S.—M. McL.—H. & S.—D. C.—O. V. B.—C. Williams.—Dr. B.—T.—X.—A. H.—S. & S.

Trade Catalogue Received.

Henry Bennett, Shepperton, Middlesex.—New Roses of 1488, and a selection of the best French Roses for 1885.

LONDON SEED TRADE.

April 8th, 1885.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a good general demand for all kinds of Farm Seeds and values unchanged. The supplies of Red Clover are still plentiful, particularly the lower grade, but the stocks of White and Alsike are evidently now in few hands, and there is a disposition to hold in anticipation of a rise in value. Grass Seeds of all kinds meet with a ready sale at previous rates. Bird Seeds unchanged; Tares in good supply at last week's prices.

COVENT GARDEN MARKET.

April 9th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6- 6 0	Kent Filberts and Cobbs, per 100 lb.	55 0-
— Nova Scotian, per barrel	15 0-21 0	St. Michaels	3 0- 8 0
Grapes, per lb.	5 0-10 0	Strawberries, per lb.	6 0-12 0
Pine-apples, Eng., lb.	1 0- 2 0		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Garlic, per lb.	0 6-
Asparagus, English, per bundle	10 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	- 2 6	Horse Radish, bundle	8 0- 5 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	2 0-
Brussels Sprouts, p. lb.	0 4-	— Cos, each	0 6-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
		Tomatos, per lb.	-
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Marguerites, 12 bun.	4 0- 6 0
Arum Lilies, 12 blms.	3 0- 6 0	Narciss, various, French, doz. bun.	4 0- 9 0
Azalea, 12 sprays	0 6- 1 0	Pelargoniums, per 12 sprays	1 0- 1 6
Bouvardias, per bun.	1 0- 1 6	—scarlet, per 12 sprays	0 6- 0 9
Camellias, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 6- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun.	-
— large, 12 blooms	-	Pyrethrum, 12 bun.	-
Cyclamen, doz. blooms	0 3- 0 6	Roses (coloured)	2 0- 6 0
Cineraria, per bunch	0 6- 1 0	Roses, indoors, p. doz.	1 0- 4 0
Epiphyllums, 12 blms.	-	Roses (French), per doz.	0 9- 1 0
Eucharis, per dozen	4 0- 8 0	Stephanotis, 12 spr.	6 0- 8 0
Gardenias, 12 blms.	2 0- 4 0	Tuberoses, per dozen	-
Heliotropes, 12 sprays	0 6- 1 0	Tulips, per doz.	0 9- 1 0
Hyacinths, Roman, doz. sprays	0 6- 0 9	Violets, doz. bun.	0 4- 0 9
Lapageria, white, 12 blooms	2 0- 8 0	— French, per. bun.	-
Lapageria, red, 12 blms.	1 0- 2 0	— Parma, per. bun.	3 0- 4 0
Lily of the Valley, doz. sprays	0 9- 1 6	White Jasmine, bun.	0 6- 1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ficus elastica, each	1 6- 7 0
Arum Lilies, per doz.	9 0-18 0	Foliage Plants, various, each	2 0-10 0
Azalea, per doz.	18 0-42 0	Gemsia, per dozen	9 0-15 0
Begonias, per dozen	4 0-12 0	Hyacmths, doz.	6 0- 9 0
Bouvardias, dozen	9 0-18 0	Hydrangea, per doz.	12 0-24 0
Cineraria, per dozen	6 0-12 0	Lilium, various, per doz.	-
Cockscombs, dozeu	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargonium, per doz.	15 0-24 0
Deutzia, per dozen	4 0 -9 0	Pelargoniums, scarlet per dozen	4 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	18 0-24 0	Rhodanthe, per doz.	6 0-12 0
Evergreens, in var., per dozen	6 0-24 0	Spiræa, per dozen	12 0-18 0
Ferns, in var., dozen	4 0-18 0		

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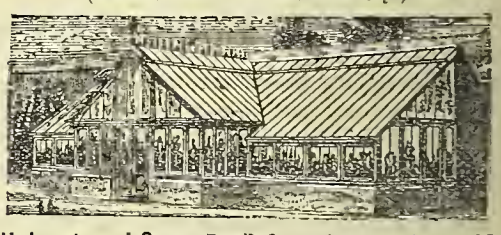

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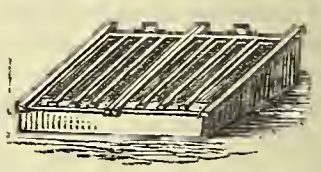

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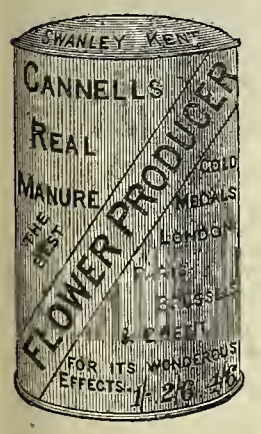

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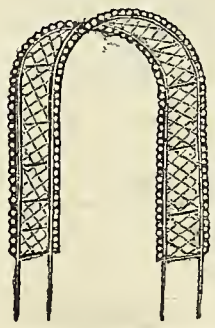

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Containing its history, literature, and poetry, with an illustrated list of specie and varieties, covering a period of 300 years.

BARR & SON, King Street, Covent Garden, London.

THOMSON'S VINE AND PLANT MANURE.

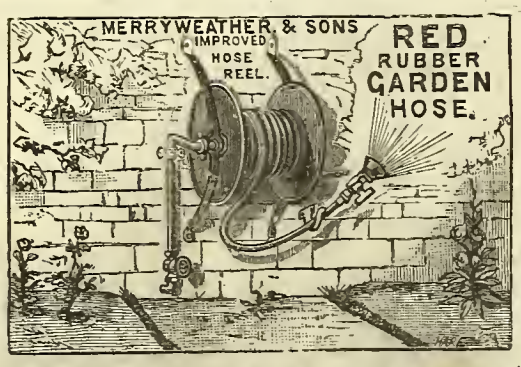
This Manure is now solely manufactured by us, on our Premises here, and can be had through all Nurserymen and Seedsmen, or direct from us.

We will be happy to forward Descriptive CIRCULARS, in reply to applications, containing terms, &c. *Intending Purchasers are requested to see that they obtain the Manure manufactured by us.*

WM. THOMSON & SONS,

TWEED VINEYARD, CLOVENFORDS, GALASHIELS, N.B.

February 11th, 1885.



HOSE! HOSE!! HOSE!!!

PATENT ANTIMONIAL RED RUBBER GARDEN HOSE.

Lasts four times as long as ordinary white vulcanised hose. Stands severe Government tests, thus proving superiority of quality, lighter in weight, greater in strength, and cheaper in the long run than any other hose for garden use. A correspondent writes—"I have had a length of your Red Rubber Hose in use nine years, and it is now as good as ever." Samples and priced Catalogue of Hose, Garden Engines, and Fittings, free.

Beware of common quality hose, *coloured* red, and order any length direct from

MERRYWEATHER & SONS,

Sole Manufacturers,

63, LONG ACRE, LONDON, W.C.

WHAT IS IT?

WHY, A FACT, THAT,

"HEAPS' FOOD FOR PLANTS"

Is destined to become a lasting boon to the

GARDENING WORLD.

All using it are delighted.

Sold everywhere, boxes 2*d.* each. Try it.

Manufacturers, HEAPS & SON,

LORDSHIP LANE, LONDON, S.E.

List of Wholesale Agents will appear in this paper on April 18th, 1885. AGENTS WANTED.

ROSES

Well rooted, many shooted, truly named, of matured vigorous growth, and of the best kinds. Bushes, 8*s.* per dozen, 60*s.* per 100; Standards, 15*s.* per dozen, 105*s.* per 100. Packing and carriage free for cash with order.

These World-famed ROSES cannot fail to give the Greatest Satisfaction.

DESCRIPTIVE LISTS of above and following free on application:—Fruit Trees; Evergreens; Flowering Shrubs, 8*s.* per dozen; Clematis, 12*s.* to 24*s.* per dozen; Roses in Pots, 15*s.* to 36*s.* per dozen; Herbaceous and Alpine Plants, a good selection, 4*s.* per dozen, 25*s.* per 100; Vines, 3*s.* 6*d.* to 10*s.* 6*d.* Stove and other Greenhouse Plants, Forest Trees, Seeds, Bulbs, &c.

SEEDS.

VEGETABLE, FLOWER, & FARM.

The Best Procurable at Moderate Prices.

RICHARD SMITH & CO.,

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SAMPLES AND PRICE LISTS POST FREE.

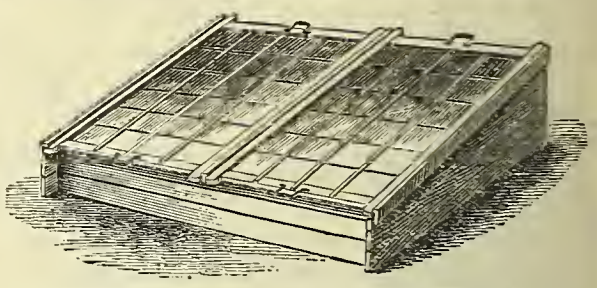
CAMBRIC — Children's, 1/5; Ladies' ..... 2/6; Gents' ..... 3/8 per dozen | Hemstitched. Ladies' .. 3/11; Gents' ... 6/9 per dozen

ALL PURE FLAX.

By Appointments to the Queen and Crown Princess of Germany.

POCKET "The Cambrics of Robinson and Cleaver have a world-wide fame."—*Queen.*

ROBINSON and CLEAVER, BELFAST. HANDKERCHIEFS.



PORTABLE CUCUMBER FRAMES.

R. HALLIDAY & CO. desire to draw special attention to their Cucumber Frames, of which they always have a large stock, ready glazed and painted. They are made of the best materials and can be put together and taken apart in a few minutes by any one.

Prices, delivered to any station in England.

		£	s.	d.
2-light frame, 8 ft. by 6 ft.	Packing cases free.	3	10	0
3-light frame, 12 ft. by 6 ft.		5	5	0
6-light frame, 24 ft. by 6 ft.		10	0	0

TESTIMONIAL.

"The Gardens, Burghley, Stamford,
September 11th, 1884.

"GENTLEMEN,—I have received the Garden Frames, and I am quite delighted with them. They are really well got up, well timbered, and the sides and ends being grooved, will prevent that objectionable swaging so prevalent in these kind of boxes. I shall certainly recommend them to my brothers in the trade.—R. GILBERT, Head Gardener to the Marquis of Exeter."

R. HALLIDAY & Co.,

Hothouse Builders and Engineers,

Royal Horticultural Works, Middleton, Manchester.

GREENHOUSES FOR EVERYBODY.

TO all who are about to Buy, call and see the Little Gems, Span-roof, 75*s.*; Lean-to, 65*s.*; a perfect novelty, not to be believed until seen. Also Cucumber Frames, glazed and painted, from 20*s.* Send four stamps for the Photo. of the Little Gem, and see what you are buying for yourselves. Call or write for OGDEN & CO.'S Special Price Lists for 1885. Post free, two stamps, at the Alexandra Palace Horticultural Works, Wood Green, London, N.—*Copy of Testimonial*: "To Messrs. Ogden & Co., Gentlemen, I have now got the Little Gem Greenhouse I had from you fixed up, and think it but right to tell you that it gives me every satisfaction. Many of my friends have been to see it, and they all agree as to its being a marvel of cheapness. It would have cost half as much again if made locally.—I am, faithfully yours, T. LLEWELLYN, Ogmore Vale, March 9th, 1885."

Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex, Saturday, April 11th, 1885.

THE GARDENING ILLUSTRATED WORLD

No. 33.—1885. SATURDAY, APRIL 18TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

"YE NARCISSUS OR DAFFODYL." An interesting history of the Daffodil, covering a period of the 300 years, with its poetry, and notes on hybridization, with many illustrations. Price one shilling, published by BARR & SON, 12 and 13, King Street, Covent Garden, W.C.

HERBACEOUS AND ALPINE PLANTS.—Catalogue of 50 pages, containing full information as to colour, height, situation, time of flowering, &c., free on application. A capital collection for Rocks, Stumps, and Borders, from 25*s.* per 100, or 4*s.* per doz. Most of the plants being in pots may be despatched at any time, or by Parcels Post when fit.—RICHARD SMITH & CO., Worcester.

ROSES, ROSES, ROSES.—Cheapest in the world. All have been kept moved back, and will plant now with safety. Twenty-four choice Standards or Half-Standards, 12*s.* 6*d.*; 50 choice Dwarfs, 12*s.* 6*d.*; 24 choice Dwarf Teas and Noisettes, 12*s.* 6*d.*; 12 choice Climbing, 5*s.*, my selection. Cash with order. Hundreds of Testimonials. Catalogues Free.—JAMES WALTERS, Rose Grower, Mount Radford, Exeter.

CARNATIONS and PICOTEES, a speciality for over 40 years.—I can offer unusually fine Plants of above, in all the leading exhibition varieties, true to name, my selection, carriage paid for cash, as follows:—Six of each, in 12 varieties, 6*s.* 6*d.*; 12 of each, in 24 varieties, 12*s.* 6*d.* List of varieties, penny stamp.

ROBERT LORD, Holebottom, Todmorden.

"Mr. Lord's plants are the finest I get from any source; finer cannot be had."—E. S. DODWELL, Stanley Road, Oxford.

£1,000 OFFERED FOR PRIZES AT DUNDEE INTERNATIONAL EXHIBITION, 1884, where Dobbie's Prize Strains of Leeks, Turnips, Parsnips, Beet, Greens, Celery, Asters, French and African Marigolds, Cockscombs, &c., gained First Prizes respectively.

Catalogues, *free*, of Dobbie's Choice Pansies, Seeds and Plants, containing an Election of Pansies, the Culture thereof, with Remedies for the Prevention of the Pansy Disease, the True Secret of Growing Leeks and Onions for Competition, may now be had from DOBBIE & CO., Rothesay, N.B.

6 CAMELLIAS or AZALEA INDICA, full of buds, 10*s.*, large healthy plants of either in 5½ pots, all different choice sorts and colours. Packing gratis, and extra plants for carriage.—E. VAN DER MEERSCH, Queen's Nursery, Selhurst, S.E.

PURE WHITE GERANIUM, "NIPHETOS."—A hybrid nosegay, of a purer white than any we are at present acquainted with. It differs from all other white varieties in that it remains pure white to the very last, and never under any circumstances becomes tinted with pink, or any other colour. The trusses are of immense size, producing in nearly every case upwards of a hundred flower pips each. It is of a strong, robust, dwarf habit, free flowering, and whether for Winter or Summer flowering, or for cultivating indoors or out, will be found invaluable. Price 6*s.* per doz.—H. LEANEY, Upton Nursery, Forest Gate, Essex.

JOHN KENNARD'S Horticultural Soils, Sundries, and Berkshire Pottery Depôt. Catalogue of all Horticultural Sundries, &c., Post Free. Established 1854.—Swan Place, Old Kent Road, London, S.E.

BEAUTIFUL FLOWERS.—THE THIRTY PACKETS OF HANDSOME HARDY ANNUALS for present sowing in the open borders recommended in THE GARDENING WORLD, April 11th, with six splendid new kinds in addition, for 2*s.* 6*d.*; 12 distinct New Hardy Annuals, 1*s.* 6*d.* Post free. Unrivalled Show and Fancy PANSIES, from the finest collection in the Midlands, 33 prizes last year. 12 distinct named kinds, 3*s.*; 25 ditto, 5*s.*; 50 ditto, 7*s.* 6*d.* Catalogues free. W. J. KNIGHT, Seedsman and Florist, Bilston.

ASPARAGUS.—This delicious Vegetable does not require half the expense often incurred; for directions see Seed List, free. Strong Roots, 2*s.* 6*d.* per 100; extra strong ditto, two years old, 3*s.* 6*d.* per 100; forcing, 12*s.* 6*d.* per 100.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

Laing's Begonia Seed.

JOHN LAING & Co.

GOLD MEDAL STRAIN from our Prize Plants. New crop now harvested. Sealed packets.
CHOICE MIXED, from single varieties, 1/- and 2/6 per packet; 5/- extra large packets; double varieties, 2/6 and 5/- per packet.
COLLECTIONS, 12 named varieties, separate, 7/6
" 6 named varieties, separate, 4/-
Begonia Growers, Forest Hill, S.E.

1885. Scotch Florists' Flowers. 1885.

R. B. LAIRD & SONS (successors to Downie & Laird), will have much pleasure in posting their new Catalogue of the above.

OUR COLLECTION has been well known for many years to be the largest and best in Scotland.

ROYAL WINTER GARDEN, EDINBURGH.

Ware's New, Rare, and Choice Flower Seeds.

THE most complete list of Miscellaneous FLOWER SEEDS ever published, including Hardy Perennials, Hardy Florists' Flowers, Greenhouse Seeds, Hardy Ornamental Grasses, Hardy Annuals, &c., free upon application.

HALE FARM NURSERIES, TOTTENHAM, LONDON.

Chrysanthemums.

ROOTED CUTTINGS, from a choice collection, guaranteed true to name. My selection, 2*s.* per doz. Purchaser's selection, 2*s.* 6*d.* to 4*s.* per doz.

Early-flowering varieties. The best for out-door cultivation. Rooted cuttings, 2*s.* per doz.

SINGLE CHRYSANTHEMUMS.—A few of these useful varieties should be in every collection. They are very free bloomers and most useful for cut bloom and decorative purposes. Rooted cuttings from a choice selection, 5*s.* per doz. Catalogue, with full directions as to cultivation, the best guide for Amateurs, four stamps.—W. E. BOYCE, F.R.H.S., Yerbury Road, Holloway, London.

Now Ready.

"CHRYSANTHEMUMS and their CULTURE," by J. BRADNER, of Arley Hill Nursery, Bristol; who has won 112 PRIZES in ten years—74 firsts, 29 seconds, and 9 thirds.

PRICE 1*s.* POST-FREE, 1*s.* 1*d.* REMITTANCE WITH ORDER.

Full particulars of treatment, from the time of taking cuttings to staging plants and blooms for show.

Published by CLINKER & TITE, Yeovil.

Irish Ferns for Sale.

800 SPECIES and VARIETIES Botanically named and labelled at moderate prices. Three Maiden Hair Ferns, and one each of Ceterach crematum, Asplenium marinum, Black Maiden Hair Spleenwort, Polystichum aculeatum with thorns, Lastrea æmula, like Parsley, Cystopteris fragilis, and the rare Polypodium semilacerum, Royal Fern, Blechnum spicant, Crested Harts-Tongue and marginatum Ferns, &c. All large and well rooted. The Twelve rare and assorted species and varieties, 3*s.* 6*d.*, post free; or 8*s.* per 100.

The Beautiful Mountain Avens, Yellow Rock Rose, Trailing Arbutus, Sundew, the insect killer, Crowberry, Bloody Cranes Bill, Pinguicula, Orchis mascula, and Lady's Mantle. The selection 3*s.* 6*d.* Post free to any part of the United Kingdom.

P. B. O'KELLY, Botanist and Fern Collector, Ballyvaughan, county Clare, Ireland.

Good and Cheap Insecticides.

TOBACCO PAPER and CLOTH (Roll).—Thoroughly reliable quality; low prices. Trade supplied.

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120 Plants for 5s.

WILLIAM BADMAN offers his 5*s.* box of plants, containing 60 Geraniums of sorts, 10 Blue Lobelias, 10 Fuchsias, 10 Blue Ageratums, 10 Calceolaria, 10 Scarlet Tropæolums, 10 Sweet Heliotropes. All well rooted, and sure to give satisfaction. Half the above for 2*s.* 6*d.*; post-free 6*d.* and 9*d.* extra.—P.O.O. with order.—Cemetery Nursery, Gravesend.

HARDY AQUATICS.—Finest collection in the country, Herbaceous, Alpine, and old-fashioned border plants, from per doz. in 12 sorts, 4*s.*; from per 100 in 50 sorts, 30*s.* Catalogue on application to J. VANDER REES, Exotic Nursery, Tooting, S.W.

The Best Hardy Plant Nursery.

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ROSES, in all ways;
FRUIT-TREES for Orchards and Garden Walls;
GOOSEBERRIES, CURRANTS and STRAWBERRIES;
TREES; SHRUBS; EVERGREENS; CLIMBING PLANTS;
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NURSERIES AT CHESHUNT STATION, G.E.R.
" BROXBOURNE STATION, G.E.R.
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Carefully prepared, illustrated, and fully-priced descriptive Catalogue, post free.

JAMES BOYD & SONS, PAISLEY and LONDON, Horticultural Builders and Heating Engineers to Her Majesty the Queen, H.R.H. the Prince of Wales, H.R.H. the Duke of Connaught, H.R.H. the late Duke of Albany, H.M.'s Board of Works, London and Dublin, H.M.'s Colonial Department, the Royal Horticultural Society, the Royal Botanic Society, and the Royal Dublin Society. Gold Medal, Paris, 1878.—London Office, 48, Pall Mall, S.W. Illustrated Circulars post free. Complete Catalogue, 3*s.*

CLEMATIS, 12*s.* to 24*s.* per doz., strong plants in pots. List, containing descriptions of best singles and doubles of every shade from white to dark purple (some of the flowers of which become 10 ins. across), free.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

ROSES IN POTS, "New of 1885," 30*s.* and 36*s.* per doz. "Peas," Noisettes, &c., 18*s.*, 24*s.*, and 30*s.* per doz. Very strong H. Perpetuals for forcing, 24*s.* to 30*s.* per doz.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

NOW IS THE TIME TO TRANSPLANT HOLLIES and many other choice Evergreens. For prices of beautiful specimens at very low price, see "Special Offer of Surplus Stock."—RICHARD SMITH & CO., Worcester.

NEW CATALOGUE FOR 1885, containing probably the largest and best collections of Pansies, Violas, Phloxes, Pentstemons, Antirrhinums, named Hollyhocks, Mimulus, Double Potentillas, Delphiniums, Pyrethrums, Hardy border Herbaceous and Alpine plants, Dahlias, Pelargoniums, Fuchsias, Double Begonias, &c., &c., ever brought together, is now ready. Should be consulted before buying elsewhere, and will be posted on application. JOHN FORBES, Nurseryman, Hawick, N. B.

A GAY GARDEN for a Shilling.—Eighteen packets of showy flower seeds post free for 1*s.*, such as Stocks, Asters, Zinnias, Petunias, Single Dahlias, &c., by which a garden may be stocked with flowers summer and autumn. A box of "Heap's Food for Plants" will be enclosed with above for three stamps extra.—J. F. DACE, Florist, High Street, Leyton, Essex.

WHAT IS IT? A FACT, that all Spite, Prejudice, and Menace can be overcome by an outlay of twopence, and prove "HEAPS'S FOOD FOR PLANTS" the BEST, SAFEST, and most CONVENIENT to use of all artificial manures. "Heaps's Food for Plants," with directions for use, is printed on salmon-coloured paper on each 2*d.* box, with red air-tight ends. Be sure you get it, don't be persuaded to take any other. Sold everywhere; a sample free, 3*d.* One doz. will be sent, carriage paid for 2*s.* Trade terms on application. HEAPS & SON, Lordship Lane, London, S.E.

PROTECT YOUR FRUIT FROM THE FROST AND BIRDS, when you can get Netting 18 square yards for one shilling, and this netting has only been used a little by our fishermen. Of course will last longer than new, as it has been preserved for the sea, and will resist the rain from rotting it. Like new, and yet so cheap. Carriage paid on all parcels over 5*s.*

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TO GARDENERS and AMATEURS.—When you order from your Seedsman be sure and include TEBBS'S FUMIGATOR, a useful addition to the Greenhouse.

GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 ozs. to the gallon of soft water, 4 to 16 ozs. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots Dry and Soft on wet ground. Boxes—6*d.* and 1*s.*, from the trade. Wholesale from PRICE'S PATENT CANDLE CO. (Limited), LONDON.

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All Good Tubers just starting into Growth, free by Parcels Post. Catalogues Gratis.

OUR OWN UNRIVALLED VARIETIES.

Laing's Begonia Tubers.

Named Sorts, per dozen, Singles: A, 42*s.*; B, 36*s.*; C, 30*s.*; D, 24*s.*; E, 18*s.*; F, 12*s.* Named Sorts, per dozen, Doubles: R, 63*s.*; S, 48*s.*; T, 42*s*

Unnamed Sorts, per dozen, Singles: G, 21*s.*; H, 18*s.*; J, 15*s.*; K, 12*s.*; L, 9*s.* For Bedding, per 100: M, 40*s.*; N, 30*s.*; O, 24*s.* Unnamed Sorts, per dozen, Doubles: W, 80*s.*; X, 24*s.*; Z, 18*s.*

Begonia Growers, Forest Hill, S.E.

SALES BY AUCTION.

Sales for Next Week.

MESSRS. PROTHEROE & MORRIS beg to announce their Sales for next week at their Central Auction Rooms, 67 and 68, Cheapside :—

TUESDAY, April 21st.—Valuable Imported BURMESE and BRAZILIAN ORCHIDS.

WEDNESDAY, April 22nd.—100 Lots of choice CARNATIONS and PICOTEES from Mr. Charles Turner, Slough, Azaleas and Ferns from Belgium, Hardy Plants and Bulbs.

FRIDAY, April 24th.—Fine imported ORCHIDS from Messrs. Shuttleworth, Carder & Co.

On view mornings of Sale, and Catalogues had.

FLOWERING ORCHID SALE.

Special Sale.

MESSRS. PROTHEROE & MORRIS beg to announce that their next SPECIAL SALE of Flowering ORCHIDS will take place on TUESDAY, April 28th, for which they will be glad to receive entries as early as possible.

By order of the Trustees of the late George Torr, Esq.

Ewell, Surrey.

IMPORTANT SALE of the celebrated Garbraud Hall Collection of EXHIBITION, STOVE, AND GREENHOUSE PLANTS, which have been exhibited at the leading Shows with such unprecedented success by Mr. J. CHILD.

MESSRS. PROTHEROE & MORRIS are favoured with instructions to SELL by AUCTION, on the premises, Garbrand Hall, Ewell, Surrey, on WEDNESDAY, April 22nd, 1885, at eleven for twelve o'clock precisely, the whole of the valuable collection of Exhibition, Stove, and Greenhouse Plants in splendid condition for successful exhibition, also some exceptionally fine specimen Orchids, which have won high honours at the Metropolitan Shows; likewise a large assortment of Bedding Plants, and two one-horse Exhibition Vans complete.

May be viewed the day prior to the Sale. Catalogues may be had on the premises of Mr. Child, and at the Auction and Estate Offices, 67 and 68, Cheapside, London, E.C.

THURSDAY NEXT, SALE No. 6,896.

Valuable Imported Orchids.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, by order of Mr. F. SANDER, on THURSDAY next, April 23rd, at half-past twelve o'clock precisely, a fine importation of the beautiful Cypripedium Argus and Haynaldianum, also valuable importations from Mexico, consisting of Barkeria Barkeriola, Lælia autumnalis, and atro-rubens, Oncidium tigrinum, Odontoglossum Insleyai leopardinum, a new Barkeria, Hartwegia purpurea, &c., &c. Also a splendid plant in flower of the early-flowering Mossiæ, and many other Orchids.

On view morning of Sale and Catalogues had.

Special Offer of Orchids.

CHEAP ORCHIDS.—In consequence of having received large importations, I am able to dispose of my stock of plants received last year, now nice established plants, at very low prices; all are healthy, and those who prefer it can have this season's imported pieces. Growers of Orchids would do well to order at once, as many fine gems are contained in the numerous importations received, which are mostly unflowered. Established plants which have flowered and are flowering can also be had if required, but many growers prefer unflowered plants, because there are frequently valuable varieties which well repay the purchaser, shillings well invested being quickly converted into pounds.—Apply to W. GORDON, The Nurseries, Twickenham, Middlesex.

F. SANDER & Co., ST. ALBANS,

ORCHID GROWERS & IMPORTERS.

An immense Stock of fine robust Plants always on hand.

ORCHIDS.

THOUSANDS of clean, healthy, well-grown Orchids at reasonable prices. Priced list on application.

JAMES CYPHER,

EXOTIC NURSERIES, CHELTENHAM.

N.B.—An inspection respectfully invited.

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Any one desirous of Renting a Farm or Residence, or Purchasing an Estate, can have copies of the

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TO INVENTORS.—Under the new Patent Act, the cost of obtaining Royal Letters Patent is trifling Everyone who has a new idea should at once take steps to protect it. Cost of provisional protection through this agency is £2 2*s*. All information on patents, designs, trade marks, given free by Messrs. LULMAN & CO., Patent Agents, 8, Essex Street, Strand, London, W.C.

B. S. WILLIAMS'

Prize Strain of

CINERARIA

(extra choice, mixed),

Per packet, 1*s*. 6*d*. and 2*s*. 6*d*.

A superb strain of very dwarf branching habit and strong constitution, containing a great variety of colours.

Victoria and Paradise Nurseries, Upper Holloway, London, N.

1885. DAHLIAS. 1885.

DOUBLE POMPONE VARIETIES.

A grand collection, consisting of the varieties most showy in the borders, and those best adapted for cutting.

SINGLE VARIETIES.

The finest collection in the world, including 12 beautiful new varieties of present season.

CACTUS AND OTHER DAHLIAS.

A most interesting group, consisting of several colours. All are fine decorative plants and beautifully fitted for cutting.

DOUBLE SHOW AND FANCY VARIETIES.

All the leading varieties in cultivation, including the new ones of 1885.

Priced descriptive illustrated Catalogue may be had Gratis and Post Free upon application.

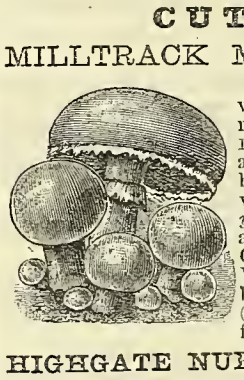
THOMAS S. WARE,

HALE FARM NURSERIES,

TOTTENHAM, LONDON.

CUTBUSH'S

MILLTRACK MUSHROOM SPAWN.



IF ONCE USED no other will be willingly taken. Testimonials of high merit received every day.—"THE GARDENS, SANDRINGHAM.—I have tried all other Mushroom Spawn advertised, but none to be compared with yours, which I have used for the last *twenty years* without once failing a quick and good crop. — CHAS. PENNY, Gardener to H.R.H. The Prince of Wales." — Price Six Shillings per bushel, One Shilling extra per bushel (for packing), One Shilling per Cake free by Parcels Post.

HIGHGATE NURSERIES, LONDON, N.

NARCISSUS "SIR WATKIN."

THIS magnificent variety is by far the finest of the peerless or chalice-flowered Narcissi. No garden should be without it. The immense size, sweet perfume, and rich colouring of the flowers, well poised above the foliage, combined with its dwarf and very floriferous character, will certainly assure its universal cultivation.

It will soon be in bloom in our Nurseries, where it can be seen. We shall also be pleased to send flowers upon application.

Early orders are solicited for autumn delivery, the demand being very large. Orders will be booked now at the following rates, viz.:

2s. 6d. each; 27s. 6d. per doz.; 200s. per 100.

We have a very large and choice collection of Daffodils and Narcissi in upwards of 200 varieties. Catalogue post free.

JAMES DICKSON & SONS,

"NEWTON" NURSERIES, CHESTER.

FERNS A SPECIALITY.

HUNDREDS OF THOUSANDS OF

FERNS AND SELAGINELLAS.

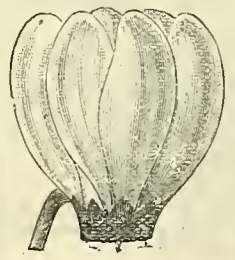
The Largest Stock in the Trade.

CATALOGUES ON APPLICATION.

W. & J. BIRKENHEAD,

FERN NURSERY,

SALE, near MANCHESTER.



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CYCLAMEN GIGANTEUM

(mixed), per packet, 2*s*. 6*d*., containing four varieties.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, APRIL 18*TH*, 1885.

THE AURICULA SHOW.—Somewhat earlier than usual, and in a decidedly late season, the Southern Section of what is termed the National Auricula Society will hold its annual exhibition of the flower it is specially established to promote, at South Kensington, on Tuesday next. The appellation "National" is an ambitious one, but it is no fault of the promoters of the Society that it is not more comprehensive, with respect to numbers. All the encouragement that can be afforded is given to cultivators of the Auricula, but in spite of this aid and support, the partizans of the florists' Auricula scarcely increase, and as a rule the plums which constitute the chief attractions in the schedule of prizes, still invariably fall to the share of some half-dozen prominent growers.

Of course blame is not to be attached to these growers because their products are the best; on the contrary, they deserve all possible credit and praise. The committee can hardly accomplish more than they do in the efforts thus made to popularize the Auricula, and their efforts merit all praise also. In spite of these things, however, new growers of the Auricula fail to present themselves in appreciable numbers, and the fault must be laid at the door of the Auricula itself. The fact is the section of this interesting portion of the Primula family which alone commands the attention and esteem of the Auricula connoisseur is of a very high bred and almost enervated kind. It is a section of one of our hardiest of spring flowers, which will display little growth and less of beauty if treated as a hardy plant; it needs great care, constant attention, no little patient watching, and some coddling, and even when all this care is bestowed failures and losses are not at all uncommon. If the simile may be used, show Auriculas are the very aristocracy of hardy plants, in respect of the patient solicitude which must be given to them by man, and after all they often prove to be an ungrateful race.

Those whose knowledge of Auriculas is limited to the coarse, though often showy, forms found in garden borders, will perhaps marvel to learn that show Auriculas compare no more with these than a thoroughbred racehorse does with a coster's hack; and whilst both the select examples have points of quality which the initiated only can understand, they also need care and attention beyond all ordinary conception. To the general public who may be attracted to see the Auricula Show, the result is, without doubt, disappointing, for the flowers, even if shown by hundreds, give little to look at and much sameness. Only those who have made Auriculas the subject of patient study can comprehend the points over which growers and judges contend with the utmost minutiæ, and utterly fail to understand the divergencies between a white and a grey edge.

It is true that the Alpine section gives charms which are more striking and more readily please even the uninitiated, but then these cannot follow the connoisseur in his technical descriptions of edged, shaded, and self flowers, or those which have gold and creamy centres, or good or imperfect tubes. A show Auricula bloom is indeed fearfully and wonderfully made. It is the product of several generations of raisers, and is far away removed from that which is produced by its original parents. The offspring could hardly be expected to recognize its projenitor, indeed, in the process of evolution, that disputed one of man from monkey hardly admits of more question than does the wondrous developments seen in a show Auricula bloom. But happily the exhibition is not confined to "show" Auriculas, and under that term we, for the present, include all those flowers which are esteemed correct in their respective classes.

That more amenable and perhaps more popular member of the Auricula family, the Polyanthus, will also be on view, and we may add also the Primrose, though the distinction between that section known as Fancy Polyanthuses and Primroses is not great. But the florists' Fancy Polyanthus is by no means that of the general public. Theirs is of an enervated and select race, a section indeed so exhausted by constant and debilitating intercrossing, that in a remarkable degree the progeny of the very best forms often turn out rubbish; in fact the gold-laced Polyanthus seems to have reached a point of excellence, if not perfection, in refinement and markings, beyond which it seems difficult, if not impossible, to pass. The cultivator of these choice spirits of the Primula family will revel in the contemplation of a perfect bloom or truss of Exile, Cheshire Favourite, or other high-class variety, even though the pips be of trivial dimensions. To him it is enough that the thrum, centre, ground, and lacing are all perfect, to excite his warmest admiration, whilst the ignorant uncultured public pass it by with indifference, and cluster in crowds around the showy border kinds, with their large flowers, big trusses, gay colours, and varied markings, or else they will gloat with delight over the Primroses, which though in size, colour, and beauty are a long way ahead of those humble denizens of hedgerow and meadow so loved of country people, yet which serve to remind them of the floral companions of their childhood, and thus recall loving memories that will not be repressed.

Happily, if we cannot all be Auricula and Polyanthus fanciers as are the growers who will compete at South Kensington on Tuesday next, we may always have in our gardens many plants of the border kinds, all producing large, bold flowers, mostly robust growers, easily raised from seed, and freely withstanding rain or frost. Those who would enjoy next spring the delights incidental to the possession of good batches of border Auriculas, Polyanthuses, and Primroses, should get seed at once and sow in pans or shallow boxes, placing them in a frame near the glass, or even in a greenhouse, but slightly shading the seed during sunny days. In some two or three weeks it will germinate, and in a few weeks more the seedlings will be ready to prick out into other pans or boxes, or into a cool frame, and from thence may be transplanted in October next to beds or borders, or some perhaps into pots, and a glorious reward will come next spring for the trouble given. Flowers from which the connoisseur would turn with contempt, will by others be regarded with intense pleasure, not the less that the plants will all give even better results in succeeding years.

WALLFLOWERS.—We are just now in the full season of single Wallflowers, and tens of thousands of bunches pour into the London markets daily. Those residing in country districts hardly realize how important an article of culture and commerce the Wallflower is, although confined almost exclusively to that superb variety—the single Blood Red. How many acres of these are grown within a radius of twenty miles of Covent Garden it would be difficult to say, though it may be that 500 would not be beyond the mark. We saw the other day men busily employed dibbling out plants over a large breadth of ground, and that at a time when most people, perhaps, are about to sow seed.

As a rule, the market-growers sow seed in February, if the weather be fine and the soil dry; but some sow in August, and thus have stout, hard little plants to pull from the seed-beds and plant out now. These, of course, make big bunches, and bloom freely next October and on through the winter, giving good cuttings long before the bulk of the plants are in flower. A few of the earliest and richest-coloured are saved for seed, and as all that exhibit inferior colouring are cut, of course the strain always possesses a high average. Earliness is as great an essential as colour, but both must be good in combination. Yellows, though so beautiful, have not been taken in hand to any appreciable extent, although there can be little doubt but that these would command a ready sale, so much are all who see them growing struck with their richness and beauty.

We saw something of a novelty the other day in the shape of four generations of plants of that remarkably fine new kind, Bedfont Yellow, for whilst the present year's sowing was up in the shape of seedling plants, there were the last and the two preceding years' plants in full bloom; pretty good evidence of the endurance of the kind. The tall golden kind, though loose in habit, yet gives a splendid lot of bloom for cutting, and is fairly early. The Dwarf Belvoir Yellow is both too late and too dwarf for that use, but it is a good bedder.

SIXPENNY TELEGRAMS: SEED TRADE STATISTICS.—Messrs. James Carter & Co. write: The discussion upon Sixpenny Telegrams, and the desirability or otherwise of abbreviated addresses, brings out some curious statistics in the history of the Seed Trade. We find upon scrutiny that amongst our 48,500 customers we can only muster 851 Smiths against Messrs. Sutton's 1,060, but when we come to the "Browns," we are brought to the front with a total of 503 against Messrs. Sutton's 450, and we can "throw in" 205 Robinsons. We must leave some wiser heads than our own to account for the peculiarities of these statistics.—*April 9th.*

ANDERSONIAS.—Closely allied to Epacris is the genus Andersonia, a genus consisting of nineteen species, all natives of Australia. They are attractive and interesting little shrubs, though, like many other hard-wooded plants, somewhat neglected at the present day. The treatment required is precisely that of the Epacris, or of the Heaths, and the chief thing to be attended to is care in watering. The balls should never be allowed to get dry, and when water is required it should be enough to penetrate thoroughly. In *The Gartenflora* for February, a plate is devoted to three of the species, which we may briefly notice. A. depressa is a dwarf compact plant, with white calyx, and azure-blue corolla, the flowers being arranged in somewhat loose terminal panicles. A. cœrulea is larger, the calyx rosy-red, the corolla of a deeper shade, and the flowers more compactly arranged. A. homalostoma is similar to the last in size, habit, and colour of calyx, the corolla being of a rather deeper blue. All the species are rigid little shrubs with Epacris-like leaves, and one peculiarity of the genus is the coloured calyx. The preceding have blue corollas, but in other species both white and rose-colour are represented.

Gardening Miscellany.

Flower Shows and Meetings to be held Next Week.—*Tuesday*: National Auricula Society's Exhibition at South Kensington. The Fruit and Floral Committees will also meet this day instead of on the 28th, when the Conservatory will not be available.—*Wednesday*: Royal Botanic Society's Second Spring Show at Regent's Park; Royal Horticultural Society of Ireland's Spring Show in Dublin, postponed from 16th inst.

On the occasion of the visit of their Royal Highnesses the Prince and Princess of Wales to Trinity College, Dublin, on the 11th inst., the floral decorations were carried out by Mr. Burbidge, as also were those at the Provost's house on the 8th inst., when the Royal party made their public entry into the city. Our friend's Daffodils doubtless played a conspicuous part in the decorations on both occasions.

The nursery business of Mr. J. Tomkins, the well-known Primula raiser of Birmingham, has been purchased by Mr. J. B. Thomson, and will in future be carried on in connection with the large seed trade which he has conducted for some years at 20, High Street, Birmingham.

All the ground available for the Potato trials at Chiswick this season having been planted, Mr. Barron requests that no more varieties be sent to him.

Mr. J. Clarke, late of Moor Park, Farnham, and seven years gardener to Lord Hastings at Melton Constable, has commenced business as a seedsman, nurseryman, and florist at the Albion Nursery, Farnham, Surrey.

There was a strong demand for bouquets for the Princess of Wales's Drawing Room at Dublin Castle last week, and a considerable number was sent from this side of the Channel. Amongst others who received orders were the Messrs. Cannell, of Swanley, who turned out some first-class examples.

Judging from the renewals that are now being made in the Rhododendron beds in Hyde Park by Mr. Anthony Waterer, the forthcoming display should be a very fine one. We notice among the new arrivals from Knap Hill, a matchless specimen of the splendid Michael Waterer. It will be found about half-way down the ladies' walk.

It was proposed early last year that a garden fête in aid of the funds of the Gardeners' Royal Benevolent Institution should be held in Mr. Webster's extensive gardens at Harefield Grove, near Uxbridge, but, owing to the death of Mrs. Webster, it had to be abandoned. Not to be behind his fellows in his zeal for the institution, Mr. Gough, the gardener, last week organized a concert in the Memorial Hall, Harefield, with the result that the Institution will benefit to the extent of about ten guineas.

The Société Nationale D'Horticulture de France has decided to hold in Paris next month, during the time the International Flower Show is open, a Botanical and Horticultural Congress, to which it is hoped many English horticulturists will give their support. Amateurs and nurserymen wishing to become members can do so at once by writing to the President of the Society, 84, Rue de Grenelle, Paris. An executive committee has been formed, and is composed of the following five gentlemen:—M.M. Duchartre, Ferd. Jamin, Chs. Verdier, Truffaut fils, and Bergman fils. Further particulars will be published in our next.

In connection with the Exhibition to be opened at Antwerp on August 1st, under the auspices of the Royal Agricultural and Horticultural Society of that city, it has been decided to hold a Horticultural and Botanical Congress for the discussion of various matters connected with horticulture, and to which all horticulturists are cordially invited. At present the subjects fixed for discussion are:—What are the best means of generalizing and spreading a love for horticulture, especially in rural districts? and, What are the means to employ in order to encourage the culture of plants among the working-classes? The President is M. Charles de Bosschere; the Treasurer, M. Charles Van Geert, jun.; and the Joint Secretaries, M. Franc Crepin, M. Henri de Bosschere, and M. Adolphe d'Haene.

GARDENING IN AUSTRALIA.

I congratulate you upon the establishment of your new journal. The numbers which have been received here have interested me greatly, and I trust your undertaking may be crowned with the success which it deserves. I wish I could see more enterprise displayed by this Colony in the same line. The only horticultural notices which we see are occasional paragraphs in *The Town and Country Journal*, an illustrated weekly. The colonists of this part appear to possess little appreciation of the beauties of nature. The public mind runs too much on land sales and anything which offers a field for gambling.

With the nurseries, as far as I have seen them, I have been much disappointed. That of Messrs. G. Brunning & Sons, Melbourne, which we visited on our way out, does its proprietors great credit, and would still do so if in the old country. Here we saw "bush-houses" full of plants and trees of all descriptions (except fruit) growing in pots; everything being in perfect order, and as clean as possible.

As a rule, the pot specimens displayed in the Sydney markets and flower shops would not find anyone to take them away gratis in Covent Garden. No doubt this may be explained to a certain extent by the difficulty of obtaining a permanent supply of water. We generally get plenty of rain in the course of the year, but it is necessary to "store" against all requirements. The creeks (streams) cannot be depended upon, and artesian borings, except in a case or two, have only been attempted by Government.

After seeing the Melbourne Botanical Gardens, I must say that I was disappointed with those in this city, although we have a great advantage in situation. Scarcely a finer site could have been found than that which the gardens occupy overlooking the Bay in which the men of war are stationed. The specimens are generally very poor. In this neighbourhood (Sydney) fruit alone is cultivated, the principal being Oranges, and some Lemons and Peaches; the latter are the cheapest and most plentiful fruit grown. Grapes are also cultivated to a limited extent for the market. South Australia is more in this line, and produces the bulk of the wine.

There are a few curious facts about this country, and of the most interesting to me is that bulls are seldom, if ever, dangerous. For some weeks I crossed an open paddock almost daily, in which was a black-necked beast which I would not have met in such close quarters in England on any account. I have heard it stated at home, but always doubted it, that Barley, if kept growing and not allowed to seed, would produce Oats the second season. When talking with an old settler the other day, he told me that this had occurred with him; not in a solitary instance, but over a whole field. Cereals are here grown for the sake of fodder, being cut green and made into hay. My informant states that he cut his Barley in this way three times, and then allowed it to take its chance, when it produced Oat ears. This was not done for the sake of experiment, as he had never heard or supposed that Barley could produce anything but Barley. Another old resident declares he has seen the same result in several cases. I shall be quite convinced when I have proved it by an experiment of my own.

Within the last year or two a floral novelty was discovered in the bush in this parish by a school-boy, viz., a White Waratah, evidently a sport from the scarlet variety, Telopea speciosissima, our "native Tulip" as it is called. The plant bore three blooms of the most beautiful waxy white. The schoolmaster to whom the boy pointed out the tree, lifted it, and sent it to one of the principal Sydney nurserymen, with whom I am told it perished. It is a thing rather difficult to transplant unless very young, but had it come into my hands, I have an idea that I would have preserved it by some means or other. I believe it is represented—like Mdme. Tussaud's celebrities—by a model in wax. The original scarlet variety is the most magnificent flower of our bush, if not indeed of our gardens. [Our friend proved himself "at home" to be such a successful cultivator of what are generally called "bad doers," that we regret this novelty did not fall into his hands.—*Ed.*]

Cape shrubs seem to take kindly to our climate. Plumbago capensis and Tecoma capensis grow rampantly side by side, and their flowers form a pleasing contrast for the greater part of the year. Hydrangeas also thrive well in this neighbourhood, and are generally of the most beautiful blue colour—the blue of the water Forget-me-not. The species appears to be H. hortensis, and I attribute its hue to the presence of iron-stone in our soil.

I mentioned bush-houses above; you probably know what these structures are, but as they appear to be peculiar to these colonies, I may mention that they are a framework covered with any close-growing scrub which forms a good shelter from sun and wind. I believe there is a general impression among the indifferently informed in England that Australian trees all shed their bark annually, whereas the cases in which this takes place form a small minority. The greater number of our timber trees belong to the "Gum" family (Eucalyptus), but the general public usually adopt the timber merchant's classification rather than the botanist's. The native Oak is a species of Grevillea, the Mahogany and Apple-tree Gums, &c.

I am afraid I can communicate very little which will be of interest to your readers. Botanical and Horticultural Societies do not exist here, and there are very few floral exhibitions. Queensland is before us in the possession of an Acclimatization Society, which does good service.—*C. B., Sydney.*

A LILY AND ORCHID NURSERY.

Every nursery establishment has a trade peculiar to itself, dealing in specialities, or in plants of special character or growth. The specialities at Mr. William Gordon's Twickenham Nurseries are Lilies, Orchids, Japanese plants, and general hardy bulbous and herbaceous plants, a special feature being made of things suitable for the wild garden. In all the different branches of the trade, Mr. Gordon's main object is to supply sound stuff at a very low rate, and so well has he succeeded, that his cheap Lily, Orchid, and other plant lists have made him a name far and wide, and secured for him a numerous clientele among those who wish to possess healthy little plants for growing on.

The Orchids are contained in a compact block of neat houses, the first being devoted to Dendrobes, of which a fine general collection, containing some rare things, has been got together. D. Falconeri, D. aureum, D. Wardianum, D. crassinode, D. chrysotoxum, and the true D. thyrsiflorum Walkerianum are now in flower. The second house is a low span, filled with Cypripediums, which always seem to bloom well here. C. argus, C. Lawrenceana, C. niveum, and others, are now in bloom in quantity. The third is a cold house, with healthy established O. Alexandræ and O. Pescatorei on the left-hand side, Lycastes and other cool Orchids on the right, and Sophronitis and other small growers suspended overhead.

The fourth is the new Cattleya-house, which is filled with semi-established and established plants of most of the favourite Cattleyas and Lælias, such as C. Mendelli, C. Dowiana, C. Trianæ, C. Mossiæ (many in bud), Lælia purpurata, &c., the whole being in a remarkably sturdy and healthy condition. In this house, too, a good importation of Brazilian things is placed, some fine masses of Zygopetalum Gautieri, Oncidium sarcodes, O. concolor, and Lælia Perrinii being in exceptionally good condition. The fifth house is the long, low, new span for Masdevallias and other small-growing cool Orchids, and the sixth is just now turned into a receiving house for a very good consignment of Indian Orchids, such as Dendrobium formosum, D. infundibulum, D. Jamesianum, Saccolabium Blumei majus, &c.

The seventh is an intermediate house, with Oncids, &c. The eighth, an East Indian house, with Angræcum Sesquipedale and some nice Phalænopsids in bloom, and a healthy general collection growing in a very satisfactory manner. The ninth house is filled with a good general collection of Dendrobes, and the tenth is an ornamental conservatory fronting the offices.

The whole place is neat and convenient, even to the roomy packing-shed, with extensive cellarage for storing bulbs beneath. The beds outside are planted with Lilies and other bulbous plants, many of them being either new or rare varieties, or things on trial, among the latter being a grand collection of new double Tree Pæonies, which, if they come as fine and as brilliant in colour as the drawing sent with each represents it to be, we shall hear more of when they are in bloom. The pits are filled with tender bulbs

and Japanese Orchids, such as the handsome old purple Bletia hyacinthina, of which there is a good stock.

The heavy batches of Lilies, Narcissus, the stove plants, and all other things requiring room, and which cannot be accommodated at the nurseries in the Amyand Park Road, are grown at the Twickenham Green Nursery, and that arrangement is a great help to Mr. Tracy, the able manager, in keeping the home establishment so neat and orderly as one always finds it. It may also be said that Mr. Gordon joins the making of cheap and good Orchid baskets, blocks, and rafts to his other specialities.

DOUBLE PRIMROSES.

Few plants have inhabited our gardens for a greater number of years than the Primrose, both single and double, and few spring plants possess greater charms. In the spring flower garden they must ever hold a leading place, being so dwarf, so floriferous, so perfectly hardy, so easy of cultivation, and so well adapted for the purpose. Of the single varieties none are more beautiful than our common Primrose, Primula vulgaris; for mossy banks in cooling shade it is almost unique, indeed these are the favourite haunts of the Primrose in a wild state. In my present note, however, I do not wish to speak of the single forms, which, though more beautiful, perhaps, and seeding freely, too, render them more easy of cultivation. But it is of the double forms that I wish to say a few words, and these, while not nearly as numerous as the single varieties, are among the most lovely and most useful of spring-flowering plants. The majority of these double varieties possess the same floriferous qualities which characterize the single varieties, and are equally hardy.

The first variety to which I shall allude is the Double White, which when well grown will bear favourable comparison with some of the choice named double Chinese kinds; indeed, I think the bouquetist has forgotten this, for, with the protection of a cold frame, its blossoms may be had without a blemish. It is of snowy whiteness, and where grown in quantity it is the most valuable in this respect. Its hardiness, too, enables it to withstand greater hardships in a cut state than similar flowers taken from a heated structure. The next is the Double Lilac, probably the most common among the doubles, a most useful free-flowering variety, specially adapted for edgings or lines in partially shaded situations. Then we have Double Purple and Double Rose, both good and distinct. These are not so well known, however, and are, in fact, among the rarities which, at the present time, are only met with here and there in small quantities. The Double Sulphur is an excellent free-flowering kind, and near akin comes the Double Yellow, a distinct variety both in foliage and flower; the former, however, is often sold for the latter, though it is readily distinguished by those who know them well, even when out of flower. Then comes a variety which I only know by name, *i.e.*, Violacea plena, and which is said to be of a distinct and pleasing shade of blue. I was the fortunate possessor of a single plant of it some years ago, but it gradually became conspicuously less and died ere it flowered.

Lastly comes the Double Crimson, the rarest of them all. To do this justice both skill and patience are requisite; still so well does a few of its large, handsome, globular flowers, which are of the richest shade of crimson, repay us, that the extra care and labour bestowed are forgotten in the enjoyment of its lovely flowers. Rarely is it cultivated in England unless protected by a handlight or cold frame, but in either of these it may be grown to perfection. Two of the primary points in connection with its culture are to never allow it to see the sun or feel the frost; in this lies the secret of success. Plant it in deep, well-drained, and rich loamy soil, with an abundance of leaf-soil and sharp sand intermixed. Keep the frame fairly close till growth is complete, when more air may be admitted to the plants. During the growing season the plants will be greatly benefited by being watered overhead with weak liquid manure or soot-water, the effect of which is truly remarkable.

Under this treatment I have grown this lovely Primrose to perfection in smoky districts and near London too. The lights should be drawn back at night when heavy dews are expected; water should be given in hot weather, provided they are well shaded, twice a day at least. There are still other varieties, such as Platypetala plena, and all prefer a partially shaded and damp situation, but if the soil be stony or dry a good mulching of well-rotted cow-manure will be found highly beneficial.—*E. J.*

THE FRITILLARIAS.

At the present time, among the wealth of lovely things coming into flower in the herbaceous borders, there are few more curiously attractive flowers than those of the various forms of Fritillaria. In a short time the Crown Imperial, with its stout erect stems,

FRITILLARIA LANCEOLATA.

surmounted with a head of pendulous flowers beneath a crown of leaves, will contribute its "stately beautifulness," as Parkinson puts it, to the adornments of many an old-fashioned garden. At the present moment the indigenous Snakes-head Fritillary, F. Meleagris, is the largest of the family in bloom, and always attracts attention by reason of its solitary, drooping, bell-shaped blossoms, prettily marbled with purple-brown on a creamy-white ground. Much smaller, but still a pretty flower, is the subject of this note and of the accompanying illustration, Fritillaria lanceolata, which we received from Mr. Ware a few weeks ago, and which is still in bloom in his nursery. Our illustration, engraved natural size, shows the general character of the flowers, which are small in size as compared with the blooms of Meleagris, and in colour greenish-purple chequered with yellow.

Mr. Ware grows a number of species and varieties of this attractive genus, some of which are not so well known as they deserve to be. F. armena is described as "a charming new species from Asia Minor, resembling our native species in time of flowering, but having soft yellow flowers. It grows freely in any ordinary soil, and as it is so easily cultivated must soon become a very popular plant." F. Moggridgi is a lovely South European species, flowering in June, and "having flowers equally as large as those of F. Meleagris, of a bright yellow colour, beautifully chequered with purple." F. recurva, which has flowers as large as Meleagris, bright scarlet, chequered with yellow, is fittingly described as one of the most striking of the genus, and one of the most beautiful hardy plants of recent introduction.

THE SIR WATKIN DAFFODIL.

I gave an account last year of the origin of this grand Daffodil [see p. 489], which was brought out by our townsman, Mr. William Pickstone, after having been cultivated at his estate, Maesmynan, near Caerwys, for many years, until he became possessed of a very large stock of it. No Daffodil has ever before produced such a sensation amongst florists, and its early promise is now being amply fulfilled, as it stands pre-eminently the finest of all the Incomparabilis section—a peerless Daffodil.

In *The City News*, October 18th, 1884, a letter appeared, signed by William George, Brook Street, Chester, stating that it was an old type of the Giant or Mountain Daffodil, improved in colour and substance under cultivation, and that the same type could be found in many old gardens throughout North Wales, and also in its wild state in at least two counties, and had been known to exist there over forty years, and that this Sir Watkin was an old foundling under a new name.

Very soon after this letter appeared, two of our leading seedsmen offered me bulbs of this wild form, which were expected to turn out to be the real Sir Watkin, and they were prepared to supply these bulbs by the thousand at a very moderate price. Similar offers were abroad, so that the opportunity was pretty widely known, and no doubt many took the risk and ventured to order. A few bulbs were presented to me as samples, and for trial, but as I had a good stock of the true Sir Watkin, I found on comparing the bulbs that they were much smaller, and I therefore declined to purchase a quantity. The name of the person who was thus offering bulbs was then given to me, and I lost no time in communicating with him. He had the subject well mastered, and gave a very plausible account of the Daffodil as he knew it to occur wild in Wales, and he was quite ready to supply bulbs in any quantity. I took down his narrative, and made a bargain by which he undertook to accompany me to the spot this spring, and I undertook to respect his secret and to see that he benefited if he could really prove the truth of his statement.

The time of blooming is here, Sir Watkin is in his glory, but his rivals prove to be mere common Pseudo Narcissus as it occurs wild in North Wales. The man himself is not to be found. It may be true for all this, but at present the whole affair looks like a cleverly laid scheme for trading profitably upon the fame of the grand new Daffodil, if buyers could be found willing to take the risk.

There is, however, a very solid foundation for Mr. George's statement that Sir Watkin was descended from the Great Mountain or Giant Daffodil, well known in Wales more than forty years ago. In that fine old and very rare book, *Hale's Eden*, published in 1757, is to be found an account of the Nonpariel Daffodil, and a full-sized engraving of it is given in plate 41. This is indisputably like the Sir Watkin Daffodil as figured by the Rev. C. Wolley Dod, of Malpas, in *The Gardeners' Chronicle* for April 26, 1884, p. 553, and which is the best illustration we yet possess of Mr. Pickstone's Daffodil. The Gardening World of April 4th contains an excellent plate of several of our best Daffodils, Sir Watkin being at the head; and this illustration is again exactly like the plate in *Hale's Eden*, if we make allowance for the difference (here but slight) between a wild flower and a cultivated garden flower; the latter, probably, grown under glass.

Mr. Pickstone lays no claim to having raised the Sir Watkin Daffodil from seed. He states that he found it growing in a garden he became possessed of in a mining district in Merioncthshire about seventeen years ago. How it got there he does not know. He found it there, recognized its beauty, and kept it to himself until he had a very large stock, and he deserved the profit he gained by its sale. It is thus clear that we really know nothing of its origin, and it is likely enough that it may be found elsewhere if search is made for it.—*William Brockbank, Brockhurst, Didsbury, April 7th, in Manchester City News.*

HARDY FLOWERING TREES AND SHRUBS.

The large number of varied and beautiful flowering shrubs which have from time to time been introduced into this country, and which have proved to be hardy enough to withstand all but our most exceptionally severe winters, have rendered this class of shrubs a rich store to select from. And when we consider the many pleasing features they may be made to give, when judiciously used for the adornment of the pleasure grounds, it is a matter of surprise that they are not more generally planted in preference to such large quantities of Laurels, Hollies, and Box, which are apt to look monotonous, as they present so little change in their appearance throughout the year.

By making a free use of flowering trees and shrubs, our lawns and shrubberies may be made to look attractive at all times; and as each month comes round some gorgeous or sweet-scented blossoms will enliven and beautify their surroundings, from the bright and pretty Daphne Fortunei and D. Mezereum, which unfold their blossoms in the early spring months, to the Chimonanthus grandiflorus, which opens its pale yellow flowers in the depth of winter. The months of April, May, and June are the natural flowering months of so many shrubs, that our gardens may at that season be made resplendent with scenes of floral beauty, which are all the more enhanced by the fresh and varied tints of the tender green leaves, before the heat of summer has robbed them of their pristine beauty.

What can be more beautiful than the gorgeous shining masses and varied colours of Rhododendrons when in flower, or the lovely and almost endless tints of the numerous varieties of Azaleas pontica and Mollis, when they are grouped in bold masses, or mingled among the greenery of lawns and shrubberies? I have often gazed with admiration on such delightful scenes, and if ever it should fall to my lot to form and plant pleasure grounds, if possible these two shrubs will be liberally used.

I have for several years made a note of the best varieties of flowering shrubs that have come under my notice, and I append the list that is the result of those notes, not as being a complete one, for I mention only those that I am well acquainted with, and all of which I think are both useful and beautiful.

Arbutus Unedo (Strawberry tree), white, October.

Azaleas: There are two classes of deciduous Azaleas; those with the smaller flowers are varieties of A. pontica, and the larger ones are varieties of A. Mollis, and of more recent introduction. There are a great number of varieties of many shades of colour, the names and colours of which can be found described in the catalogues of most of the leading nurserymen.

Amygdalus (Almond) sibirica, pink, April.

Berberis Aquifolium, yellow, April, evergreen; B. Darwinii, dwarf habit, orange, May, evergreen; B. dulcis, yellow, April; B. stenophylla, yellow, May.

Calycanthus floridus (Allspice), brown, June, deciduous.

Cerasus (Cherry) domestica flore-pleno, deciduous.

Chimonanthus grandiflorus, yellow, December, deciduous.

Cydonia japonica, scarlet, evergreen.

Daphne Fortunei, lilac, February, deciduous; D. Mezereum, pink, March, deciduous; D. laureola (Spurge Laurel), green, April, evergreen.

Deutzia crenata flore-pleno, white, May, deciduous; D. gracilis, white, April, deciduous; D. scabra, white, May, deciduous.

Forsythia suspensa, yellow, April, deciduous.

Guelder Rose (Viburnum Opulus), May, deciduous.

Hibiscus syriacus purpurens plenus, purple, August; H. syriacus variegatus (variegated flowered), August.

Hydrangea hortensis, pink, summer months, deciduous; H. paniculata grandiflora, white, summer months, deciduous. These require a sheltered position, and should have a few inches of leaf-soil placed over the stools during the winter, and if the winter is severe enough to kill the branches down to the ground, they will send up young shoots in spring which will flower late in the summer.

Hypericum calycinum, yellow, evergreen.

Kalmia rosea, June, evergreen.

Laurestinus (Viburnum tinus), white, winter months, evergreen.

Laburnum (Cytisus Laburnum), yellow, May, deciduous.

Syringa (Lilac) persica, May, deciduous; S. vulgaris, May, deciduous; S. alba major, white, May, deciduous.

Magnolia conspicua, white, March, deciduous; M. grandiflora, July, evergreen.

Ribes sanguineum, red, April, deciduous.

Spartium (Broom) multiflorum, white; S. scoparium, yellow.

Spiræa ariæfolia, white, June, deciduous; S. sorbifolia, cream, August, deciduous; S. Douglasii, rose, August, deciduous.

Ulex europæus flore-pleno, May.

Weigela rosea, April, deciduous.

H. Dunkin.

FRUITS, FLOWERS, AND CIVILIZATION.

In a lecture recently delivered before the Pennsylvania State Horticultural Association on the subject of "Fruits and Flowers in Connection with the Progress of Civilization," Professor Meehan lauded the high civilization of the nineteenth century—a civilization which comes of a careful regard for the good of others, and said:—"The earlier civilization was of a different sort. Now the chief aim of civilization seems to be to promote the well-being of others, and in no line of occupation is so much contributed to this civilization as in that of horticulture—a love for and cultivation of the beautiful. A striking illustration of a beautiful character of this kind was found in the life of the late Charles Downing, whose death we so keenly mourn. He was the embodiment of all that is good and noble in man, and his horticultural pursuits undoubtedly had a moulding influence in the formation of his character. A love of flowers begets a love for humanity—and to love humanity and to look to its highest, noblest, development, is civilization.

"The Quince may be instanced as an illustration of how closely allied the fruits are with the history of man. The very name—or at least the Latin name—of Quince, shows where it originated. We often hear of marmalade in connection with fruits, and it really is a part of the history of the Quince. Marmalade was first made at Marmelon, in Spain, and has given its name to preserves of other fruits for preserve; hence it originally meant, as applied to the Quince, Quince preserve. The Cherry is an evidence of civilization, and wherever it is seen you will find civilization. Among the ancients the fruits and flowers formed a conspicuous part of the people's history. Flowers were used among the Greeks and Romans to crown the conquerors. The Carnation, originally grown in England, was used for the purpose just mentioned—making garlands for heroes, and hence its name Dianthus. Many flowers would never have been traced to their origin had it not been for literature. We find, by tracing the literature of various nations, the origin of many plants and flowers, by discovering the uses to which they were put. In the matter of Corn, it is well known that grains of it were found in Indian mounds.

"The Grape seems to have been a native of Asia, and native Grapes are found in Japan and China that are very similar to our wild Grapes. In the study of the Grape, therefore, we might have a clue to the history of the Indian. There are forms of vegetable growth which follow man without any apparent reason, and the lecturer had read of a botanist who claimed that he could tell the nationality of a man by the weeds which surrounded him. To go more closely into this study—to show more clearly how closely civilization is connected with the development of fruits and flowers, he would call attention to the efforts that are made by those in barren or semi-barbarous regions to induce people to settle there. Gold or silver mines, indeed any of the minerals of the earth, may attract settlers in the regions where the minerals are found; but the attraction of fruit and flower culture will take the miner from his mine, and this will eventually bring about the civilization of that region. Look at Florida: how many thousands have been lured there to cultivate Oranges, and with that cultivation came civilization. How much horticulturists have suffered in introducing one plant from one region to another, and yet all these sacrifices were made for the good of humanity. How much will often depend on the chance introduction of a single plant! Take the history of the cotton plant in this country; human slavery, the chief industry of the South, a fratricidal war, and the final emancipation of the slaves, all resulted from the introduction of a cotton plant at Jamestown about two hundred years ago.

"The elevating and beneficial influence of flowers finds an exemplification in the kind offices of those who belong to the Flower Missions of the large cities—taking flowers to the hospitals and to the sick and suffering poor generally of the city. Pass an humble home, with its windows decked with flowers, and you at once feel that, though poor, the inmates of that dwelling are not without virtue. Gifts of flowers to the very poor would prove a better investment than giving them money, for the refining, elevating influence of the flowers would make better citizens of them by teaching them lessons of industry and thrift. The lecturer related his experience among the Indians, even in far-away Alaska. He remembered how he and his company had been warned not to go too far among a certain tribe, and there he found Captain Crittenden, of Kentucky, who had been in the rebel service, and had vowed that he would rather live among the Indians than among civilized people after the defeat of the cause for which he had fought. There, among those dangerous Indians, on whose grounds the travellers had been warned not to encroach too closely, lived Captain Crittenden. He had a garden which he cultivated, and he told the lecturer that he gave the Indians vegetables and flowers and flower seeds, and the poor untutored fellows had learned to love him, and some of them at least had learned to grow flowers and vegetables. From savages they were transformed to peaceable, kindly neighbours. The lesson was one that ought not to be lost on us."

PROPAGATING CARNATIONS.

I thank Mr. Jenkins (p. 485) for his ready assistance in finding a solution for the cause of "An Amateur's" cuttings dying off. It is quite possible that the length of the cutting may have had something to do with his non-success, especially if he took such cuttings as the one given in the illustration (p. 485) as a representative of a 2-in. cutting, which in reality is nothing more than a germ or bud, for divest it of its leaves and the cutting would not be a ¼-in. in length. The flattened leaves of a cutting such as the small one represented, would, if left on the parent plant, reflex or spread, and the heart of the cutting would lengthen, the leaves now taking an outward direction instead of being erect, so that the measure should be taken from the heart of the cutting to the heel. It will be seen that such cuttings as I recommended would be much older than the small one illustrated.

Cuttings of different varieties differ so much that no one illustration would be applicable to all. Take, for instance, Fairy Queen and La Belle, there are ten joints to one, where there are but two to the other, and the cuttings differ in appearance and somewhat in length accordingly. I did not expect that any one would measure the length of the leaf in with the cutting, any more than they would those of a Dracæna, for in that case, instead of a cutting being from 4 ins. to 6 ins. long, it might be reckoned 12 ins. to 18 ins. Has Mr. Jenkins allowed anything for the drawing or lengthening of his cutting now rooted,

which he states to have been put in early in January. To all appearance, so far as my experience goes, his cutting was nothing over 3 ins. in length at the time it was taken off, and probably less.

I remember showing a certain person some rooted cuttings, and the exclamation was, "They are larger cuttings than mine," but those under my treatment had grown to nearly or quite half as long again as their original length, but under Mr. Jenkins's treatment it is quite certain they would not grow so much. For firm-wooded cuttings such as recommended by Mr. Jenkins, I quite agree with his plan of not subjecting the cuttings to bottom-heat of any kind, but for sappy cuttings such as I choose it is almost essential. We inserted our first batch of cuttings about the middle of January, and they were fit to pot off early in March. Many of them now have been stopped once, and have broke with several shoots almost as large as that represented as a 2-in. cutting in the illustration before referred to. The sides of 3½-in. pots are lined with roots, and I assure Mr. Jenkins that not a cutting was taken with hard wood attached, and my losses will compare favourably with his, viz., under 10 per cent. I enclose a cutting of what I consider better represents a 2-in. cutting. I earnestly hope that "An Amateur" will read Mr. Jenkins's notes, for to one who is in need of assistance it is far better for more than one to express an opinion. After all, perhaps Mr. Jenkins may have hit the right nail on the head. My reason for suggesting about the cuttings having their heel resting on the drainage was because the only failure I ever had was from that cause.—*C. Warden.*

MAKING A VINE BORDER.

"Caractacus" asks, at p. 494, for information respecting the making of Vine borders, and wishes to know whether manure should be mixed with the soil, &c. I have found Vine borders made of the following compost to be as good as any. Procure fresh cut turves, if possible, about 3 ins. thick, according to the depth of the fibre in the soil, and if the loam is fairly heavy, but not too adhesive, so much the better. If soil of this description can be obtained, add about one-sixth of lime rubble or broken bricks, and some charcoal not broken too fine, which will help to keep the soil open; also add a hundredweight of crushed bones to every two square yards of loam. The latter must be chopped up, but not into mince-meat, and afterwards be well mixed together. If the loam should be of a clayey nature, more lime rubble will be necessary; on the other hand, if it is of a light description a less quantity than is above recommended should be used. Charcoal is not absolutely necessary, although I have thought it to be advantageous, but I know some good cultivators who object to its use. I would in no case use any manure, although I used to do so, in the preparation of the soil, preferring to feed the Vines by watering with liquid manure, and when they get well established, say after two or three years, to give an annual surface dressing of cow-dung.

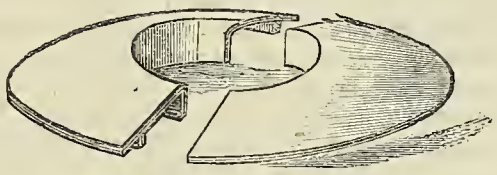
I would recommend "Caractacus" to make only half the border now and the other half in two years' time, and not to have any fixed pathway in the house, but to have a battened trellis instead, which will then allow the border at all times to be dressed, &c. The depth of soil should not be more than 3 ft., and it is absolutely necessary that under that there should be from 8 ins. to 1 ft. of drainage, broken bricks, stones, lime rubbish, or whatever may be at hand most readily; of course putting the larger portions at the bottom, the smaller portions filling the interstices, and sloping either to the back or front, with a drain to take the surplus water away, unless the site happens to be on a naturally well-drained position, and even then it is far the better plan to make the drain, so as to prevent mishaps.

It would be better, now that the season is so far advanced, to let the Vines break a few inches before being planted. I once planted two vineries in the latter part of May, when the Vines had each made growths varying from 18 ins. to 3 ft. We carefully disentangled the roots and spread them out over the border, before covering them with a little specially prepared soil, finer than the bulk of the border; and in all but one instance the canes reached the tops of the houses before the end of the season. I, however, had plenty of heat at my command, and was thus enabled to ripen them thoroughly.

I would strongly recommend as a white Grape to be planted at the warmest end of the house Foster's Seedling, a sure fruiting and free setting variety. Buckland Sweetwater is another kind that will succeed under the same conditions as Black Hamburgh, but I have not found it so prolific or free setting; the advantage it has to some is that the bunches and berries are larger than the first-named, but do not keep in good condition so long. Neither can be recommended for their keeping properties; Foster's Seedling soon becomes too firm, while Buckland Sweetwater very soon becomes flavourless.—*E. Dumper, Summerville Gardens, Limerick.*

STRAWBERRY TILE AND SNAIL TRAP.

Mr. John Matthews, who, since the Royal Pottery at Weston-super-Mare passed into his hands, has done so much to improve the standard quality of garden pottery ware, exhibited at South Kensington, some two or three years ago, and again on Tuesday last, an ingeniously contrived Strawberry protector and snail-trap combined, which, it was seen at once, superseded the old-fashioned blocks of burnt clay which had previously been used in many gardens. The new tile, as will be seen from the accompanying illustration, is a great improvement, being much higher and larger, and falls off from the centre at an angle which secures a comparatively dry surface for the fruit to rest upon in wet weather; moreover, being supported clear of the soil by the inner and outer beads, it attracts sun-



STRAWBERRY TILE AND SLUG TRAP.

heat, which produces an underlying stratum of warm moisture, at all times acceptable to the roots of the Strawberry. Being made in two halves, the protectors can easily be raised from the ground whenever it is thought necessary to search for the depredators.

As to the uses to which the new tile can be put, we cannot do better than quote the following remarks, which appeared in two of our contemporaries last week, from the pen of a very able gardener, Mr. Coleman, of Eastnor Castle, who has given it a fair trial, and finds it to answer admirably:—

So much for snails and Strawberries, so frequently found occupying the same bed, especially in cool calcareous districts, for much as the silent depredator objects to lime in a caustic state, he evidently enjoys it in its primitive form. The use of the Strawberry tile does not, however, end here; on warm light soils subject to burning, and the sudden collapse of established plants, notably the British Queen, it is equally valuable in the prevention of splashing with gritty matter during heavy rain, and in keeping the surface roots moist and active during a continuance of hot dry weather. If in such a light and difficult Strawberry garden there are neither snails nor slugs to eat the finest fruit, the proprietor may indeed think himself fortunate.

From fruit we turn to plants and flowers. Every one knows a snail will travel a long way for a Christmas Rose, a Dahlia, or the dainty point of a Lapageria shoot; persevering indeed must the attendant be who succeeds in keeping his treasure safe; but aided by Matthews's tile the feat may be accomplished, as the enemy, foiled in his attempt, settles down under its shelter until the attendant can find time to despatch him.

There are other uses to which this neat article can be turned, such as protecting newly-planted trees or choice plants in the flower garden or on the open lawn, where a ground covering of some kind is required, and ordinary mulching may be objectionable. But sufficient has been said to show that the improved Strawberry tile may be turned to many uses in every garden beyond the purpose for which it was originally designed.

GARDENING PATENTS.

714. Glazing Greenhouses (T. W. Helliwell, Brighouse, Yorkshire).—The glazing is formed with channels on each side, the upper ones receiving the glass and carrying away any water that enters them. The bar in one piece of metal is open at the top, and the edges are turned over the glass to keep it in place. The glass is then retained by the elasticity of the bar, which is sprung together to admit it. It is further secured either by a spring cap or by T-headed bolts, which hold on an outer cap and press against the under sides and thereby spread out the bar. When double glazing is required, the bar is modified so that the flange and trough are at a lower level. Sheets of glass are then placed at the two angles of the bars.

1502. Hose Pipes (E. Clibborn).—Consists in the use of Ramie fibre (also known as Rhea or China grass) for the manufacture of hose pipe. It is treated by the Fremy Urbain process and then spun with but little twist, and used as either warp or weft flax, hemp being used along with it, or it may be used for both warp and weft. Pipes so made are not so liable to be cut by stones, to sweat, or to rot through dampness.

1970. Flower Pots and Seed Pans (R. G. Kirton, Ipswich, Suffolk).—Flower pot with notched flange round the bottom and having holes in the bottom to facilitate ventilation. Seed pan made in two parts, so that the sides may be lowered or the bottom raised for removing plants.

7350. Securing Rain-water Pipes in Position) G. Potter, 3, Willow Road, and G. W. Potter, 22, High Street, Hampstead, Middlesex).—The pipe sits between lugs on brackets, and is supported by a band hinged and bolted. By slackening the bolt, the pipe may be turned round so as to allow of the part next the surface or wall being painted, or of the pipe being removed. The brackets and pipes may be of any cross section.

LIABILITIES OF SEEDSMEN.

The case of "Tefett *v.* Ingram," which recently came before the Blandford (Dorset) County Court, is of considerable interest and importance to landed proprietors and agriculturists generally, as illustrative of the liabilities of seedsmen for supplying seeds different from those ordered. The plaintiff, Mr. William Tefett, of Nutford Farm, Blandford, gave the defendant an order for 12 lbs. each of Paterson's Imperial and Winter Lothian Swedes. Certain seeds were supplied, and Mr. Tefett sowed 14½ acres of land, from which he expected to derive winter and spring feeding for one hundred and fifty sheep that he intended lambing down. Instead of Swedes, White Turnips made their appearance. Mr. Ingram was communicated with, and went over the land, but was unable to give any explanation of the mistake. Compensation was demanded, but not given; so Mr. Tefett sued the seedsman for £50 damages in the county court. Mr. Ingram put in a counter-claim for seeds supplied. Mr. Tefett stated that he had been obliged to sell his ewes, as he had no roots to give them, the Turnip crops being so bad that the sheep would not eat them. He considered he had lost over £100 through the mistake, having not only to bear loss of feed, but also having had to sell his sheep at a sacrifice, and lose the lambs. The jury came to the conclusion that a mistake had been made, and gave a verdict for Mr. Tefett with £15 damages; but they allowed Mr. Ingram £1 13*s.* 8*d.* on his counter-claim for other seeds supplied.

The Weather in South Wilts during the month of March was all that could be desired. Unlike the preceding month, there were but eight wet days, the total amount of the rainfall being 1·75 ins., the greatest fall being 0·76 on Wednesday, the 4th. The temperature too was very low generally, the warmest night during the month being 35 degs., and only on five nights did the thermometer keep above 30 degs. Twenty-two nights out of the thirty-one we had frost, little or much, the sharpest frost registered being 10 degs. The ground worked splendidly, and the dust blew about as though it were summer.—*C. Warden, Clarendon Park Gardens, Salisbury.*

The Amateurs' Garden.

THE GREENHOUSE.

Insects.—One of the greatest difficulties at this season in the management of the greenhouse, is to keep down insects, which are very troublesome, especially the green-fly, an ubiquitous parasite that seems to assail every tender shoot on nearly all kinds of plants, and if not quickly destroyed soon cripples their growth. Although moderate fumigation does not hurt the leaves, it is fatal to most flowers, as the effects of the smoke causes the petals to fall wholesale, and, therefore, plants should be freed from the parasites before they come into bloom. This may be done by taking them from the house and putting them in any close pit or shed, where a very little tobacco-smoke will kill the fly; but to make sure of doing this, it is advisable to give them a dose at night and again in the morning, after which the plants should be syringed to free them from any stragglers or dust they may have on them.

Potting.—As there will be much potting to be done after this time, it is necessary to be always prepared with plenty of good soil and suitable sized pots, that the plants may be shifted on when they need more room, in doing which the chief thing to be particular about is to give free drainage, without which the balls get water-logged and the roots soon thrown out of health. This being so, the pots should have one large crock, or an oyster-shell, to cover the hole, and over the top of whichever is used, more crocks finely broken, and on them a little moss or lumps of soil to keep them open. For potting most plants, a mixture of equal parts peat and loam is the best, but for the commoner subjects, such as Balsams, Fuchsias, Pelargoniums, and others of that class, loam and leaf-mould, or mild rotten manure, answers every purpose, and with due attention in watering will grow them thoroughly well.

Plants going out of Bloom, such as Deutzias, and all subjects of that description, should be taken every care of in order that they may complete the formation of the young shoots, and have their foliage maintained in a fresh healthy condition, without which they will be of little use for flowering next year. To keep the greenhouse gay during the summer, Celosias, Salpiglossis, Schizanthus, Browallia, and double Petunias will be found most useful, and all may be raised by sowing seeds now in gentle heat, and the plants grown in any warm frame.

PITS AND FRAMES.

Bedding Plants.—At this season the frames are generally crowded with bedding plants, numbers of the more hardy of which may now be moved out, as by affording them proper protection at night, they will stand the weather without injury, and be more fit for planting when the time comes, than they will if kept coddled under glass, where, unless freely exposed to the air, they are sure to keep tender. A good way of managing this is to have some stout boards or planks and build temporary frames with them, or make choice of a warm sunny border under a wall, which should be covered with rods, so as to support mats or other covering to shelter the plants by night, and thus ward off any frost we may get. This will set the glass structures at liberty for the purpose of growing French Beans, Cucumbers, and Melons, or for accommodating any greenhouse plants that go out of bloom, or getting up others to come on in succession.

Cucumbers and Melons.—If these are to be cultivated, hotbeds must be made up, and to render these lasting, it is necessary to have fresh tan, or dung and leaves, and turn them over together so as to let out the fiery gases and sweeten the material, after which the beds may be built up and the soil put on ready for planting. This should be fresh, and mixed with a little rotten dung, and then laid along the centre of the bed in a ridge, or placed in heaps one under each light; and as soon as it gets warmed through, the plants may be turned out, and kept close for a day or two to give them a start, but if the heat is violent, a chink of air should be left on by tilting the lights, so as to reduce or keep down the temperature by night to 65 degs. or so, and 75 degs. to 80 degs. by day.

Seed-sowing, &c.—The vacant spaces around the heaps, or along side of the ridges, as the case may be, will come in admirably for standing any fresh potted plants to nurse them on, or for placing pans or pots of fresh sown seeds to get them up, as with the warmth they will receive germination will be quick and certain, when they may be moved to make room for others. Besides the many kinds of tender annnals that may be raised in the way referred to, and grown on for the greenhouse, Tomatos, Ridge Cucumbers, and Vegetable Marrows should be got in at once, and pushed on ready for planting out towards the end of May, by which time they will be safe if protected.

BEDS AND BORDERS.

Spring Flowers.—The beds will now be gay with spring flowers, and all that remains to be done is to keep them in good order by picking off any dead or decaying bloom and leaves and filling up vacant spaces that may occur by sowing seeds or planting out any half-hardy plants that will assist in making them gay during the summer or autumn. Among these may be mentioned the shrubby Calceolarias, which will stand all the frost we are likely to get now, and of annuals there are many, the chief of which have been already noticed, bnt it may be as well to refer to the best of them again, as it is time all were in, for if deferred to a later period they are almost sure to be checked by the heat and drought of the weather, and unable to blossom in the free manner they otherwise would.

Showy Annuals.—For making a fine show, the Godetias, such as G. Whitneyi, Lady Albemarle, and The Bride, should be grown, and these may be sown in the places where they are to stand. Chrysanthemum coronarium and C. carinatum in their several varieties are also very desirable, and so are the different Convolvulus minor, the Clarkias and Collinsias, Rocket Larkspurs, Sweet Peas, Lupins, Stocks of the Ten-week kind, Nemophilas, such as N. insignis grandiflora, and N. maculata, Mignonette, Schizanthus pinnatus, Nasturtiums, of which there are many varieties, affording a wide range of colour, and beside the above named there are numerous

Half-hardy Annuals that may now be raised in any ordinary frame, ready for planting out later on. The best among these are the Asters and Zinnias, which make a grand display, especially when planted in masses in large beds, a purpose for which they are well adapted, as they last in flower all through the season. Gaillardia picta, G. picta Aurora Borealis, and G. Lorenziana are exceedingly showy and durable, and the Helichrysums, or Everlastings, are of great value for cutting from. Nicotiana affinis is a fine thing, and Phlox Drummondi grandiflora is brilliant, and makes a beautiful bed. Portulaca does well in any hot situation, and is fine for elevated positions, such as mounds or rockeries, where the blossoms open freely exposed to the sun. Rhodanthe Manglesi is also suited for a similar situation, and Salpiglossis likes a warm place. The easiest way to raise plants of the half-hardy annuals is to make up a slight hotbed and cover it with fine soil, pressed firm, and then sow the seed in rows 3 ins. or so apart, which will afford room for the plants to stand till they are put out in the open.

THE VEGETABLE GARDEN.

Vegetable Seeds to be Sown.—This will be a busy time in the vegetable garden, as all kinds of winter Greens, Broccoli, Savoys, Brussels Sprouts, and Chou de Burghley should now be sown, Scarlet Runners and Beans planted, the last of the Potatos got in, crops hoed between and cleaned, Peas protected against birds, and staked, that they may have support before they blow over and get bent stems or damaged by wind. In sowing the seeds referred to above, the best way is to have the beds together, side by side, that the whole may be netted over, as otherwise finches are almost sure to find them out and pull up the young plants. Lettuces, Cauliflower, and Brussels Sprouts that were sown earlier will soon be large enough to prick out, and as soon as they are, should have that attention, as it keeps them stocky, and prepares them for planting in the open by inducing them to make plenty of roots. That they may lift with good balls it is advisable to make up a bed of light soil on a hard bottom, and dibble them in it, as then they may be transplanted without feeling a check.

French Beans may now be sown on a warm sunny border by drawing drills 2 ft. apart, and dropping the Beans 2 ins. or 3 ins. asunder, which will allow for thinning if they all come up, but they seldom do at this season. Those who do not mind the trouble will find it a good plan to sow in small pots or boxes in frames and plant out after, and the same with Scarlet Runners, as by so managing they may be got quite a fortnight earlier, for they grow very quickly when pnt into the warm ground as soon as night frosts are over. To economize room, Broad Beans may be dibbled in here and there among the rows of Potatos, as their stems will stand out clear and bear all the better for having plenty of light. As yet it is full soon for the main crop of Beet, but a row should be got in for first use, and snccessional sowings of Turnips, Horn Carrots, Spinach, and Radishes be made, as neither last long before they get old, large, or tough. Asparagus beds will now be greatly benefited by having a sprinkling of salt, which will kill all yonng weeds and greatly improve the flavour of the Asparagus heads, as well as the strength of the plants.

A GOOD NEW CAMELLIA.

Since Mr. C. M. Hovey, of Boston, Massachusetts, brought over his two beautiful new varieties, C. M. Hovey, and Mrs. A. M. Hovey, in March, 1879, the Floral Committee has had but few new Camellias brought before it, and we believe we are correct in saying that from that time till March 24th of the present year, it has not awarded a First-Class Certificate to a single member of this very beautiful and useful genus. On the last-named date Mr. B. S. Williams broke the spell by exhibiting a first-rate novelty named Commendatore Betti, of which we are now enabled to give an illustration. It is a large smooth flower, with broad well-rounded petals of great substance and of a rich rosy-cerise colour. The small plant in a 48-in. pot bore four or five of its noble blooms, and Camellia growers all admired it for its fine qualities of size, shape, and colour. Mr. Williams also showed it the next day at Regent's Park, and secured there also a Floral Certificate, which is the equivalent of a First Class at South Kensington.

POPULAR PLANT GROWING.

A few days since I gave a lady a plant, she delightedly accepted it, and said, "How often will it want water?" This was a poser. She might have asked me with as much prospect of answering her in a satisfactory manner, "Which came first in the order of nature—the owl or the egg?" "The owl." "But how without a pre-existing owl?" It is a fact that many persons who are fond of flowers and like to grow them, regard plants much in the light of human beings, and think they require a number of stated meals per day in the form of water; and that, too, quite irrespective of the time of year or nature of the weather. And as this kind of amateur grower is a very numerous one, and may possibly be reached to some extent through the columns of The Gardening World, let us endeavour to lay down a few simple principles for the guidance of such, and in the hope they may give them some more intelligible principles of action in regard to the management of plants.

Now all plants require rest at their peculiar seasons to grow and bloom them well; and so it is that when greenhouse plants have bloomed in spring, they are retained there until they have made their summer growths, and then they are placed in a cold frame, or in the open ground, to mature their growths and rest for a time. Out-door plants have their period of rest during the summer in the case of such as flower early in spring, or during the autumn and winter if they bloom during the summer. Plants should be kept clean, free from dust, dirt, mildew, green-fly, and all kinds of vermin; and no weeds or growth of moss should be allowed to cover the soil. They should never be allowed to become too dry or too wet. When plants are at rest during the autumn and winter months, they require but very little water, and are wintered better when too dry than when too wet. In spring and summer, when the growth is active, the

sun is hotter, and the atmosphere much drier, more water is required, and the drainage in the pots should be perfect. When a plant requires water, it will show itself by becoming dry on the surface; and then a good soaking should be given, taking care that all portions of the soil about the roots be thoroughly saturated. When plants are re-potted, the operator should see that the centre of the ball is not too dry; if so, it should be soaked in water and allowed to drain before it is re-potted.

Many plants die in consequence of the ball of earth becoming too dry, and though water may be given, it passes away down by the sides of the pot and does not reach the centre of the ball of roots. And when plants are repotted, the soil used should always be nicely moist, not too dry, and, on the other hand, not too wet. It is sometimes difficult to get the ball of earth thoroughly moistened when the soil used is too dry. Pots should always be clean when used, both inside and out, and the crocks also. If the pots have been used before, they should be well washed inside and out before plants are again placed in them. The soil used should be fresh and sweet, and not sifted too fine. If the amateur is not aware what mixtures of soils are best suited to certain classes of plants, he should consult the columns of The Gardening World, or some local nurseryman or gardener. When buying plants see that they are young and healthy; buy only such as an amateur may be able to grow, and get the best information how to grow them successfully. If the amateur has a greenhouse he should look through it frequently, sponging the leaves, and syringing the plants in fine drying weather, keeping the plants tied up neatly, the surface of the soil stirred and clean, and the pots washed when they become coated with green. Then the plants should not be too much crowded, but have room to grow, and for the air to circulate among them; and they need to be kept as near the glass as possible. It is much better to grow a few things well than a larger number indifferently.

In the spring and summer months green-fly is certain to appear, and a fumigation with the smoke of tobacco-paper should be given. As soon as the fly is seen, fumigate; if left alone they increase with wonderful rapidity. But fumigation must be done with great care when the plants are in flower, and any in bloom that are not affected with green-fly should be removed before fumigation is done. Pelargoniums when in flower are very impatient of tobacco-smoke, and they should therefore be kept perfectly clean until they bloom, and be taken from the house when a fumigation is necessary. On no account should the amateur overdo his fumigating; that is to say, harm may arise from sending too powerful a volume of smoke among the plants, as certain soft-wooded things, such as Calceolarias and Cinerarias suffer thereby. In the winter months watering should be done early in the day; in the summer months it will often be necessary to do so two or three times a day, so much depends upon the state of the weather. During hot weather the plants should not be allowed to become very dry; the foliage and flowers suffer as well as the roots.

In hot summer weather shading is a great help, and should be provided. Roller-blinds on the roof of a greenhouse give the least trouble, and they are very useful in frosty weather, as by letting them down they keep the house warm and comfortable. Those who have no convenience for shading, either inside or out, will find it advantageous to place old newspapers temporarily between the glass and their plants in order to ward off the direct rays of the sun. On the other hand ventilation is of the greatest importance, even in winter, for it is hurtful to many plants to keep them closely confined. A little air should be given if the weather is not frosty, and then it should be done on the side opposite to that from which the wind is blowing, so that a current of cold air does not play among the plants. During the winter the house should be kept as dry as possible; and in the act of watering, as little as possible should be spilt upon the ground.

Those who have a greenhouse heated with hot water can easily dry up damp and keep out frost. But what of those who have not? Well, the best thing to do is to keep all tender plants as dry as possible (short of killing them thereby), and in the warmest part of the house; covering up with newspapers when frost is without, and using a petroleum stove, Rippingill's for instance, with a small hot-water apparatus fixed to it. —*Quo.*

CAMELLIA COMMENDATORE BETTI.

THE GARDENS OF SOLOMON.

On our way down the valley towards Bethlehem, we noticed ancient terraces which had doubtless once been fruitful vineyards or olive-yards; and on turning the angle of the valley towards the left, we beheld at our feet "the Gardens of Solomon," neatly laid out over the bed of the valley, and extending, according to Canon Tristram, for more than two miles in all, from the little village of Urtas. This spot was first reclaimed and cultivated about thirty years ago by Mr. Meshullam, a converted Jew, who settled down here with the object of proving that the land if cultivated was capable of producing a rich return to the cultivator. Soon after some fellaheen followed and settled by his side; Germans followed, and patch after patch was brought under culture, and now the whole valley has been converted into a series of well-tilled gardens, producing vegetables for the Jerusalem market, besides numerous fruit-trees, such as those of the Apricot, Peach, Almond, Fig, and Pomegranate. The hillsides are also being banked up into terraces for the growth of Vines and Olive-trees. It can scarcely be denied, after viewing the pretty picture of a garden valley, that Meshullam has succeeded in demonstrating that the vales of Palestine are capable of becoming as fruitful as in former ages, if only persevering industry be applied to the work of reclamation.—*From Prof. Hull's "Mount Sier, Mount Sinai, and Western Palestine."*

Aucubas from Seed.—I have a lot of Aucuba berries on my bushes, and shall be glad to hear if plants can be raised from them, and, if so, if they are likely to be different in the leaf from the parent. When will the seeds be ripe, and how should they be sown?—*Japonica.*

FRUITS.

Fruit Culture under Glass.—Vines: These, in the different houses and varying stages of growth, require to be well looked after in the way of disbudding, stopping the shoots at two joints beyond the bunches, pinching off the sub-laterals at one joint, and the removing forthwith of all bunches but the one nearest the main stem from each lateral. The bunches must again be reduced, according to the length and strength of the individual rods, as soon as the berries are set, which is the case now in the second early house. Of course, the most compact and best placed bunches should be left for the crop. If Grapes of good finish and the permanent welfare of the Vines producing them are aimed at, the first step—assuming that their previous treatment has been in accordance with that recommended from time to time in these columns—to be taken with a view to securing such desirable results is, (1) to crop the Vines light rather than otherwise; (2) to keep the roots well supplied with liquid manure (Beeson's, I use), at the rate of a 9-in. potful to a 30-gallon tub of water; and (3) to keep the foliage clean, and give a free circulation of fresh air during favourable weather from the time the ventilators are opened in the morning until closed in the afternoon, leaving a little air on day and night after the Grapes commence colouring.

Grape thinning is an operation requiring skill and care on the part of those performing it, who should also have a knowledge of the size to which the different varieties are capable of attaining to. The process of thinning the bunches should be proceeded with as soon as the berries are set, so that there may be no needless exhaustion of the Vine's energies in swelling berries which have to be removed a few weeks later, as is the case when the operation of thinning is deferred to a more convenient time. In thinning the bunches, the crown berries should be left, and at rather more than 1 in. apart, care being taken not to injure those left by touching them with the hand or scissors. Give the Muscats and other varieties a good watering at the roots before they come into flower, and again as soon as the berries are set. Ventilate, distribute moisture, &c., as recommended at p. 490 in the number for April 4th.

Peaches.—Defer the final thinning of the fruit unti they have "stoned," when the number of fruit to be left on the individual trees must be determined by the condition of the latter and whether the owner has a preference for extra large or medium-sized fruit. If the former, leave one fruit to each superficial foot of tree, and if the latter is the object, the distance between the fruit may be reduced 3 ins. or 4 ins And with the object of securing the best possible results, give copious supplies of tepid liquid manure to the roots, and keep the trees clean by syringing them well overhead morning and afternoon at closing-time. Aim at a night temperature of 60 degs. to 65 degs., with a rise of 10 degs. or 15 degs. by day, running the temperature up to 85 degs. at closing-time, with plenty of atmospheric moisture.—*H. W. Ward.*

Late Apples.—At the meeting of the Fruit Committee at South Kensington on Tuesday, Mr. Charles Ross, gardener to C. Eyre, Esq., Welford Park, Newbury, staged a collection of fifty-two varieties of Apples, which created a considerable amount of interest, inasmuch as for the middle of April they were in a remarkably good state of preservation. Perhaps the most remarkable sample was one of Cox's Orange Pippin, which we do not remember to have seen in such fine order at this season before. Other notable examples were of Brabant Bellefleur, Annie Elizabeth, Cox's Pomona, Baldwin, Blenheim Orange, Northern Spy, Cornish Aromatic, Sturmer Pippin (a grand dish), Mère de Menage, Tower of Glamis, Pearson's Plate, Scarlet Nonpariel, Lane's Prince Albert, Loddington Seedling, Court Pendu Plat, and Cockle Pippin, the last, however, being somewhat shrivelled. The fruit room at Welford Park is, we believe, a double walled structure, thatched and tiled, but it would be interesting to know the exact details under which such fine fruit was preserved.

FLOWERS.

Seasonable Work in the Plant-houses.—Begonias for Winter Flowering: There are few classes of plants which provide so much variety, and such a continuous supply of bloom throughout the whole year, as do the Begonias; and although the winter-flowering species are not so brilliant in colour as the summer-flowering tuberous sorts, yet they are indispensable where a supply of bloom is required during the dullest months of the year. In most cases it will be better to propagate fresh stock every year and discard the old plants after the necessary stock has been obtained, or in the case of those that are raised from seed, the old plants may be discarded as soon as they have done flowering, that is if a few good pods of seed have been saved.

To get good plants for the following winter, the cuttings should now be put in as soon as convenience will allow; they will strike very freely where there is a little bottom-heat, but they must not be kept too close, and water should be used very sparingly, or they will be liable to rot off. The cuttings should be selected from fresh young growths that are quite free from flower buds, and the shorter the cuttings are the better. We like to cut them off close below a joint, and put them in without removing any of the leaves; if the cuttings are put in just deep enough to keep them firm, they will root much more freely than they do when the bottom leaves are removed and the cutting is put in deeper. In raising seedlings care should be taken not to sow the seed too thickly, and as soon as it begins to germinate the pots should be placed in a position where they get plenty of light, and as soon as they are large enough they should be pricked off. Either cuttings or seedlings should be potted off as soon as they are sufficiently advanced, and those that require it should be stopped from time to time until they have formed bushy plants.

Potting.—In potting the plants on into their flowering pots, the sizes used will be regulated by the growth the plants have made, and some sorts require larger pots than others. B. insignis will require 6-in. or 7-in. pots, while B. Knowsleyana, B. Ingramii, &c., may be flowered well in 5-in. pots. Compost: any good, rich, light soil will suit them, say, loam, leaf-mould, and well-rotted stable manure in equal parts, with a good sprinkling of sharp sand added. Liquid manure may be used freely after the pots are well filled with roots. No class of plants better appreciate liberal treatment than do the Begonias, and after they begin to show flower, they must on no account be allowed to become too dry in the pots, or the buds and flowers will fall off.

Varieties.—B. Insignis: We give this the first place, as it may always be had in good condition at Christmas. The variety grown at Chiswick under this name is different to that usually met with, being of more compact habit and remarkably floriferous. We think the right name of the Chiswick variety is probably B. incarnata. This should be grown in a cool greenhouse during the summer, and will flower well in an intermediate temperature. If well exposed to the sun the flowers will come a bright rosy-pink, but they come much paler if grown in a shady position, or where there is too much heat. B. Knowsleyana: although this will flower throughout the summer, yet it may also be had in good condition during the winter if the plants are grown on from seed, and stopped if they show flower before required. In the winter the flowers come almost pure white, though in summer they are deeply shaded with pink. B. Ingramii is a useful variety with bright rosy-red flowers, and of dwarf compact habit. B. moonlight: this beautiful hybrid, which was raised by Col. Clark, is an almost perpetual bloomer; it will flower well in the greenhouse through the summer, but should have stove treatment during the winter. B. odorata is a useful variety for cut blooms; the flowers, which are pure white, are produced in large trusses. It should be grown in the stove, and to flower it well it should be kept in rather small pots. B. manicata: this makes a useful decorative plant if well managed. It should be grown in the stove, and will flower freely through February and March. B. Socotrana is a beautiful species of later introduction, from which some improved varieties have already been raised which promise further additions to this beautiful class of plants.

Marica gracilis.—Marica gracilis, or more correctly Cipura gracilis, is a lovely stove or warm greenhouse Iridaceous plant, not nearly so well known as it ought to be. It is very easy to cultivate, and deserves a place in the greenhouse of every amateur. The flowers are produced in panicles, and in colour are pale blue and orange, and though of an ephemeral nature individually, they are produced in long succession, and their beauty is so pleasing, that the cultivator feels amply compensated if he only obtains one expanded flower at a time, and is delighted if he has the good fortune to have from six to a dozen expanded at once. In general appearance the Marica very much resembles the Iris, to which it is closely allied. It is a native of Brazil, and was introduced in 1830. Marica cœrulea is a charming companion for the above, being of a darker blue shade of colour.

The plant is easily propagated by means of seeds and offsets, which are freely produced. Seeds should be sown in light soil in spring, and placed either in a stove or hotbed. When the seedlings are large enough to handle, they should be pricked off into a compost of loam, peat, leaf-mould, and sand, in equal proportions, and kept constantly growing. Offsets may be readily obtained, and should be potted at once into similar soil to the above, and be kept close and moist until new roots are formed and the plants become established. They should afterwards be fully exposed to light and sun, and in due time the flower-spikes will appear.—*J. Udale, Shirecliffe Hall Gardens, Sheffield.*

Epiphyllum Russellianum Gaertneri.—Mr. Barron has in flower at Chiswick a novelty of German origin which lovers of these beautiful, but too much neglected, plants should make a note of. The Brazilian E. Russellianum, which is generally considered a distinct species on account of the different form of its flowers from other Epiphyllums, usually blooms in May, its flowers being of a delicate rose colour. The habit of the new variety, Gaertneri, is that of an Epiphyllum, but here the similarity to a great extent ends, for its rich crimson-scarlet blossoms are of the shape of those of a Cactus, and have the same habit of closing at night. It is a very free-flowering plant, and altogether a good thing. It was sent to Chiswick by Mr. Heinrich, of Altona, Hamburgh.

Forcing Lily of the Valley.—You ask, at p. 508, what advantage is gained by freezing the roots of Lily of the Valley, and my reply is that the freezing thoroughly checks them, with the result that immediately the roots are excited by heat and moisture, they throw up better and stronger spikes, and in less time than do those which are not exposed to frost. This I consider a great advantage.—*S.*

New Indian Azaleas.—From Mr. W. Nicoll, The Nurseries, Lower Merton, Surrey, we have received some fine blooms of his new double white Azalea, Princess of Wales, which was shown for the first time about twelve months ago, when it was awarded a First-Class Certificate by the Floral Committee. The flowers measure quite 3 ins. across, with a full centre, of spotless purity, and the segments beautifully crisped. It has been compared by some to Deutsche Perle, a variety which increases in favour every year, but it is certainly distinct from it, and not so early. The fine shape and early-flowering habit of the Deutsche Perle are its leading characteristics, and when we consider that such a good double variety can be had in bloom in November and December, and without much forcing, we cannot wonder at its becoming popular. At South Kensington, on Tuesday, Mr. Turner, from whose nursery at Slough so many good new Azaleas have been put into commerce, exhibited a new variety of great merit, named Elise Lieber, a large, delicately-tinted white flower, striped and spotted with rose, of fine form and substance, and showing a slight tendency to doubling. It is a first-rate novelty, and as such was awarded a First-Class Certificate.

Siebold's Japan Primrose.—Under the appellation of Primula Sieboldi we have now some lovely varieties, the original species of which, or if not the original species then some varieties of it, were introduced to us from Japan some years since by Siebold, and which for several years were known to us under the varying designations of P. cortusoides amœna, and also as simply P. amœna. Finally, because neither of these designations were correct, we took to the appellation of P. Sieboldi, thus honouring the introducer of them. These beautiful Japan Primroses seem to excel all others in elegance and beauty, rivalling the tender chinensis, which now ranks amongst the most valuable of our winter greenhouse flowers.

The Sieboldi Primrose is esteemed hardy, yet is not so absolutely, because it will suffer if fully exposed to severe frosts and heavy rainfalls, and especially is liable to rot from snow-water. It also suffers from summers of more than usual heat and drought, hence it is well to grow it in pots or pans in a cool house or frame during the winter and blooming season, and then to stand the plants out in a fairly cool position during the summer, to avoid thrip and consequent early loss of leafage. The habit is strictly herbaceous; the foliage, which springs direct from the rhizome roots, dying down late in the summer, and during winter the roots remain entirely at rest if in a natural temperature.

The plants are increased by division, the clumps of roots being broken up early in the winter, the strongest crowns selected and replanted up in other pots, and the weaker crowns placed thickly in shallow pans, to develop into strong ones after a season's growth. If a dozen or eighteen be placed in an 8-in. pot, a good cluster of foliage and bloom will be obtained in April, and these clumps may remain in the same pots for two years. When that rule is adopted it is well to have some clumps to break up each season. There are many beautiful kinds, the flowers being both smooth-edged and pleasingly cut or laciniated; the colours are chiefly lavender, purple, white, and red, in numerous tints and variations.

"Snowball" Mignonette.—This is an American novelty which, according to the Editor of *The Gardeners' Monthly*, is of more than ordinary merit. It was raised in the summer of 1882 by Mr. G. Knoll, of Bethlehem, and is described as being compact in habit, pyramidal, and floriferous, the spikes of double white blossoms being carried well above the foliage, which is a deep glossy green. Unlike many of the so-called white varieties, which have really been of a dull grey colour, and having little fragrance, this sort is pure white, very full and double, and possessed of the true Mignonette odour.

Spiræa Aruncus astilboides.—Among the good new hardy herbaceous perennials that have come to the front during the last few years, the subject of this note takes high rank, and deservedly so, for its beauty is undeniable. It is a hardy Japanese plant—a dwarf form of the fine Spiræa Aruncus, introduced by Mr. Bull from the Alpine provence of Nambu, in the north of Nippon, some five or six years ago. It grows to the height of about 2 ft., the stems being clothed with triternate leaves, and terminating with branched panicles of showy plume-like white flowers. In the open border it flowers during the summer months, and is a valuable plant for cutting, but it is as a forcing plant in the early spring months that we should like to see it more generally grown. Being a free grower and a free bloomer, it lends itself well to pot culture, and might with great advantage be grown with the popular S. japonica.

Removing Gas-tar from Hot-water Pipes.—A very simple method of doing this is thus described by a New Jersey correspondent of the American *Gardeners' Monthly*:—If a thick coat of whitewash of lime be put on, after scraping off as much of the tar as possible, the lime will absorb all the rest, and if one coat will not do it, two or three surely will. The lime has a great affinity for the tar, and will absorb it all but, unless the tar is put on the inside, when this plan will not answer.

VEGETABLES.

The Kitchen Gardener's Calendar.—Planting: Advantage must be taken of growing showers (when they come) to make good plantings of Cauliflower, Cabbage, and Lettuce plants. Also Brussels Sprouts, which should be planted in rows from 2 ft. to 2 ft. 6 ins. asunder, and the same distance apart in the rows in rather shallow soil, say from 12 ins. to 15 ins. deep, where the plants will make a dwarf, sturdy growth, and close compact Sprouts, in striking contrast to the large loose ones produced by plants which have been set in deep rich soil.

Scarlet Runners.—If long Bean-sticks, say from 12 ft. to 20 ft. long, can be procured as easily as the 8 ft. long ones, which are generally used for supports for the haulm, plant now one row from 30 yds. to 60 yds. long, according to the demand for the Beans, in a drill running east and west, and 3 ins. or 4 ins. deep, and a second row two months later in front (south) of the first row. As soon as the runners come up, and have had a little soil drawn up to them on either side, the sticks should be stuck firmly in the ground, 1 ft. apart, on either side of the same, and be braced together by a line of Bean-sticks fastened longitudinally on either side of the upright sticks, at 6 ft. or 7 ft. from the ground, by means of cross-ties made of tarred string, by which means the rows of sticks are made secure. Instead of stopping the Runners, as is generally done, with a view to hastening the formation of the pods, they should be allowed to grow uninterruptedly, and so cover their allotted space, thereby prolonging considerably the supply of Beans, inasmuch as the individual plants yield a succession of Beans from bottom to top until cut away by frost, the finest Beans being on the top.

Garden Work.—See to the earthing up of Cauliflower and Cabbage plants, and rows of Peas and Broad Beans. The former should be staked, and then have a good mulching of rotten dung put on either side the rows, which will act as a manure as well as prevent the soil from getting too dry. Beans are benefited by the same treatment. This done, it will be advisable, on light soils, to give both crops a good watering at the roots. Make a vigorous use of the Dutch hoe, not only between young crops, but wherever weeds appear, an operation for which the weather which we have been having has been very favourable. Potatos coming through the soil should have a little of the latter drawn up to them, and a slight protection in the shape of fern or straw afforded them when there is likely to be frost. Seakale, which has been covered with long shallow boxes and leaves, should have the latter removed as soon as all the "Kale" of table quality has been cut, and the boxes be taken off a week later, when they should be stored away in a dry place for use another year.—*H. W. Ward, Longford Castle, Wilts.*

Ellam's Early Dwarf Spring Cabbage.—I do not think that too much can be said in praise of this valuable variety, not only on account of its extreme earliness, but for its delicious flavour; and the small amount of room in which one can grow a few hundred plants, should be enough to recommend it to all who have only a small patch of ground at their disposal. From seed sown on July 12th last year we have been cutting nice firm heads since March 24th; they were planted in a warm part of the kitchen garden (protected from the North and East winds by a wall), as soon as large enough to handle. I anticipate being able to cut and have them cleared off before the other varieties turn in. I must add that out of four hundred plants put out only five have bolted, thus proving that sowing early will not cause a great percentage to run to seed.—*T. Griffin, Davenport, Bridgnorth.*

Planting Potatos.—"Scribo's" method of planting Potatos, as described at p. 507, is but additional evidence, were any needed, to show how very accommodating is the tuber to varying methods of treatment. We may easily gather information of a dozen diverse modes of planting, all held by those who use or recommend them to be the best, and though it seems impossible to reconcile all the methods, yet all seem best in their respective districts. "Scribo's" plan has been practically tested by me many times, with this difference, and it is trifling, that I have drawn shallow drills, as if for Peas, beside a line first, and have laid the tubers into them. That plan differs only in an infinitesimal degree from the other plan of laying the tubers on the surface of the soil and covering them. I have not employed ploughs to cover, but forks, throwing the soil over on to the sets from either side of the drill, thus producing about the same thing as "Scribo" describes. If I have not employed that method of late, it is because I have found that the plants too soon feel the drought during hot summers. Here, where the sets are buried some 4 ins. to 5 ins., the roots and tubers are deeper in the soil and always withstand drought longest. Then earthing-up can be more completely performed, as there is more soil at disposal than is or can be the case when the moulding is practically done at planting time. Since Mr. Jensen published the results of his protective moulding experiments, we have become more alive to the value of earthing-up well, and that can only be done after the stems are well above ground. "Scribo's" plan is earthing-up, apparently, only, for the sets are no deeper in the soil than if planted several inches deep at the first. The plan also prevents that effective harrowing of large breadths of field-planted Potatos which is so essential to produce a well pulverized surface preparatory to flat hoeing and moulding.—*D.*

Early Cauliflowers without Heat.—I quite agree with your correspondent, Mr. W. J. Murphy (see p. 507), that Cauliflowers can in some localities and in seasons like the past be wintered safely without any protection whatever. I have here a row of the Early London Variety across a quarter in the garden sown on August 20th, which have not only escaped the past winter's frost with impunity, but which are much more sturdy and better plants than some that were taken from them and wintered in a more sheltered part of the garden.—*T. Griffin, Davenport Gardens, Bridgnorth, Shropshire.*

Good Varieties of Rhubarb.—Mr. Barron, amongst other good work done at Chiswick, has for the last year or two been growing and classifying a collection of varieties of Rhubarb, and on Tuesday laid before the Fruit Committee half a dozen sorts, to one or other of which most of the varieties known in gardens may be placed as synonymous. Taking them in the order of their earliness, we find the first to be the Early Red or Albert, the sort most largely grown by growers for market. The second earliest is Linneus, or Johnston's St. Martin, a sort which can be easily distinguished from the first-named in having the upper side of the stems convex instead of concave, as in the former. Next to Linneus comes Buck's Early Red, a small-growing sort, which Mr. Woodbridge has been growing for some time at Syon House, and which is followed by Dancer's Early Red, a distinct and good market sort; Hawke's Champagne, a good old sort, which Messrs. G. Bunyard & Co. kept true at Maidstone, and which last year was awarded a First-Class Certificate; and Baldey's Scarlet Defiance, a dwarf variety of excellent colour.

The Habits of Aphides.—In their habits aphides vary much, some are gregarious, living in very numerous congregations, others are solitary, only one being found on a leaf. Some are very active, running and jumping with great vigour, while others are sluggish, rarely moving more than an inch or so in a lifetime. The poisonous juices of various plants do not appear to affect them in the least, for we find them on Foxglove, Henbane, and Tobacco. Cold does not appear to affect the internal fluids of plant-lice, as they may be seen slowly crawling about, and even producing young, when the thermometer registers far below freezing. If a colony of aphides once settle upon a particular kind of plant, it is found that they will almost prefer starvation to a change of vegetable juices, though other colonies of their own species, and founded from the same brood, are comfortably feeding upon the plant to which it is wished to transfer them.—*Field.*

THE

Orchid Growers' Calendar.

Forcing Odontoglossums.—I have been asked this week as to the best means of hastening the flowering of these plants, and in view of the coming Shows, thinking many might like a hint on the subject, I send you the following note. My experience is that great caution must be exercised in the matter, as excessive heat in an unsuitable house or position defeats the end in view, and only results in spoiling the flowers.

The best way is to place those in bud near the glass in a house of the same character as to moisture, &c., as the Odontoglossum-house, but 7 degs. or even 10 degs. warmer than it, and when so placed to see that they are well supplied with water at the root, and otherwise carefully tended. By these means the desired object will be attained, and the flowers will come of good quality. When fully expanded they should be returned to the drier part of the Odontoglossum-house, where their flowers will keep good for as long a time as though they had never been treated to the higher temperature.

The same remarks apply in a degree to the hastening on of all Orchids, the secret of success lying in estimating properly the time to be allowed, and giving only just the required increase of temperature. From miscalculation of these matters I have seen the most lamentable failures. For example, I once saw a grand mass of Cattleya Skinneri, which was required as the telling plant in a collection at a certain date, but which, being backward, was put into a hot, close house. The excessive heat given in this case acted in precisely the same manner as I have seen it do in similar cases with other Orchids—it acted in just the same manner as too low a temperature would have done, and the buds refused to move at all. That this was caused by the excessive heat and unsuitable atmosphere of the house was proved by the flowers rapidly progressing and opening when the plant was returned to the Cattleya-house after the experiment was seen to be a failure; but the sojourn in the unsuitable house ruined the flowers and excluded the plant from being available for the show. All, therefore, who wish to force Orchids into bloom must be careful not to overdo them with heat, and to place the plants in a light, comfortable situation as near to the glass as convenient.—*James O'Brien.*

The Orchid Houses at New Hall Hey, Rawtenstall, are just now very gay with bloom. The last remaining flowers of Cattleya Trianæ are fast fading away, but the wealth of beauty that immediately steps into their place, though it is of an altogether different stamp, is most attractive and showy, and equally interesting on account of the length of time they remain fresh and presentable. The Dendrobiums are most beautiful, sixty plants of D. Wardianum being in full flower, not single bulbs, but many of them masses and large clumps. One plant has 270 flowers open. This is an entire piece as imported, and potted into an 8-inch pot, grown remarkably free and strong, and now presenting a most pleasing and interesting sight. This plant is one which Mr. Schofield is justly proud of, as it comes from a batch bought a short time ago, and which cost only 2*s.* 6*d.* each, yet in less than two years it has the number of flowers upon it I have just stated. Other plants are only slightly inferior in size, but all are equally well bloomed. Of D. crassinode a large number also are flowering, and D. Devonianum and D. nobile in many pieces, and large plants, make a display worth going far to see.—*W. Swan, Fallowfield.*

Orchids at South Kensington.—At the meeting of the Floral Committee on Tuesday, Baron Schroder exhibited a flowering plant of Dendrobium macrophyllum Burkei, a variety with large, pure white flowers; and the magnificent Lælia bella, Messrs. Veitch's fine hybrid, which has lovely rich, rosy-violet sepals and petals, and a fine rich purple lip. First-Class Certificates were awarded to both. From J. Day, Esq., Tottenham, came a cut spike of Vanda cœrulescens Lowiana, a pretty variety, with pale lilac sepals and petals, and rosy-purple lip. Mr. H. M. Pollett sent Odontoglossum Pollettianum, a hybrid of the Alexandræ type, of a beautiful rose-tinted ground colour, richly spotted with chocolate—a four-branched spike; and from the collection of C. Dorman, Esq., Lawrie Park, Sydenham, came Dendrobium Dormanianum, a novelty with a Wardianum bulb and crassinode flowers, but with two maroon spots on the lip; and Odontoglossum constrictum album, with buff sepals and petals, and a white lip. Mr. B. S. Williams had a fine variety of Odontoglossum Andersonianum, named grandiflorum, the large flowers of which were of a pale, almost white ground. Another very pretty variety of the same species, named pictum, was shown by Mr. James O'Brien, and awarded a First-Class Certificate. The ground colour is a bright lemon-yellow, and the spots bright crimson. A pretty hybrid of the Alexandræ section also came from R. H. Measures, Esq., Streatham, pale rose-tinted ground, with rich chestnut spots.

FLORICULTURE.

National Auricula Society.—Allow me to remind your readers who are interested in this Society that the Exhibition will be held on April 21st, in the Conservatory of the Royal Horticultural Society. Entries should be sent at once to Mr. A. F. Barron, South Kensington. Those exhibitors who bring their plants out of the pots will have pots provided to place them in, and green moss to cover over the surface. It is absolutely necessary that all exhibits be placed ready for the judges by 11 a.m. Those who have been accustomed to exhibit seedlings will kindly take note of Rule X. in the Schedule—"That all plants submitted for certificates must be staged separately from the collections."

It may not be generally known that there is a separate fund for seedlings, the subscribers to which, according to the last published balance sheet, are six persons interested in seedling raising, and the balance in hand is £7 4*s.* It may also be well to state that it is proposed to hold a Primula Conference in 1886, and the preliminary arrangements will be made on the 21st. The luncheon will take place at 2 p.m., when John T. D. Llewelyn, Esq., will preside; the subject for discussion after luncheon being the proposed Conference. The Council have appointed Colonels Clarke and Beddome, the Hon. and Rev. J. T. Boscawen, Messrs. Loder, G. F. Wilson, Llewelyn, and Godman to confer with the Society. Tickets for the luncheon may be obtained on application to Mr. Rolt, Hartfield Road, New Wimbledon.—*James Douglas, Great Gearies, Ilford.*

Chrysanthemums and their Culture is the title of a paper which was read at Yeovil in January last by a leading grower and exhibitor of Chrysanthemums in the West of England—Mr. John Bradner, of Arley Hill Nursery, Bristol, and which has been reprinted for publication in the form of a sixteen-page pamphlet. Mr. Bradner gives sound instructions on the management of the plants, from the rooting of the cuttings in November or December to the cutting of the perfect blooms for exhibition, and in his pages will be found many "wrinkles" of a useful character to both amateur and professional growers. All who have grown Chrysanthemums know that the plant is a gross feeder, but we confess that we have to include ourselves among those persons "who think it rather strange that, although the Chrysanthemum cannot use a knife and fork, it is very fond of meat;" but Mr. Bradner assures us that such is the case, and gives the following directions for administering it:—"About the second week in May, procure a quantity of greaves, which are mostly used for feeding dogs, and can be obtained at any tallow chandler's. Have them chopped fine, and add 12 lbs. to half a bushel of good loam and half a bushel of dry manure. Mix the whole well together, and put it in a box or barrel where it can be kept dry. In about four days it will be fermenting, and should be turned over once or twice. This should be done occasionally for three or four weeks, when it will be ready for use, but it must be kept dry." This is used with other ingredients in making the compost for the final potting in June, and which is prepared as follows:—"To three parts of good turfy loam add one part of thoroughly decayed manure, and half a part of sea-sand, and to three bushels of this put 4 lbs. of crushed bones, 6 lbs. of greaves, and 6 lbs. of crushed oyster shells and lime rubble. Mix the lot well together by turning it over five or six times, but do not sift it, and keep it under cover till wanted." We should add that Messrs. Clinker & Tite, of Yeovil, are the publishers.

Concerning Dahlias.—If any amateur cultivator of the Dahlia is desirous of possessing himself of a dozen really fine Exhibition Dahlias, not including fancy varieties, he will find them in the following:—Mrs. Gladstone, Lord Chelmsford, Miss Cannell, William Rawlings, Henry Bond, The Hon. Mrs. Percy Wyndham, Prince Bismarck, Joseph Ashby, Henry Walton, Joseph Green, Prince Arthur, and Georgiana. I do not give the colours or any description of these, because they can be found in any catalogue. I content myself with simply saying that I think they are the best dozen that can be selected for Show purposes. But supposing that our amateur wishes to go into a class for twelve or eighteen blooms, then it is obvious he should add another dozen to those already named, and they will be found in the following:—Canary, Constancy, Emily Edwards, James Cocker, Herbert Turner, Condor, Mrs. Stancomb, Mr. William Dodds, Prince of Denmark, Vice President, Earl of Radnor, and Walter H. Williams.

Fancy Varieties.—And now as to the best fancy varieties. Undoubtedly the best twelve will be found in George Barnes, Professor Fawcett, Flora Wyatt, Jessie McIntosh, Rebecca, Rev. J. B. M. Camm, Fanny Sturt, John Forbes, Mrs. Saunders, Henry Glasscock, Gaiety, and Frederick Smith. I will now do with these as I did in the case of the Show varieties, and add an additional twelve, so as to make twenty-four; and I indicate the following:—Charles Wyatt, Chorister, Parrot, Hercules, James O'Brien, Maid of Athens, Miss Annie Milsome, John Saunders, Madame Soubeyre, Mandarin, Mrs. N. Halls, and Mons. Chauvière.

Self and Tipped Flowers.—Seeing that Show Dahlias may be divided into self and tipped flowers, it may be asked which are the best of the former, especially as it has been indicated in your columns that in some country districts only the self flowers are regarded as Show Dahlias. Here, then, is a list of eighteen fine varieties, viz.:—Imperial, Canary, Earl of Radnor, Emily Edwards, Georgiana, Henry Bond, James Cocker, Joseph Ashby, Joseph Green, Lord Chelmsford, Prince Arthur, Prince Bismarck, Cardinal, Thomas Goodwin, Walter H. Williams, William Rawlings, Herbert Turner, and Vice President. As the self-coloured flowers preponderate in point of numbers over the tipped flowers, I will content myself with giving one dozen only of the latter, as follows:—Henry Walton, Lady Gladys Herbert, Harriett Petterell, Hon. Mrs. Percy Wyndham, Miss Cannell, Mrs. Harris, H. W. Ward, Mr. Hodgson, Mr. John Downie, Picotee, Royal Queen, and Cremorne.

It will perhaps be helpful to some of the amateur cultivators of the Dahlia who are readers of The Gardening World, if I also divide the fancy Dahlias into two sections, one of edged or tipped, the other of striped and flaked flowers. The best twelve tipped Fancies will be found in the following:—Fanny Sturt, Jessie McIntosh, Maid of Athens, Miss Browning, Miss Rodwell, Mrs. N. Halls, Mrs. Saunders, Miss Annie Milsome, Peacock, Polly Sandell, Lady Antrobus, and Queen Mab. The best twelve striped and flaked varieties are:—Flora Wyatt, George Barnes, Chorister, Frederick Smith, Gaiety, Henry Glasscock, Hercules, John Forbes, Mons. Chauvière, Rebecca, Rev. J. B. M. Camm, and Prof. Fawcett.

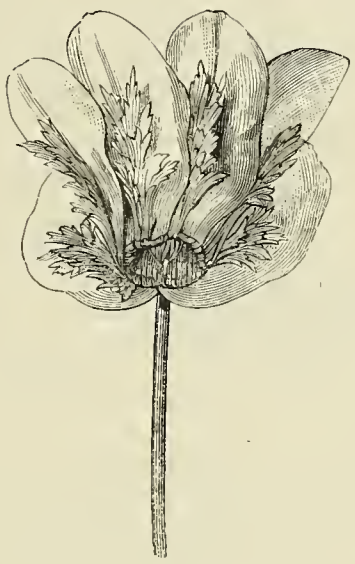
To the cultural hints given last week, it is scarcely necessary to add anything at present, save to impress upon buyers the necessity of giving their orders at once, so that they can have their plants early and pot them on, in order to grow into size before planting out. It is a very late spring, but it is not much affecting the Dahlias. Presently, when, as we all hope, the present dreary spring weather will change to something warm and quickening, things will come on with a tremendous rush, and the watchful florist should by all means avail himself of the material help Nature will then afford him.—*R. D.*

HORTICULTURAL SOCITIEES.

Royal Horticultural, *April 14th.*—The Daffodil growers had a gala-day in the large conservatory on Tuesday, and after inspecting the wonderful collections staged, taking stock of the vast number of varieties, or the vast number of names applied to them, whichever may be the most correct way of putting it, and admiring the exquisitely beautiful form of the flowers, and the glowing banks of colour they provided, one could hardly wonder at the amount of enthusiasm displayed by the Daffodil specialists present. As a representative exhibition of this now popular flower, the display on this occasion was greatly superior to that of last year, though we regret to say it was not patronized by so many visitors. The prettiest group, but not the largest, was contributed by Miss Jekyll, Munstead House, Godalming—a mossy bank "with Daffodils bedight," which to many must have afforded a valuable lesson in showing how Daffodils should be planted to realize the most natural effect. For extent and quality combined, nothing could surpass the splendid collections of cut blooms staged by Messrs. James Veitch & Sons, Mr. T. S. Ware, and Messrs. Barr & Sons, to each of whom a Silver-Gilt Banksian Medal was awarded for their valuable contributions. Mr. Walker, of Whitton, an extensive grower of Narcissus blooms for market, staged a very complete assortment of the best varieties, for which he received a Silver Banksian Medal. Messrs. Collins Brothers & Gabriel, 39, Waterloo Road, also showed an extensive group, conspicuous in which were some three dozen bunches of Telemonius plenus; and a similar award was made to them.

A few of the Daffodils were brought immediately under the notice of the Floral Committee, and one shown by Messrs. Krelage under the name of General Gordon, but subsequently altered to Narcissus spurius coronatus, was awarded a First-Class Certificate. It is a fine showy flower of a clear, rich, canary-yellow colour. The other new plants certificated were Azalea indica, Elise Lieber, from Mr. Turner, a very fine variety noticed in another column; Amaryllis Lady Howard de Walden, a medium-sized white flower of pleasing shape, distinct and good, shown by Messrs. Veitch & Sons; the interesting Epiphyllum Russellianum Gaertneri, noticed in another column, and exhibited by Mons. Heinrich, Altona, Hamburgh; Tree Carnations, T. W. Girdlestone, yellow ground, flaked with scarlet, and A. H. Kennedy, a crimson-scarlet self, both of which are of good size and perfect shape. Mr. Turner was the exhibitor. Mr. J. Douglas had also a First-Class Certificate for a seedling show Auricula named Mrs. Moore, a grey-edged flower of large size, somewhat angular, but otherwise perfect in all its parts. Mr. R. Clarke, of Twickenham, again staged a superb group of Cyclamens, a selected lot of plants, which, for the compactness of their growth, the neatness of their flowers, and the vivid brightness of their colours, it would be very difficult to match. In the collection also was a curiosity which attracted much notice—a pure white flower of beautiful form, with a crest on the front of all the petals, as shown in the accompanying illustration That all the flowers should have this peculiarity is singular enough, but strange to say, nearly every leaf on the plant was crested in the same way. Double-flowered Cyclamens we cannot admire, but a strain of crested flowers like this would, we think, be welcomed as a novelty. It remains to be seen, however, whether the seeds will reproduce the montrosity. Messrs. Paul & Son, The Old Nurseries, Cheshunt, and Mr. Turner, both showed flowering plants of what was sent out with such a flourish as a new H.P. yellow Rose, Gloire Lyonnaise, but which only by a stretch of imagination can be called yellow, while the foliage is that of the Tea section. The Messrs. Paul also sent a pretty group of herbaceous and Alpine plants, and some flowering plants of a white-flowered variety of Impatiens Sultani. Besides the certificated Amaryllis above-named, the Messrs. Veitch sent several others, most noteworthy among them being Serapis, a large white ground flower veined with rose; Duchess of Edinburgh, also a large white ground flower, heavily veined and shaded with rosy-crimson; and Mrs. Whitbourn, a nice flower of the Leopoldii type, greenish-white, heavily banded with crimson. Mr. B. S. Williams also showed a nice group of new plants, including several new Amaryllis, of which we noted Magnæflora, a fine scarlet; Dr. Master's Improved, very deep crimson, and perfect in form; Guiding Star, a novelty in colour, an uncommon shade of crimson barred with white; and Joseph Broome, a large bloom, crimson in colour. Mr. Williams also had good examples of such fine Imantophyllums as Madame Van Houtte and Marie Reimers; and numerous specimens of a Beet named Unique, with very dark bronze-purple leaves. Messrs. William Cutbush & Son again sent some fine plants of Laurustinus lucida and some new Indian Azaleas, including Emperatrice des Indies, a semi-double, flesh pink, with crimson spots.

Walkley Amateur Floral and Horticultural, Sheffield.—This Society held its first Spring Show on Easter Tuesday, April 7th, in the Walkley National Schoolroom, which was lent for the occasion by the Vicar of the parish. The exhibits were both numerous and excellent (considering that the members are all amateurs who do not employ gardeners), consisting of plants in pots and cut flowers, which produced a very pleasing effect. In Class 1, for Azalea Indica, two plants, some nicely grown and well-flowered specimens were shown by five competitors; and some nice plants of Azalea Mollis were also staged. Two good plants



A NOVEL CYCLAMEN.

of Rhododendrons were shown (well flowered) by Mr. W. H. Barns and Mr. Hague (the President of the Society). Of Dielytra spectabilis many fine plants were brought out; also of Spiræa japonica, Cinerarias by Mr. Stocks and Mr. Eaps; Cyclamens by Mr. Stocks and Mr. Hartley. Foliage plants and Ferns, both greenhouse and hardy, were well represented by the President, Mr. Taylor, and others. Of Hyacinths there was a large tableful of pots with large well-grown spikes of flowers, shown by Mr. Stocks, Mr. Hague, Mr. Jarvis, and others. Narcissi were also shown by the same exhibitors; Camellias by Mr. Marston and Mr. Taylor; and Cytissus by Mr. Marston and Mr. F. Barns. Mr. Hague had several well-flowered plants of Dendrobium nobile, D. Wardianum, D. Devonianum, and D. crassinode. Fine stands of mixed cut flowers came from Mr. Stocks and Mr. Hague. The above and many other plants not mentioned were tastefully arranged down the centre of the rooms by the members of the Committee, under the direction of the Curator, Mr. Ash. No prizes are given, but each specimen is judged by gardeners, and marks given to each exhibitor in numbers, according to its growth and condition, six marks being the maximum number. The above Society meets every alternate Friday, when a number of exhibits are always forthcoming, and when a paper is read or a discussion takes place on some subject connected with gardening. I have visited this Society's meetings since its formation, which took place about four years ago, and it is surprising to see what a change has taken place in the produce exhibited by its members in that time. Great credit is due to Mr. T. B. Hague, who has been the President since its formation, and who is always to be found at his post.—*J. W., S.*

ON DESTROYING INSECTS.

As spring and summer advances, insects make their appearance, and as the weather gets warmer, the faster they increase if strong measures are not taken on their first appearance to eradicate them. Green-fly is by far the most common, especially with amateurs, and it is also the easiest to destroy. Fumigating with tobacco is by far the commonest, and, so far as my experience goes, still the best method of ridding plants of that troublesome pest, but it is only practicable where a structure can be kept close, or where the affected plants can be put into a close case. Many people fear the use of tobacco being burned in a house lest it should scorch the plants, but, so far as I am concerned, I never apprehend any danger on that score, if a few simple rules are adhered to. Generally speaking, we make a wood fire in the old iron pot or fumigator, and light up some charcoal, and when a nice clear fire is made, it is removed to the entrance of the house or pit, and the tobacco-paper or rag, which has previously been torn or cut up, is placed on the fire, and over that a layer of damp moss.

We always like to remain in the house during the time the fumigator is burning, and generally assist it by puffs from a pair of bellows kept for that purpose. As soon as there is the slightest sign of a blaze or of the fire coming through the sides or top of the fumigator, more damp moss is placed over it to keep it down. Fumigating with tobacco is seldom thoroughly effectual unless the house, pit, or case is fairly well filled with smoke, so that by using the bellows to facilitate the rapid filling it may soon be brought about, but it is not advisable to overdo it, a far safer and more effectual plan being to give two or even three doses on alternate nights if the weather is favourable. In pits and frames where one cannot get inside to watch and assist, the fumigator should be placed at one of the lowest positions in the frame, so that the smoke will rise and pass among the insect-infested occupants, but it is not advisable to place it immediately under them, for should the fire burn through in the least, it would be sure to affect the plants immediately over it.

In houses which are not tolerably air-tight and out-of-doors, where fumigating is impracticable, there is nothing that I am acquainted with that will surpass a solution made by steeping tobacco-paper or rag in water, and syringing the liquid over the affected plants late in the evening, so that it may remain on for some hours, after which it should be syringed off with clear water. Much can be done by disturbing the insects with the thumb and finger before applying the antidote, for when they are clustered thickly together, unless the decoction actually plays directly upon them, it does not have so good an effect. A suitable mixture is made by putting one gallon of water on 1 lb. of strong tobacco-paper, or more if the quality is low, and allowing it to steep for twenty-four hours, or if wanted for immediate use, add one gallon of hot water to the tobacco and stir it well, strain it through a cloth into another can, add two more gallons of water, and it will then be in a fit state for syringing plants affected with green-fly. For destroying black-fly, such as often affects Cherry trees, and sometimes Peach and Nectarine trees, the mixture would need to be two or three times as strong. In either case, if the mixture remains on for a length of time without becoming dry, it is far more effectual than if put on and again syringed off or dried up in an hour or so from sun or fire heat, and for that reason I generally use the liquid late in the evening, and remove it again early in the morning.

Tobacco-powder is by no means to be despised, especially for dusting the young shoots and leaves of Peach and Nectarine trees in the open air, which often get infested while the weather is too cold for it to be safe to wet them. In such cases a little tobacco-powder dredged on the affected leaves works wonders, and effectually keeps the pest in check until the weather becomes more favourable for washing the trees. It is also useful for applying to solitary plants, when it is not desirable to apply a liquid or to fumigate.

THRIPS.—For destroying these, a somewhat similar process is generally adopted, but when many plants in one house are affected, and fumigation be resorted to, it is necessary that the application should be repeated on two or three alternate nights to be really effective. When Indian Azaleas have to be grown in vineries, black and yellow thrips are almost sure to be present, if the utmost care is not taken in thoroughly cleaning the plants before taking them in, and also attending to them at intervals of three weeks or a month and for that purpose we mix up some tobacco-water the same as for green-fly, except that to each gallon of tobacco-water we add 2 ozs. of soft soap, and stir it well together, then syringe it over the plants, especially on the under sides of the leaves. This mixture should be left to dry on, so as to make it the more distasteful to the pest.

When thrips affect Vines it should be sponged off on its first appearance, for, like red-spider, if allowed to go on without any stop being put to it, it will spread over the whole of the house, and spoil the foliage. In this case it will not only affect the current year's crop, but will seriously debilitate the vines for another year. If this insect should gain such a footing as to make it next to impossible to sponge the leaves, fumigation with tobacco must be resorted to, though we cannot say that we like fumigating houses of Grapes, and in all cases considering the hastening is better than cure. In such cases of success lying should be frequent and mild, and extended and a fortnight or so, to make sure that the enemy is thoroughly subdued.—*C. Warden.*

(To be continued.)

SUNLIGHT AND VEGETATION.

TEMPERATURE is the most important factor in determining the flora of a country; nevertheless, two places with very similar soil and the same mean temperature may not be equally able to grow the same plants. For example, Vine cultivation does not succeed in the south of England, although it is perfectly successful at Liege, in Belgium, where the mean temperature of the ripening month—September—is nearly the same as in the south of England. So also Corn can be grown at Alten, in Norway, but not at Reikavik, in Iceland, although the mean summer temperature of these localities is about equal. The difference is attributed to the greater prevalence of rain and cloudy skies in England and Iceland than in Belgium and Norway. Abundant sunlight during the season of ripening enables crops to be raised in high latitudes which totally fail in districts much nearer the equator, but which have a less fortunate distribution of sunshine. The vegetation of the tropics has a decided advantage over that of temperate and Arctic regions in the uniformly high temperature which is there maintained throughout the year.

In the matter of sunlight, however, high latitudes have during the season of vegetable growth an advantage over the tropics; for, while in the latter light and darkness fairly divide the day, in the former the sun for some months never descends below the horizon. Its rays, however, in Arctic regions strike the earth at a very low angle, and consequently they have not the great heating effect of the vertical rays of a mid-day sun in the tropics. Nevertheless, under their influence the long summer days in Arctic countries are often very hot. Richardson, for example, in his "Search Expedition" states that he had never felt the heat within the tropics so oppressive as he experienced it on some occasions in Arctic regions. Middendorff, in 74 degs. 30 mins. N. lat., on an August day, found the heat sufficient not only to melt the pitch on his boat, but to cause it to flow. The diffence of temperature in the shade and in the sun's rays is very marked in high latitudes; thus a series of observations lately taken at a Russian station in 60 degs. N. lat. showed an average difference of about 70 degs. Fahr. Under the genial influence of prolonged sunlight, vegetation in sheltered localities within the Arctic Circle thrives amazingly. Thus Parry, when on Walden Island in 80 degs. 30 mins. N. lat., found scurvy grass growing more luxuriantly than he had ever seen it before. It was pointed out by M. Buysman in *Nature* (February 5th) that in Novaya Zemlya the vegetation exposed to the sun's rays at the foot of mountains is "like an Arctic flower garden, the surface of the soil not being covered with grass, as is the case in the temperate regions." The flowers, he adds, "are here of a much greater size than the leaves."

The heat of the sun's rays in high latitudes is powerless, however, to penetrate far beneath the surface; thus Middendorff, in the beginning of August, under 74 degs. 30 mins. N. lat., found the surface of the soil exposed to the sun's rays heated to 86 degs. F., while four inches below it was only 39 degs., and at the depth of a foot the ground was permanently frozen. Plant life, however, neither dies nor lies altogether dormant because its roots may be frozen. The same Arctic traveller once came upon a Rhododendron in flower, although, on examination, its roots and even its stem were found to be frozen hard in the soil. He made a still more interesting discovery when, on crossing the snow during intense frost in 69 degs. 30 mins. N. lat., he saw a Willow Catkin peeping about an inch out of it. The Catkin, according to M. Buysman, "was wholly developed, yet the branch on which it was observed was, one or two inches down, solidly frozen." In the midst of intense frost the direct sunlight had thawed into life this tip of a branch.

The effect of uninterrupted sunlight has been studied under less severe conditions in Scandinavia by Professor Schübeler, of Christiania. He finds that the further north we go in the "land of the midnight sun," the colour in flowers and fruits becomes more intense. Norwegian Wheat, for example, is of a yellow-brown tint; and when Wheat imported from Bessarabia and Ohio was planted in Norway, it was found that the grain so raised became every year of a darker colour, until it became indistinguishable in this respect from native samples. The same colour change was observed also with Peas, Beans, and other garden vegetables. The common garden flowers of Central Europe, after having been acclimatized in Norway, invariably showed larger and more highly-coloured flowers. In certain cases the growing intensity of colour could be traced as the plant extended northward, in one instance the change being from a pale to a dark blue, in another from white to rose-pink. In the Alpine flora a similar difference has been observed, the flowers being larger and more brilliantly tinted than similar ones growing in the plains beneath. —*Scotsman.*

ANSWERS TO CORRESPONDENTS.

BOWEIA AFRICANA.—*Amateur.*—We are under the impression that the plant you bought under this name is the same as Boweia volubilis, a greenhouse twining plant with small asparagus-like foliage, and greenish-white flowers. It comes from South Africa, and is interesting from a botanical point of view, but of neither use nor ornament in a garden. Pot it in fibrous sandy peat, and put it on a warm shelf in the green house, and be careful not to over water it. Your dictionary will tell you what "incipient" means.

EPIDENDRUM MACROCHILUM ROSEUM.—*A. E. A.*—Keep it on the shield, but put it in the Cattleya-house, near to the glass, and give it plenty of water while growing.

POTATOS CHANCELLOR AND PRIME MINISTER.—*H. T.*—We forwarded your note to Mr. Dean, who writes as follows: "That there is in relation to the parentage of Chancellor Potato an apparent discrepancy there can be no doubt, but it is only apparent after all in one respect. Advance was the original seed parent, and when sent out was pronounced to be distinct. After two years' growth, however, Mr. Dean found that it was so like King of Potatos that he was obliged to withdraw the name and adhere to the older one, hence the apparent confusion. Really King of Potatos is the pollen parent of Chancellor, although as shown this variety was, when employed, known under the name of Advance. No doubt it was a seedling from King of Potatos, and a mere reproduction of its parent. Magnum Bonum, and not Woodstock Kidney, was the seed parent of Chancellor, and Mr. Dean is obliged to 'H. T.' for drawing his attention to the mistake in the Potato list, which will be corrected another year. As to Prime Minister, 'H. T.' can easily satisfy himself if he chooses to obtain stock and grow it, how far it may prove disease-resisting or otherwise." Mr. Dean has given his own experience of it at Bedfont, and he so far is the largest grower of it. As to the question of who is the raiser, that is a private or business matter which really cannot concern "H. T." or the public. In a business sense both the persons he names claim to be the raisers, and both are.

PARTRIDGE-BREASTED ALOE, &c.—*J. G. G.*—Yes. You cannot do better than treat them the same as the others.

COMMUNICATIONS RECEIVED.—W. B.—W. D. M.—F. W. B.—J. M.—T. G.—A. F. L.—J. E. S.—E. D.—J. K.—C. A.—E. B.—W. B. G.—W. J. K.

Trade Catalogues Received.

JAMES COCKER & SONS, Sunnypark, Aberdeen.—Spring Catalogue of Florists' Flowers.

DUTRY-COLSON, Ghent, Belgium.—Illustrated Catalogue of Horticultural Appliances.

LONDON SEED TRADE.

April 15th, 1885.

MESSRS. HURST & SON, 152, Houndsditch, and 39, New Seed Market, Mark Lane, report a brisk demand for Clovers and other agricultural seeds, with no change in values. The supplies of Red Clover, both English and foreign, continue plentiful, and at present prices should be worth holding over. White and Alsike firm. Rye Grasses in good demand, also Natural Grasses for permanent pastures at previous quotations. Linseed and Hemp dearer. Rape and Mustard in fair demand, value unchanged.

COVENT GARDEN MARKET.

April 16th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6- 6 0	Kent Filberts and Cobbs, per 100 lb.	55 0-
— Nova Scotian, per barrel	15 0-21 0	St. Michaels	3 0- 8 0
Grapes, per lb.	5 0-10 0	Strawberries, per lb.	4 0-10 0
Pine-apples, Eng., lb.	1 0- 2 0		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Garlic, per lb.	0 6-
Asparagus, English, per bundle	10 0	Herbs, per bunch	0 2- 0 4
Beans, French, per lb.	- 2 6	Horse Radish, bundle	3 0- 5 0
Beet, per dozen	2 0- 3 0	Lettuces, Cabbage, per dozen	2 0-
Brussels Sprouts, p. lb.	0 4-	— Cos, each	0 6-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
		Tomatos, per lb.	-
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Marguerites, 12 bun.	4 0- 6 0
Arum Lilies, 12 blms.	3 0- 6 0	Narciss, various, French, doz. bun.	3 0- 6 0
Azalea, 12 sprays	0 6- 1 0	Pelargeniums, per 12 sprays	0 9- 1 0
Bourvardias, per bun.	1 0- 1 6	—scarlet, per 12 sprays	0 6- 0 9
Camellias, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 6- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun.	-
— large, 12 blooms	-	Pyrothrum, 12 bun.	-
Cyclamen, doz. blooms	0 3- 0 6	Roses (coloured)	2 0- 6 0
Cineraria, per bunch	0 6- 1 0	Roses, indoors, p. doz.	1 0- 3 0
Epiphyllums, 12 blms.	-	Roses (French), per doz.	0 6- 0 9
Eucharis, per dozen	3 0- 6 0	Stephanotis, 12 spr.	4 0- 8 0
Gardenias, 12 blms.	2 0- 4 0	Tuberoses, per dozen	1 6- 2 0
Heliotropes, 12 sprays	0 6- 1 0	Tulips, per doz.	0 0- 0 8
Hyacinths, Roman, doz. sprays	0 6- 0 9	Violets, doz. bun.	0 4- 0 9
Lapageria, white, 12 blooms	2 0- 3 0	— French, per. bun.	-
Lapageria, red, 12 blms.	1 0- 2 0	— Parma, per. bun.	3 0- 4 6
Lily of the Valley, doz. sprays	0 9- 1 6	White Jasmine, bun.	0 6- 1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ficus elastica, each	1 6- 7 0
Arum Lilies, per doz.	9 0-18 0	Foliage Plants, various, each	2 0-10 0
Azalea, per doz.	18 0-42 0	Genista, per dozen	9 0-15 0
Begonias, per dozen	4 0-12 0	Hyacinths, doz.	6 0- 9 0
Bouvardias, dozen	9 0-18 0	Hydrangea, per doz.	12 0-24 0
Cineraria, per dozen	6 0-12 0	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargonium, per doz.	9 0-21 0
Deutzia, per dozen	4 0 -9 0	Pelargoniums, scarlet per dozen	4 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	-	Rhodanthe, per doz.	6 0-12 0
Evergreens, in var., per dozen	6 0-24 0	Spiræa, per dozen	12 0-18 0
Ferns, in var., dozen	4 0-18 0		

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Ferns in variety, from 6*d.* each	5	0
Gold Fern ... ... 9*d.* and 1*s.* each; 7*s.* to	12	0

☞ *Many other Greenhouse Plants in Stock.*

FOR GARDEN.

*Chrysanthemums, a large collection of every variety. Well rooted Plants ... ... from	2	0
Ditto, in pots, well established ... ... 5*s.* to	18	0
Carnations and Picotees. Very choice named Stage Flowers ... ... from, per pair	1	6
Ditto, unnamed, good varieties ... per doz.	3	6
Pinks, Pink and White ... ... ,,	2	0
*Dahlias. A superb collection, including the Cactus family, including Constance, Juarezii, Glare of the Garden, &c. *Pompone or Bouquet, Show, Fancy & Single.*		
Well rooted Plants	5	0
Established, in pots	7	6
SEEDLING DAHLIAS, choice	2	6
Carpet Bedding Plants, viz: Iresines, Alternanthera, Mesembryanthemum, Mentha, Coleus, Verschaffeltii, &c., &c., in Stock. Prices on application.		
Geraniums, for bedding ... ... from 1*s.* 6*d.* to	4	6
Several thousands, including Gold and Silver Tricolors and Bicolors, Bronzes, &c., &c.		
Lavender. Old English Sweet-scented...	1	
Extra Strong Plants	3	
Lobelia. Dark Blue and Compact	1	6
☞ Special Price for large quantities.		
Nasturtium. Hermine Grasshoff. The Double Variety—useful for summer bedding or as a greenhouse plant	2	0
Marguerites (Paris Daisies)	2	0
Pansies. Strong Plants, from English Show and Fancy, Belgian, French, and all the leading varieties ... ... from	1	0
Phlox Perennial. Choice varieties, mixed colours	2	6

* Detailed lists on application. Selections left to J. L. are guaranteed to give entire satisfaction.

N.B.—The above sent carriage free. Dozens may be divided at the same price, but no order for less than 1*s. sent free.*

Asters, Stocks, Phlox-Drummondii, Zinnias, Golden Feather, Everlastings, Marigolds, &c., &c., of the best-known varieties, to be had in season.

NOTICE.—Please mention this Paper when ordering. Post Office Orders payable at Whittlesea. Cheques crossed "National Provincial Bank."

GARDEN REQUISITES.

TWO

PRIZE MEDALS.

Quality, THE BEST in the Market.

(ALL SACKS INCLUDED.)

PEAT, best brown fibrous, 4*s.* 6*d.* per sack; 5 sacks for 20*s.*
PEAT, best black fibrous, 3*s.* 6*d.* ,, 5 sacks for 15*s.*
PEAT, extra selected Orchid, 5*s.* ,,
LOAM, best yellow fibrous .. ..
PREPARED COMPOST, best ..
LEAF-MOULD, best only .. ..
PEAT-MOULD, ditto ... ...
} 1*s.* per bushel (sacks included).
SILVER SAND (coarse) 1/3 per bushel, 12/- half ton, 22/- ton.
RAFFIA FIBRE, best only... ... 1*s.* per lb.
TOBACCO CLOTH, finest imported 8*d.* per lb., 28 lbs. 18*s.*
TOBACCO PAPER, ditto (Spécialité) 8*d.* per lb., 28 lbs. 18*s.*
MUSHROOM SPAWN (finest Milltrack), 5*s.* per bushel.
SPHAGNUM MOSS, all selected, 2*s.* per bushel, 6*s.* per sack

COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1*s.* each; 10 sacks, 9*s.*; 15 sacks, 13*s.*; 20 sacks, 17*s.*; 30 sacks, 25*s.*; 40 sacks, 30*s.* Truck-load, loose, free on rail, 25*s.* Limited quantities of G special quality, granulated, in sacks only, 2*s.* each.

TERMS, STRICTLY CASH WITH ORDER.

(The Trade Supplied.)

CHUBB, ROUND & CO.,

West Ferry Road, Millwall, London, E.

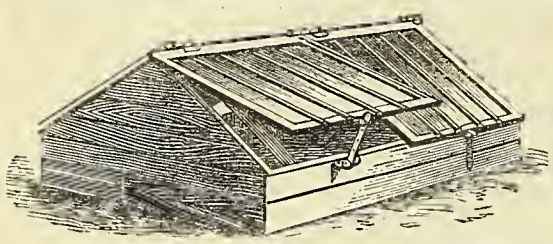
NICOTINE SOAP.

As an Insecticide, has been proved to be completely destructive to insect life, without affecting in the slightest degree the most delicate plants.
Prices, 1*s.* 6*d.*, 3*s.*, 5*s.* 6*d.*, and 15*s.* 6*d.*; 28 lbs., 25*s.*; 56 lbs., 50*s.*; 112 lbs, 95*s.*

To be obtained of all Nurserymen and Seedsmen.

SOLE MANUFACTURERS:

CORRY, SOPER, FOWLER, & CO.
(LIMITED),
18, FINSBURY STREET, E.C.



PORTABLE PLANT FRAMES.

The above are without exception the most useful kind of frames for plant growing, and every one with a garden should possess one. The sashes turn right over one on to the other, and the boxes are put together with wedges, and can be taken apart in a few minutes. Sizes and prices carriage paid to any station in England, ready glazed and painted:—

		£	s.	d.
6 ft. long, 4 ft. wide ...	Packing cases free.	2	15	0
12 ,, 4 ,, ...		4	15	0
6 ,, 5 ,, ...		3	15	0
12 ,, 5 ,, ...		6	10	0

The glass is nailed and puttied in.

THE GARDENS, BURGHLEY, STAMFORD,
September 11th, 1884.

GENTLEMEN,—I have received the Garden Frames, and I am quite delighted with them. They are really well got up, well timbered, and the sides and ends being grooved, will prevent that objectionable swaging so prevalent in these kind of boxes. I shall certainly recommend them to my brothers in the trade.—R. GILBERT, Head Gardener to the Marquis of Exeter.

R. HALLIDAY & Co.,

Hothouse Builders and Engineers,

Royal Horticultural Works, Middleton, Manchester

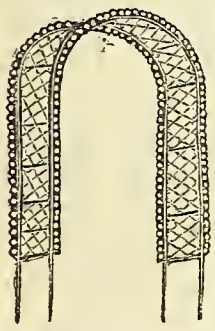
GREENHOUSES FOR EVERYBODY.

TO all who are about to Buy, call and see the Little Gems, Span-roof, 75*s.*; Lean-to, 65*s.*; a perfect novelty, not to be believed until seen. Also Cucumber Frames, glazed and painted, from 20*s.* Send four stamps for the Photo. of the Little Gem, and see what you are buying for yourselves. Call or write for OGDEN & CO.'S Special Price Lists for 1885. Post free, two stamps, at the Alexandra Palace Horticultural Works, Wood Green, London, N.—*Copy of Testimonial*: "To Messrs. Ogden & Co., Gentlemen, I have now got the Little Gem Greenhouse I had from you fixed up, and think it but right to tell you that it gives me every satisfaction. Many of my friends have been to see it, and they all agree as to its being a marvel of cheapness. It would have cost half as much again if made locally.—I am, faithfully yours, T. LLEWELLYN, Ogmore Vale, March 9th, 1885."

E. J. PIKE,

HORTICULTURAL WIRE WORKER,

Denmark Hill Wire Works, Camberwell, S.E.



Specialities straight from the Manufacturer. Galvanized Arches, 7 ft. high, 4 ft. span, 1 ft. deep, 9*s.* 6*d.* each, with twisted borders. Pea Guards, galvanized, per doz. 6*s.* Diamond Trellis, galvanized, 3-in. mesh, from 3*d.* per sq. foot, for training Creepers, &c., made to any required dimensions. Straight Lattice Work, for protecting glass houses, &c., ½-in. mesh, galvanized, from 5*d.* per sq. ft. Light Iron Poultry Fencing, 6 ft. high, 6 ft. long, 1½-ins. mesh, bar iron frame with proug feet, 1½ ins. by ¼ in.; upright rods, ¼ in. thick, 7*s.* per yard. Chicken Coops, with box, 3 ft. run, from 6*s.* 6*d.* each.

Estimates free for every description of Iron and Wire Work.

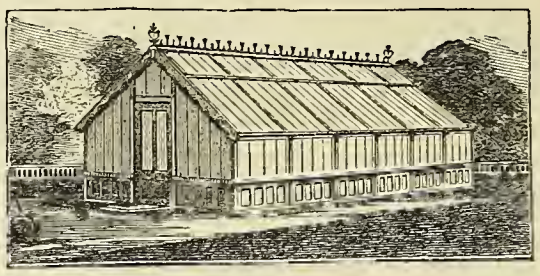
GARDEN REQUISITES, FIRST QUALITY.

W. WARREN & CO.,

8, WHITE CROSS PLACE, WILSON STREET, FINSBURY SQUARE, supply Cocoa-Fibre Refuse, 4-bushel sack, 1*s.* 3*d.*, 10 sacks, 11*s.*; best brown Fibrous and black Peats, 4*s.* 6*d.* to 5*s* 6*d.* per sack; yellow Fibrous Loam, Leaf and Peat Mould, each 1*s.* per bushel; Bulb Composts and best Derbyshire Sand, each 1*s.* 3*d.* per bushel, all imperial measure. The very best Tobacco Cloth 8*d.*; Specialité Paper 10*d.* per lb.; Archangel Mats, Raffia, Manures, Labels, and every article in the trade at low prices. Special terms for larger quantities and truckloads. Cash with order. Before purchasing, write for free list of prices.

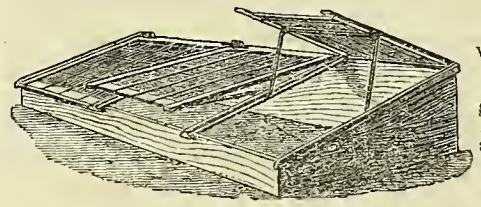
C. G. FRAZER,

Horticultural Builder, Norwich.

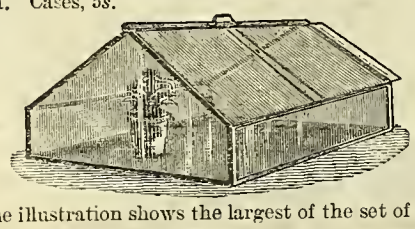


Span-roof Greenhouses, fitted complete, made in lights, glazed with 21-oz. glass, and painted 3 coats of good oil color. Tenant's Fixtures, 12 ft. by 8 ft., £22 13*s.* For Brickwork, £16.

Three-quarter Garden Frame, with (registered) set-opes lights, 2 ins. thick, glazed with 21-oz. glass, and painted 4 coats, 4 ft. by 6 ft., £2 17*s.*; 8 ft. by 6 ft., £4 10*s.*; 12 ft. by 6 ft., £6 5*s.* 6*d.* Cases, 6*s.*



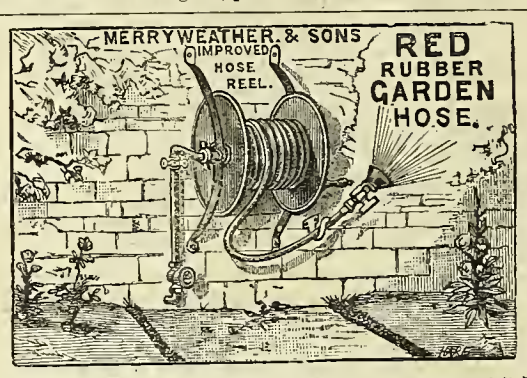
Cheap Cucumber Frames, with sliding lights complete, glazed with 21-oz. glass, and painted 3 coats, 8 ft. by 4 ft. £1 11*s.*; 12 ft. by 4 ft., £2, or fitted with joints and (registered) set-opes (as shown above), 8 ft. by 4 ft., 11*s.* extra, and 12 ft. by 4 ft., 15*s.* extra. Cases, 5*s.*



The illustration shows the largest of the set of six

NEW "IMPROVED" HANDLIGHTS.

Made diminishing sizes, covers 17 square feet; painted three coats, and glazed with 21-oz. glass; per set, £2 7*s.* 6*d.*
Carriage paid to any Railway Station in England and Wales; also to Edinburgh, Glasgow, Dublin, and Belfast.
Illustrated Catalogues, post free, two penny stamps.



HOSE! HOSE!! HOSE!!!

PATENT ANTIMONIAL RED RUBBER GARDEN HOSE.

Lasts four times as long as ordinary white vulcanised hose. Stands severe Government tests, thus proving superiority of quality, lighter in weight, greater in strength, and cheaper in the long run than any other hose for garden use. A correspondent writes—"I have had a length of your Red Rubber Hose in use nine years, and it is now as good as ever." Samples and priced Catalogue of Hose, Garden Engines, and Fittings, free.
Beware of common quality hose, *coloured* red, and order any length direct from

MERRYWEATHER & SONS,

Sole Manufacturers,
63, LONG ACRE, LONDON, W.C.

THE CELEBRATED

IS unrivalled for Gardeners', Foresters', Farmers', Joiners', and Amateurs' use. It requires no oil. Sharpen with a spittle or water. Puts on a keen sharp edge; no humbug about this. Cut in Hones for Axes, Hedge Knives, Razors, Penknives, and Plane Irons, &c. Honourable mention Paris Exhibition, 1878; and Bronze Medal London International Exhibition, 1884. Ask your ironmonger or other retail house to get you one, and give my address; if he won't, drop me a note.
JOHN C. MONTGOMERIE, Tam O'Shanter Stone Hone Works, Dalmore, Tarbolton Station R.S.O., Ayrshire.

SMYTH'S GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE.

4*d.* per bushel; 100 for 25*s.*; truck (loose, about 2 tons), 40*s.*; 4-bushel bags, 4d. each.
LIGHT BROWN FIBROUS PEAT, 5*s.* 6*d.* per sack; 5 sacks for 25*s.*; sacks, 4*d.* each.
BLACK FIBROUS PEAT, 5*s.* per sack; 5 sacks, 22*s.*; sacks, 4*d.* each.
COARSE SILVER SAND, 1*s.* 9*d.* per bushel; 15*s.* per half ton; 26*s.* per ton; in 2-bushel bags, 4*d.* each.
YELLOW FIBROUS LOAM, PEAT MOULD, and LEAF MOULD, 1*s.* per bushel. SPHAGNUM MOSS, 8*s.* 6*d.* per sack.
MANURES, GARDEN STICKS, VIRGIN CORE, TOBACCO CLOTH, RUSSIA MATS, &c.
Write for Free Price List.

PURVEYOR TO HER MAJESTY.

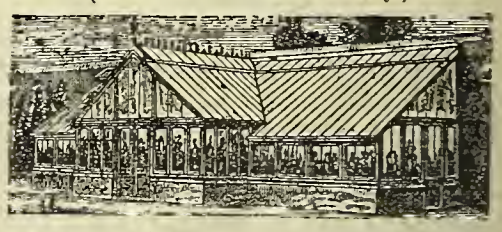
21, GOLDSMITHS' STREET, DRURY LANE,
LONDON, W.C.
This Advertisement appears alternate weeks.

GEO. DAWSON,

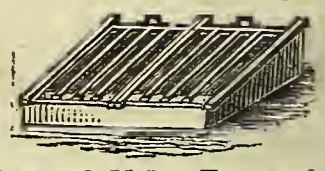
Horticultural Builder, &c.,

HIGHGATE HILL, UPPER HOLLOWAY, LONDON, N.

(2 doors from Williams' Nursery.)



Small Amateurs' Span Roof Greenhouses from £5 5s.
A large stock to select from, also every description of heating apparatus.



Cucumber and Melon Frames from 25s.
Conservatories built to any design, full particulars and illustrated Catalogues, post free. Experienced Workmen sent to all parts of the Kingdom.

VINE & PLANT MANURE.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, will in future sell their celebrated MANURE under the name of "COWAN'S VINE and PLANT MANURE," in place of

"THOMSON'S VINE & PLANT MANURE."

The composition will be the same, and the high quality in every way be maintained. Bags containing 1 cwt., 18*s.*; ½ cwt., 9*s.* 6*d.*; ¼ cwt. 5*s.*; ⅛ cwt., 3*s.*

Circulars, with full particulars, on application to

The Liverpool Horticultural Co.

(JOHN COWAN), LIMITED,
THE VINEYARD, GARSTON.

Hooper's

The Covent Garden Seed Warehouse

Splendid Seeds and Bulbs at low prices

Catalogues free to buyers

SAMPLES AND PRICE LISTS POST FREE.

CAMBRIC POCKET HANDKERCHIEFS.

Children's, 1/5 per dozen; Ladies' ..... 2/6; Gents' 3/8
Hemstitched. Ladies' ..3/11; Gents' ...6/9 per dozen
ALL PURE FLAX.

By Appointments to the Queen and Crown Princess of Germany.

"The Cambrics of Robinson and Cleaver have a world-wide fame."—*Queen.*

ROBINSON and CLEAVER, BELFAST.

Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex, Saturday, April 18th, 1885.

THE GARDENING ILLUSTRATED WORLD

No. 34.—1885. SATURDAY, APRIL 25TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

CLEMATIS, 12*s.* to 24*s.* per doz., strong plants in pots. List, containing descriptions of best singles and doubles of every shade from white to dark purple (some of the flowers of which become 10 ins. across), free.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

ROSES IN POTS, "New of 1885," 30*s.* and 36*s.* per doz. "Teas," Noisettes, &c., 18*s.*, 24*s.*, and 30*s.* per doz. Very strong H. Perpetuals for forcing, 24*s.* to 30*s.* per doz.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

NOW IS THE TIME TO TRANSPLANT HOLLIES and many other choice Evergreens. For prices of beautiful specimens at very low price, see "Special Offer of Surplus Stock."—RICHARD SMITH & CO., Worcester.

£1,000 OFFERED FOR PRIZES AT DUNDEE INTERNATIONAL EXHIBITION, 1884, where Dobbie's Prize Strains of Leeks, Turnips, Parsnips, Beet, Greens, Celery, Asters, French and African Marigolds, Cockscombs, &c., gained First Prizes respectively.

Catalogues, *free*, of Dobbie's Choice Pansies, Seeds and Plants, containing an Election of Pansies, the Culture thereof, with Remedies for the Prevention of the Pansy Disease, the True Secret of Growing Leeks and Onions for Competition, may now be had from DOBBIE & CO., Rothesay, N.B.

CARNATIONS and PICOTEES, a speciality for over 40 years.—I can offer unusually fine Plants of above, in all the leading exhibition varieties, true to name, my selection, carriage paid for cash, as follows:—Six of each, in 12 varieties, 6*s.* 6*d.*; 12 of each, in 24 varieties, 12*s.* 6*d.* List of varieties, penny stamp.

ROBERT LORD, Holebottom, Todmorden.

"Mr. Lord's plants are the finest I get from any source; finer cannot be had."—E. S. DODWELL, Stanley Road, Oxford.

HARDY AQUATICS.—Finest collection in the country, Herbaceous, Alpine, and old-fashioned border plants, from per doz. in 12 sorts, 4*s.*; from per 100 in 50 sorts, 30*s.* Catalogue on application to J. VANDER REES, Exotic Nursery, Tooting, S.W.

PURE WHITE GERANIUM, "NIPHETOS."—A hybrid nosegay, of a purer white than any we are at present acquainted with. It differs from all other white varieties in that it remains pure white to the very last, and never under any circumstances becomes tinted with pink, or any other colour. The trusses are of immense size, producing in nearly every case upwards of a hundred flower pips each. It is of a strong, robust, dwarf habit, free flowering, and whether for Winter or Summer flowering, or for cultivating indoors or out, will be found invaluable. Price 6*s.* per doz.—H. LEANEY, Upton Nursery, Forest Gate, Essex.

PANSIES! PANSIES! Show or Fancy.—The newest and the best varieties. My selection, from 4*s.* per doz.; purchaser's selection, 5*s.*, post free. Send stamp for Catalogue.—JAMES BARR, Gateflat Nursery, Paisley, N.B.

WEEDS: HOW TO DESTROY THEM.—Use SMITH'S celebrated WEED KILLER, the cheapest and most effectual preparation ever invented. Testimonials and prices on application to MARK SMITH, Manufacturing Chemist, Louth, Lincolnshire.

GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 ozs. to the gallon of soft water, 4 to 16 ozs. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots Dry and Soft on wet ground. Boxes—6*d.* and 1*s.*, from the trade. Wholesale from PRICE'S PATENT CANDLE CO. (Limited), LONDON.

Laing's Prize Begonias

JOHN LAING & Co.

GOLD MEDAL Prize Plants. Now again in bloom, presenting an unrivalled floral display.

Visitors are cordially invited.

Frequent trains from the City and from the West End to Catford and Forest Hill Stations.

Begonia Growers, Forest Hill, S.E.

1885. Scotch Florists' Flowers. 1885.

R. B. LAIRD & SONS (successors to Downie & Laird), will have much pleasure in posting their new Catalogue of the above.

OUR COLLECTION has been well known for many years to be the largest and best in Scotland.

ROYAL WINTER GARDEN, EDINBURGH.

CHRYSANTHEMUMS.—Now is the time to plant. 12 varieties, 1*s.* 9*d.*; 24, 3*s.* 3*d.*, correctly named.

Early-flowering varieties, bloom out-doors from July till November, 6 for 1*s.* 3*d.*; 12, 2*s.*

SINGLE CHRYSANTHEMUMS.—Very free bloomers and most useful for cut bloom and decorative purposes, bloom well out-doors, and can be had in bloom from October till January; 6 for 1*s.* 6*d.*; 12, 2*s.* 6*d.* Catalogue, with directions as to cultivation, four stamps.—W. E. BOYCE, F.R.H.S., Yerbury Road, Holloway, London.

Irish Ferns for Sale.

800 SPECIES and VARIETIES Botanically named and labelled at moderate prices. Three Maiden Hair Ferns, and one each of Ceterach crenatum, Asplenium marinum, Black Maiden Hair Spleenwort, Polystichum aculeatum with thorns, Lastrea æmula, like Parsley, Cystopteris fragilis, and the rare Polypodium semilacerum, Royal Fern, Blechnum spicant, Crested Harts-Tongue and marginatum Ferus, &c. All large and well rooted. The Twelve rare and assorted species and varieties, 3*s.* 6*d.*, post free; or 8*s.* per 100.

The Beautiful Mountain Avens, Yellow Rock Rose, Trailing Arbutus, Sundew, the insect killer, Crowberry, Bloody Cranes Bill, Pinguicula, Orchis mascula, and Lady's Mantle. The selection 3*s.* 6*d.* Post free to any part of the United Kingdom.

P. B. O'KELLY, Botanist and Fern Collector, Ballyvaughan, county Clare, Ireland.

Now Ready.

"CHRYSANTHEMUMS and their CULTURE," by J. BRADNER, of Arley Hill Nursery, Bristol; who has won 112 PRIZES in ten years—74 firsts, 29 seconds, and 9 thirds.

PRICE 1*s.* POST-FREE, 1*s.* 1*d.* REMITTANCE WITH ORDER.

Full particulars of treatment, from the time of taking cuttings to staging plants and blooms for show.

Published by CLINKER & TITE, Yeovil.

ASPARAGUS.—This delicious Vegetable does not require half the expense often incurred; for directions see Seed List, free. Strong Roots, 2*s.* 6*d.* per 100; extra strong ditto, two years old, 3*s.* 6*d.* per 100; forcing, 12*s.* 6*d.* per 100.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

120 Plants for 5s.

WILLIAM BADMAN offers his 5*s.* box of plants, containing 60 Geraniums of sorts, 10 Blue Lobelias, 10 Fuchsias, 10 Blue Ageratums, 10 Calceolaria, 10 Scarlet Tropæolums, 10 Sweet Heliotropes. All well rooted, and sure to give satisfaction. Half the above for 2*s.* 6*d.*; post-free 6*d.* and 9*d.* extra.—P.O.O. with order.—Cemetery Nursery, Gravesend.

Good and Cheap Insecticides.

TOBACCO PAPER and CLOTH (Roll).—Thoroughly reliable quality; low prices. Trade supplied. RICHARDSON & CO., Tobacco Works, Leith, N.B.

Notice.

COCOA-NUT FIBRE REFUSE.—Reduced price. The same as supplied to the Royal Horticultural Society of England. Truck-load, loose, of 2 tons, 20*s.*; Larger quantities contracted for. The same in sacks: ten, 8*s.*; twenty, 15*s.*; forty, 25*s.*, sacks included. Delivered free on to Rail. Cash with all orders. Established 1872.—J. STEVENS & CO., "Greyhound Yard," and 153, High St., Battersea, S.W.

The Best Hardy Plant Nursery.

PAUL AND SON, THE OLD NURSERIES, CHESHUNT.

ROSES, in all ways;
FRUIT-TREES for Orchards and Garden Walls;
GOOSEBERRIES, CURRANTS and STRAWBERRIES;
TREES; SHRUBS; EVERGREENS; CLIMBING PLANTS;
RHODODENDRONS and other AMERICAN PLANTS;
ALPINE, ROCK and HOT-HOUSE PLANTS;
BULBS and SEEDS.

NURSERIES AT CHESHUNT STATION, G.E.R.
" BROXBOURNE STATION, G.E.R.
" HIGH BEACH STATION, Chingford, G.E.R.

Carefully prepared, illustrated, and fully-priced descriptive Catalogue, post free.

JAMES BOYD & SONS, PAISLEY and LONDON, Horticultural Builders and Heating Engineers to Her Majesty the Queen, H.R.H. the Prince of Wales, H.R.H. the Duke of Connaught, H.R.H. the late Duke of Albany, H.M.'s Board of Works, London and Dublin, H.M.'s Colonial Department, the Royal Horticultural Society, the Royal Botanic Society, and the Royal Dublin Society. Gold Medal, Paris, 1878.—London Office, 48, Pall Mall, S.W. Illustrated Circulars post free. Complete Catalogue, 3*s.*

"YE NARCISSUS OR DAFFODYL." An interesting history of the Daffodil, covering a period of the 300 years, with its poetry, and notes on hybridization, with many illustrations. Price one shilling, published by BARR & SON, 12 and 13, King Street, Covent Garden, W.C.

BEAUTIFUL FLOWERS.—THE THIRTY PACKETS OF HANDSOME HARDY ANNUALS for present sowing in the open borders recommended in THE GARDENING WORLD, April 11th, with six splendid new kinds in addition, for 2*s.* 6*d.*; 12 distinct New Hardy Annuals, 1*s.* 6*d.* Post free. Unrivalled Show and Fancy PANSIES, from the finest collection in the Midlands, 33 prizes last year. 12 distinct named kinds, 3*s.*; 25 ditto, 5*s.*; 50 ditto, 7*s.* 6*d.* Catalogues free. W. J. KNIGHT, Seedsman and Florist, Bilston.

HERBACEOUS AND ALPINE PLANTS.—Catalogue of 50 pages, containing full information as to colour, height, situation, time of flowering, &c., free on application. A capital collection for Rocks, Stumps, and Borders, from 25*s.* per 100, or 4*s.* per doz. Most of the plants being in pots may be despatched at any time, or by Parcels Post when fit.—RICHARD SMITH & CO., Worcester.

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Named Sorts, per dozen, Singles: A, 42*s.*; B, 36*s.*; C, 30*s.*; D, 24*s.*; E, 18*s.*; F, 12*s.* Named Sorts, per dozen, Doubles: R, 63*s.*; S, 48*s.*; T, 42*s.*

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Begonia Growers, Forest Hill, S.E.

SALES BY AUCTION.

Sales for Next Week.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, during the ensuing week, as follows, at half-past twelve precisely each day:—

WEDNESDAY.—Importations of ORCHIDS from Brazil and Burmah, Tree Ferns, 5,000 Lilium auratum, Stove and Greenhouse Plants, Seeds, Clematis, &c.

THURSDAY.—Valuable imported ORCHIDS from Mr. F. SANDER, and a choice assortment of established Orchids from a celebrated collection.

On view mornings of Sale, and Catalogues had.

Caversham Park, Reading.

MR. J. C. STEVENS has received instructions from the Executors of the late Mrs. Crawshay to SELL by AUCTION, on the Premises, as above, on MONDAY and TUESDAY, May 4th and 5th, at half-past twelve o'clock precisely each day, without reserve, the COLLECTION of STOVE and GREENHOUSE PLANTS, consisting of Crotons, Dracænas, Marantas, Palms, Alocasias, Camellias, and Azaleas, Ferns, &c.; also 12,000 BEDDING PLANTS of all the best varieties; a small collection of ORCHIDS, including several nice plants of Dendrobium nobile, Cypripedium insigne, C. venustum, C. barbatum, Cattleyas of sorts, Anthurium Scherzerianum, and other species. A quantity of IMPLEMENTS, comprising three Rollers, Water-barrows, Cans, Tanks, Mowing Machines, Farm and Spring Carts, together with a Cart-horse, Cob, &c.

On view the Saturday prior and mornings of Sale, and Catalogues had on the Premises, or of Mr. J. C. Stevens, Horticultural Auctioneer, 38, King Street, Covent Garden, W.C.

Orchid Sales for Next Week.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C., as follows:—

TUESDAY next.—Special Sale of Orchids in Flower, comprising over 300 lots from some of the principal collections in the country.

WEDNESDAY next.—A fine collection of established Orchids, including many rare and choice kinds, and an importation of Orchids from Burmah.

FRIDAY next.—Valuable imported Orchids from Mr. F. Sander, a fine lot of imported Oncidium Sarcodes, and a collection of new and rare Disas and Satyriums from South-East Africa in fine condition.

On view mornings of Sale and Catalogues had.

THURSDAY NEXT.
Carnations, Picotees, and Plants.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on THURSDAY next, April 30th, at half-past twelve o'clock precisely, 100 lots of choice named Carnations and Picotees from the celebrated collection of Mr. CHARLES TURNER, Slough, an assortment of Greenhouse Ferns and Palms, Ficus, Azaleas, &c.; Pinks, Cloves, a box of Seeds and Bulbs from the Cape, and a variety of Hardy Plants and Bulbs for the garden, and 3,000 tuberous-rooted Begonias from Belgium.

On view morning of Sale, and Catalogues had.

Orchid Conference Week.
SPECIAL SALE OF ORCHIDS IN FLOWER.

MESSRS. PROTHEROE & MORRIS beg to announce that they purpose holding a SPECIAL SALE of ORCHIDS in flower at their Central Auction Rooms, 67 and 68, Cheapside, E.C., on THURSDAY, May 14th, the day following the Show.

Messrs. Protheroe & Morris will be glad to receive from intending Exhibitors an early intimation of their desire to include any lots they may wish to dispose of.

Special Offer of Orchids.

CHEAP ORCHIDS.—In consequence of having received large importations, I am able to dispose of my stock of plants received last year, now nice established plants, at very low prices; all are healthy, and those who prefer it can have this season's imported pieces. Growers of Orchids would do well to order at once, as many fine gems are contained in the numerous importations received, which are mostly unflowered. Established plants which have flowered and are flowering can also be had if required, but many growers prefer unflowered plants, because there are frequently valuable varieties which well repay the purchaser, shillings well invested being quickly converted into pounds.—Apply to W. GORDON, The Nurseries, Twickenham, Middlesex.

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The Gardening World.

SATURDAY, APRIL 25TH, 1885.

EMBLEMATIC FLOWERS.—We have, in common with many others who love flowers, and love them truly, deplored their association with political sentiment or persons. Flowers themselves are so universally appreciated, and so universally grown, that it is difficult to conceive of any uses to which they can be put which are more discordant with their exceeding sweetness and beauty than converting them into emblems of party-strife or antagonism. Had the lowly, lovely Primrose, the flower of the poorest as of the richest, been made an emblem of democratic feeling, as it is now the emblem of something totally diverse, we must then, as now, have protested against what is a desecration. It would seem as if the national mind was revolting already against this dedication of the Primrose to the name of a deceased statesman. What was given to mankind cannot be given up to party, no matter which or what it may represent.

The earnest yet often absurd æsthete made the Sunflower the emblem of his art-tastes, and the poor Sunflower, after a season or two of fame, fell into impotence, and is now neglected. That such a fate should befall the Primrose we should all deplore, and it may be that the nationalization of a yet sectional Primrose Festival may prevent a calamity, and restore our loved wild flower into the position from which ill-advised partizans have reduced it. Observation made widely on Saturday and Sunday last, the official and actual anniversary of the death of the great statesman to whom we have referred, showed that Primroses were almost universally worn, and by myriads of people who did so because of no political significance, but because they would be in the fashion.

The 19th of April seems rather tending towards a national festival of the Primrose than a commemorative day for anyone, and in that sense the universal wearing of bunches of Primroses would show little that was objectionable, and nothing that was partizan. The Irishman loves yet to commemorate the natal day of his patron saint by wearing the Shamrock. The Scotchman, on St. Andrew's Day, yet where possible adorns himself with the national Thistle, and the Welshman commemorates St. David by displaying the odorous Leek. Curiously enough, Britons, whilst having as the Rose the most beautiful of all national floral emblems, yet treat St. George's Day with absolute contempt, for no one is seen to display a Rose on that day specially in our patron saint's favour. Without doubt, customs of this kind are better honoured in the breach than in the observance, especially when, as sometimes happens, they lead to strife and contention. It is true, St. George's Day falls upon April 23rd (Thursday last), and is hardly in the Rose season. Still, we may take it for granted that were a special demand for these flowers to be created, the supply would soon be created also.

Perhaps the national Rose is, after all, the Primrose. If that be so, it is odd that we should only have just discovered its emblematic nature. Still farther is it strange that we do not follow in the wake of our allied nationalities, and make St. George's Day the feast of St. Primrose also. A very warm-hearted and practical lover of flowers has made the suggestion that with us, if the Primrose is to be held commemorative at all, it should be of that grand old botanist and exponent of Primrose life and beauty, Charles Darwin. Alas, the proposal comes too late for full acceptance, because it is not possible to blend scientists who belong to humanity and statesmen who belong only to party together. If Darwin, who, curiously enough, died on the 19th of April also, as Lord Beaconsfield did, is to be thus honoured, let it be rather by the garden Primrose, and its congener, the Polyanthus, than by that wild form which shows no progress or advance from its earliest character, whilst the garden Primula, or a progeny of acaulis and of veris have, like science, gone ahead in development, and now display charms and beauties which words cannot fully describe. Still our verdict is rather for the absolute neutrality of flowers in all things. They are the world's, they are for the delight of humanity, they are the prized and loved of every section, and it is better that they should be so prized and loved than be otherwise regarded.

GOOSEBERRIES.—We shall not commit the too common mistake of counting the chickens before they are hatched, but it does seem as if, as far as Gooseberries are concerned, there is this year a big "sitting," and that a monster hatch is in store for us. Gooseberries are pretty hardy fruits, after all, and take a good deal of rough usage. Perhaps they have undergone already the worst they will have to endure this season, and if that be so, then we shall see one of the largest crops of recent years. The bushes are now in rich and abundant leaf, which is expanding and thickening every day, and the embryo fruit is thus finding valuable protection. It is fortunate for the Gooseberry crop from year to year, that we relieve the bushes of their wondrous produce so largely, through the fashion of consuming the berries when in a green state. By so doing the bushes are enabled to recuperate and prepare ripe wood and buds for fruit production in the succeeding year.

It may be that in thus so very largely consuming the fruit when green, and of course not matured, that we waste much and consume much that is neither wholesome nor healthful. On the other hand, growers find the custom of consuming the fruit so early to be singularly useful and profitable to them, for they secure a long season of sale, and can, if a glut of green fruits prevail, save the crop over till ripe, and thus secure another chance to obtain a good market. With so large a crop in prospect, we may well study how best to utilize it to the full, and inasmuch as we can hardly hope to utilize all in a green state, or to eat what remains as ripe dessert fruit (and good ripe Gooseberries are exceedingly wholesome and pleasant), we must convert a considerable quantity into preserve. Fruit-growers may well bless the original discoverer of the culinary process of preserving, and lovers of sweet things may hallow his memory. Green Gooseberries make good preserve for early use; ripe Gooseberries boiled for a short time in water to soften their skins make better. All honour, then, to Gooseberry jam.

MUSHROOMS AND MUSHROOM SPAWN.—Some rather sensational accounts have of late been published with respect to the productive powers of Mushroom spawn, so that it has come to be imagined that a new era in relation to the edible fungi of gardens is opening. That these wonderful growths of Mushrooms have been obtained there has been ample evidence, and the prosaic explanation of the phenomena given is that now

spawn is used when new or fresh far more so than was the case formerly, and the fungus roots or spores being the more active when thus fresh, such improved results follow. That is an explanation which may not suit everyone, and perhaps the maker of the spawn least of all, because he would like to have the credit of producing more prolific spawn than was made a few years since. Another reason given from the cultivator's point of view is that he grows these fine clusters of fungi in greater warmth than is usually given, and farther, that proper stimulus in the form of manure water is occasionally applied. It may not have entered into the heads of those who offer these explanations to give consideration to the season in the manufacture of spawn cakes and its influence upon the production of special fertility because of favourable conditions when making is in progress. A warm, dry season may assist in the generation of spawn, whilst a dull, moist season may work great harm. Spawn, too, may come from a good or a bad strain or stock, for it is with makers largely an article of home production, and there is ample room to create it well or badly. Perhaps these wonderful Mushroom growths may prove after all to have been but the products of fortuitous concourses of favourable conditions.

Lettuces in Winter and Spring.—A practical gardener of some repute has just drawn attention to our customary poverty of Lettuces in the winter and early spring, and has suggested that vineries, orchard-houses, and frames be more generally utilized for the growth of this valuable salad. Anyone who has seen hardy Lettuces which have been standing the winter in open ground, and specially in market-garden fields, cannot but admit that their appearance prior to the recent warmer weather was deplorable. Really, in many cases the plants seem to have stood still for months, even if they have not, under the depredations of birds and slugs, actually grown less in size and number. It seems doubtful whether anything is gained by thus exposing Lettuces to the winter, when sowings made in frames in October give lots of sturdy, robust plants ready to go out at the end of March, or a little later, as the weather may favour. Such young plants go away quickly, whilst old-standing plants seem to become stunted, and when they start run away to seed.

Those who would have an abundant supply of Lettuces may well grow a quantity in boxes or pans in vineries and other glass houses, but the best plan is to utilize turf pits, which, filled up within 2 ins. of the surface with good soil and covered up with lights, will drive Lettuces, and Cabbage Lettuces especially, with great rapidity. Some fairly early kind may well be used for this purpose, because it is more needful that precocity should be preferred to size. Probably the market grower would prefer big heads, but those would be later and need more space. In any case such a pit should pay its prime cost almost the first year, if carrying a crop of Cabbage Lettuces in the spring and a crop of Cucumbers during the summer. Cos Lettuces give bulk and weight, but they also give much waste, for big Lettuces are seldom so good or crisp eating as are smaller ones that have the sooner come to perfection. No doubt the recent warm days have made many cry out for nice fresh salads, and specially crisp young Lettuces.

Asparagus plumosus nanus.—Asparagus tenuissimus our clever propagators have succeeded in propagating by cuttings readily, but A. plumosus nanus has up to the present time baffled all their efforts in this direction, but if seeds can be obtained the stock can easily be increased by such means. Messrs. John Laing & Co. have some hundreds of nice little plants raised in this way, in their Stanstead Park Nursery.

Gardening Miscellany.

Flower Shows and Meetings to be held Next Week.—*Tuesday:* Manchester Botanical and Horticultural Society, Second Spring Show. The Northern Show of the National Auricula Society will be held at the same time and place.

On the 13th and 14th of May a Flower Show will be held in the Botanic Garden at Edgbaston, Birmingham, to inaugurate the opening of the new conservatories.

During the month of March, 208,091 bushels of Apples, 198,569 bushels of Onions, 54,239 cwts. of Potatos, and vegetables of the value of £52,360 were imported into the United Kingdom.

Mr. Leo. Grindon, of Manchester, has in the press a book on *Fruits and Fruit Trees, Home and Foreign*, which, in addition to descriptions, histories, and other particulars, will contain information respecting every kind of fruit esteemed in Britain, whether grown at home or imported from abroad.

The Edinburgh Botanical Club is erecting a monument, in the form of a granite cross, in Warriston Cemetery, to the memory of the late Mr. John Sadler, curator of the Edinburgh Botanical Gardens.

The Hereford Rose Show, one of the best in the West of England, will be held on July 9th.

Mr. Robert Anderson, of the Dalkeith Palace Gardens, has been engaged as gardener to the Hon. R. H. Temple, Waterstown, Westmeath, Ireland.

Mr. H. E. Gribble, formerly gardener at Canon Hill, Maidenhead, has been engaged as gardener to Lord Londonderry, at Wynyard Park, Stockton-on-Tees.

Mr. Charles Nobles, of Bagshot, showed a novelty at a late meeting of the Scientific Committee, in the form of a seedling plant of Chimonanthus grandiflorus.

A grand specimen of Dendrobium Paxtoni, in the garden of Thomas Fildes, Esq., Fairlawn, Lytham, is now carrying 816 of its beautiful brown and orange flowers. The gardener in charge, Mr. Thornber, is not alone in considering this one of the most useful Orchids that can be grown where cut-flowers are required.

The Rev. F. D. Horner's green-edged seedling, named Greyhound, was the champion Auricula at the National Auricula Society's Show on Tuesday.

At the luncheon which took place at South Kensington on Tuesday afternoon, it was decided by the majority of Auricula growers and admirers present to request the Council of the Royal Horticultural Society to nominate some of their number to co-operate with members of the Auricula Society in organizing a Primula Conference in 188 5.

Mr. Lynch, Curator of the Botanic Garden, Cambridge, exhibited Impatiens episcopi, a new Balsam from Central Africa, which in many respects resembles I. Sultani, but the flowers are of a rich, rosy-crimson colour. As in its native country it grows at an elevation of several thousand feet, it is expected to prove hardier than I. Sultani. Mr. Lynch has, we believe, obtained some seedlings from a cross between the two species.

Mr. A. Porter, late foreman at Garbally, Balinasloe, has been engaged as gardener to Lord Ashtown, at Woodlawn House, co. Galway.

Essays on Nitrate of Soda.—The committee of the Saltpetre Producers' Association on the West Coast of South America (Comitè Salitrero, at Iquique, Chili), offers £1,000 in prizes for essays on the use of nitrate of soda as manure. Of this amount a prize of £500 will be awarded for the best popular essay showing the importance of nitrate of soda as a manure, and the best mode of its employment. A prize of £500 will be awarded for the best essay, treating on the same subjects on the basis of new experimental researches made by the author himself. The essays must fulfil the conditions already mentioned, and they may be sent to any of the judges on or before January 1st, 1886.

ALPINE PHLOXES.

It is to be regretted that these beautiful Phloxes are not much better known and more extensively grown than they are at present. I know of no plants more lovely when in bloom, forming as they do dense masses of rich colours so close to the ground as to look like a carpet. Although they are called Alpine Phloxes, it must not be supposed that they will not thrive if they are not planted on a mound or rocky bank. I know that they look grand and are at home in that position, but they will thrive on the level ground in an open porous soil just as well. As they are much appreciated here, we grow them largely, and some of our patches on an open exposed border are from 1 ft. to 2 ft. across and in the best of health.

They are so easy to manage that everyone who has a garden may enjoy them, yet one not unfrequently meets with lovers of flowers who know but little about them. When once planted in suitable soil they take care of themselves for three or four years, when they may be taken up and divided, planting the best pieces in a fresh place, or adding a little fresh soil, when they will go on as long again without being disturbed. Again, when one happens to see them in private gardens, it is generally only one or two kinds that are grown, and many people are unaware of the great variety of sorts that can be obtained.

During the last few years many beautiful varieties have been introduced. We have here a large collection, and for the benefit of those who do not happen to know them, I will name some of the most useful sorts first. I may add that all are good and worthy of cultivation, though some are better growers than others. I will therefore only name such as I have proved to be really desirable and good out of a collection of some eighteen sorts:—P. amœna, although not so dwarf as some, is one of the very best, forming a dense cushion of bright pink flowers from 6 ins. to 8 ins. high. P. canadensis, P. frondosa, P. procumbens, P. purpurea are all good. P. Nelsoni is a lovely flowered species, the flowers as white as snow, but it is not quite so good a grower as some of the others, though better than P. nivalis, also a pure white.

The following are all varieties of P. setacea, and all good growers: Atropurpurea, purplish-rose; Bride, white; Compacta, rose; Grandiflora, mauve; Model, rosy-carmine; Perfection, white; Pallida, rosy-lilac; and Vivid, rose. The last-named well deserves its name, being the brightest of the whole group and one of the most brilliant of spring flowers. It can easily be imagined how beautiful is the picture when planted. These Phloxes are planted in large clumps, associated with Aubretias, Saponarias, a few patches of the dwarf Silene compacta, and the yellow Alyssum saxatile.—*J. Crook, Farnborough Grange.*

HARDY SPRING FLOWERS.

Many of our hardy flowers are unusually late in putting in an appearance this spring, and compared with the corresponding period of last year, our gardens generally look rather bare. This is no doubt largely owing to the long spell of East wind with which we have been visited, but the drought of last autumn and early winter have also had a hand in the matter. Vegetation seems to have gone thoroughly to rest, owing to the wood becoming well ripened, and the comparative absence of wet has prevented that restless activity which is so often followed with disastrous results. If this is followed by a good fruit crop, few persons will be disposed to complain of the late period at which our gardens are putting on their spring dress. The purpose of this note is to mention a few showy plants of the rockwork and herbaceous border, in addition to those which have already been mentioned in these pages. The whole of them are in flower at the present time.

On the rockwork, Saxifraga Rocheliana, a neat little Bosnian species, with numerous corymbs of white flowers, not exceeding 3 ins. high, is a very pretty object; also Primula Clusiana, a plant with shining green leaves and the habit of an Auricula. The flowers are deep rosy-purple, and an inch in diameter—quite a gem for a sheltered niche. Draba bruniæfolia is a small moss-like plant with numerous corymbs of small yellow flowers, and like its near neighbour, D. aizoides, has a very pretty effect. The

bright blue flowers of the lovely Anemone apennina are also expanding, as well as the superb A. fulgens. In the herbaceous border we noted the following, and several of them were also represented on the rockwork: the two Lung-worts, Pulmonaria saccharatum and P. mollis, are just expanding. The former has leaves prettily blotched with whitish-green and purplish-blue flowers; the latter has almost unspotted leaves and flowers of a claret-purple shade.

Few things at this time present a showier appearance than Doronicum austriacum, several clumps of which are clothed with their brilliant golden blossoms. Arnebia echioides is closely allied to the Lung-worts, but has yellow flowers. It is a handsome plant, but seems to prefer a sheltered nook on the rockwork. A pretty little plant not often met with is Isatis japonica, a first cousin of the Woad, the latter of which is celebrated as producing a blue dye with which the Ancient Britons are said to have ornamented their bodies. The Japanese representative has bright green pinnatifid leaves and yellow flowers, and grows 6 ins. high.

A few showy bulbs may be mentioned in conclusion: Chionodoxa nana is a second species of a genus which has become decidedly popular of late years. It differs from C. Luciliæ in being dwarfer and later, as well as in having smaller flowers; it is nevertheless very pretty. Puschkinia scilloides is 6 ins. high and produces dense racemes of white flowers. Muscari botryoides, the deep blue Grape Hyacinth, is a well-known and handsome plant, which is flowering in abundance, and we mention it to call attention to the variety pallens. This is a very pleasing plant, differing from the species in having flowers of a very pale azure-blue, and producing a very pretty contrast. The whole of the foregoing, as well as numerous others not here mentioned, are well worthy of cultivation.—*X.*

FORMS OF LEAVES.

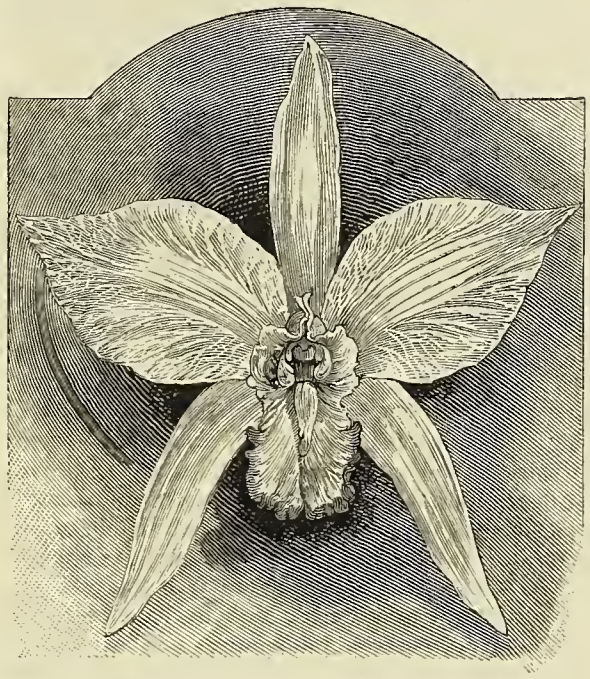
At the fortnightly meeting of the Linnean Society, held on Thursday evening, April 16th, a paper was read by Sir John Lubbock, M.P., on the "Forms of Leaves." Though somewhat on the lines of a former lecture, the question chiefly considered was some causes which might possibly have operated in modifying the form of leaf from the ancestral type. After pointing out the prevalence of the palmately-lobed form of leaf, he showed by a series of beautifully executed drawings that many plants with lobed leaves produced more or less cordate leaves when in the seedling state, thus indicating that the cordate form was prevalent in the ancestral type, but had been departed from through some advantage gained by the lobed type.

After pointing out various possible causes which had occurred to him, but each of which had in turn to be dismissed, he was inclined to think the cause was a purely mechanical one. He showed by a model how this might take place. Two leaves, a cordate and a lobed one, were cut out of cardboard, and being suspended by a thread to either end of a horizontal bar were shown to be of equal weight, and consequently of equal surface. They were then fixed on by their bases as if growing, and the cordate leaf at once overbalanced the lobed one a little. This arose from the centre of gravity in the former being further from the centre of the bar. Two equal weights were then placed on the respective centres of each leaf, and the effect was still more pronounced. Hence a lobed leaf of the same extent was better able to resist the pressure of the wind.

In a lobed leaf the arrangement of the nerves was different to that seen in a cordate one. The sap which fed and produced the lamina of the leaf passed chiefly along these nerves of vascular tissue,—which was illustrated by some Chinese Primula leaves, which had been placed in red ink. The sap took the shortest cut to arrive at its destination, and in this way, certain of the small nerves would become enlarged, and ultimately the palmate arrangement of the nerves would be developed. Some leaf peculiarities had been attributed to chemical causes, but he inclined to think a mechanical cause was the more correct one. Short-leaved species of Pines usually retained their leaves much longer than long-leaved species, some of the former from five to eight years, or even more, while the latter often shed them when two or three years old. The Larch was a curious departure from the typical habit, but it generally grew in variable climates, where the extremes of cold and heat in summer and winter were rather great, and it had probably found it beneficial to cast off its leaves at the end of the period of growth, and produce new ones in the following spring. Numerous other peculiarities were commented upon, and Sir John believed that all the peculiarities of leaf character were the result of some definite cause.

LÆLIA ANCEPS VARIETIES.

Lælia anceps Dawsoni. — This grand variety has the honour of being one of the most beautiful and at the same time the most highly prized of the varieties of L. anceps, as well as of being the first white form introduced. Indeed, since the introduction of the typical L. anceps, which flowered with Messrs. Loddiges in December, 1835, no other variety of note was introduced, except the highly coloured L. a. Barkeriana, until this strikingly handsome variety flowered in the collection of T. Dawson, Esq., at Meadow-bank, near Glasgow, in 1867. It is perhaps the best shaped of any of the varieties. The sepals and petals are pure white, lateral lobes of the lip white, with purple lines radiating from the base,



LÆLIA ANCEPS DAWSONI.

and clear yellow marking in the upper portion. The lower half of the lip, which is wavy, is white towards the lobes, and purple at the extremity. In fact, the lip presents to the eye a good body of bright purple colour, which contrasts remarkably with the pure white sepals and petals behind it. All who have the true Dawsoni should carefully nurse it, for it is a real gem.

ON DESTROYING INSECTS.

(*Concluded from p.* 526.)

Red-spider seldom attacks Vines or plants if due care is taken to give liberal treatment to the roots and due attention is observed as regards supplying moisture in the atmosphere. Above the hot-water pipes and in very light houses, and also when Vines are heavily cropped, this troublesome pest will often make its appearance, first of all on the small and weakly foliage, near where the evil is most felt, and when discovered no time should be lost in applying a remedy. If the pest is seen almost at its first appearance, that is, before many leaves are affected, the simplest plan is to sponge them, if syringing them is not practicable, otherwise the latter is the simplest plan. The water should be applied with as much force as is safe without breaking the leaves to pieces, and if a small handful of sulphur is first damped and well mixed with about four gallons of water it will be found to materially keep this insect in check, but this should not be applied to tender foliage.

It is not at all uncommon for this insect to make its appearance in vineries about the time the colouring process is going on, or by the time that it is completed. The simplest way to settle it in this case is to paint the hot-water pipes with a mixture of water and sulphur, either when the pipes are warm or at a time when the heat may be put on after the sun is off the house. The water in the pipes should be heated to nearly boiling heat, after which it may be allowed to subside gradually, so as to be quite cool by the time the sun's rays are upon the house again, and great care should also be taken that the ventilators are opened extra wide before that time. The heating process should go on two or three times, at intervals of a few days.

Partial shade and the application of the syringe works wonders in keeping this pest in check. I do not think it is going too far to say that when this pest appears it shows that there is some fault in the management, either the plant is dry at the root, in too much heat, or starved, overcropped with fruit, over-heating of the hot-water pipes, insufficient moisture in the atmosphere, or the want of a little shading, which becomes necessary even for the most sun-loving plants under the large squares of clear glass in many of our modern-built houses.

Scale, of which there are several kinds, are very troublesome pests, especially the white one, and where it once gets a footing it is a very troublesome thing to thoroughly eradicate. A very strong solution of soft soap or Gishurst Compound, 2 ozs. to 4 ozs. to the gallon of water, with a wine-glassful of paraffine oil added to each gallon of the mixture, may be used with a sponge on some plants, and the best time to use it is while they are not making their growth. For the hard stems of Camellias, Ixoras, and the like, a hard brush may be used instead of a sponge.

In the case of tender foliage the mixture should not be nearly so strong, and rather a hard piece of sponge is the best for use, with the addition of a small brush made by cutting a bunch of hairs out of any old broom and tying them on the end of a small stick about 3 ins. long, the other end of which should be a little pointed. This will greatly assist in removing the pest from all nooks and corners where the sponge will not act, and the small brush will be found very useful for removing them from the small stems. Scale on Peach trees, and those on Plum trees, can only be dealt with in the winter season, at which time all insect pests should be got thoroughly under.

Mealy-bug is one of the most troublesome pests with which the cultivator of hothouse plants has to contend. When plants become infested with this pest it becomes a constant source of anxiety to keep the plants at all presentable. I have heard of people thoroughly ridding their place of this pest, and I myself have not the slightest doubt but that it may be done, but although I have not succeeded yet I live in hopes of doing so some day. I am convinced, after working at this pest on and off in different situations for nearly twenty years, that to rid ourselves thoroughly of it cannot be brought about by the usual method of dealing with it; that is, to let it alone till it gets bad, and then give what we think a thorough cleaning with either soft soap or Gishurst Compound, at the rate of 2 ozs. to 4 ozs. to the gallon of water, sponging all infested plants from bottom to top, after which they are often left alone perhaps for a week or two before being examined again.

I have attempted to rid plants of mealy-bug by means of paraffine and water at the rate of 4 ozs. to a four-gallon can of water, and have also used the same with soap added, and this mixture has been used freely among such plants as Gardenia, Stephanotis, Ixora, Tabernæmontana, and Franciscea, for two years. It certainly kept the pest in check and did the plants no harm; but I do not believe that I should thoroughly eradicate this pest by means of the syringe and the above mixture in a lifetime, owing to their concealing themselves in positions where the syringe does not play directly upon them. Besides, many of the insects are knocked down, and if left to crawl about in all directions, they spread again rather than are destroyed. I know that plants which are subjected to frequent syringings with the above mixture never get very badly infested, and may be kept passably clean by that means, but to thoroughly annihilate the pest the plants would have to be carried outside and turned over, so as to bring the mixture to

play on every part of the plant; but where Gardenias and Stephanotis are planted out that course is impracticable.

"Catch and kill" was the advice given by one of your correspondents with regard to this pest, and I am inclined to think he is right, and this must be persisted in at least once a week, and oftener if found necessary. We supply each of the young men who have anything to do with the houses with a small brush, made as before described, and which are always kept in their waistcoat pockets, so as to be as handy as a lead pencil, and whenever an insect is seen it receives a dab from the bristly brush on its back. These small brushes are all that we have used of late for ridding plants of this pest, and I may say with the very best results, as I never knew the plants generally cleaner. Of course this is in a great measure due to the young men to whom that work falls, and I feel certain that if this close watching was followed up for a year we should all but do away with them if they were not quite annihilated. We attempted this kind of picking on Vines a year or two ago, but with little avail, and as the treatment of this pest on Vines has already been dealt with I will now pass it.

Those who have not this pest to deal with had need to take strict precautions to prevent its introduction with plants, bought or otherwise, received from a source of which we know little. I have known gardeners when receiving a consignment of plants from a nurseryman, on seeing a single mealy-bug on one of them commit the whole to the furnace. This seems rather an extreme measure, but those of whom I speak did not consider it one whit too severe, and never regretted the loss of the plants in question. Now if these plants had been introduced at his employer's expressed wish, such a remedial measure as that practised would not have been tolerated. Had the plants been set by themselves in quarantine for a time and closely watched, destroying every insect as fast as it appeared, I venture to assert that no harm would have followed. Where one has not this pest, one cannot be too careful in watching new comers, and we consider it is well worth the little inconvenience caused by so doing.—*C. Warden, Clarendon.*

THE VICAR'S GARDEN.

Spring Flowers.—Among these the Narcissus, which is well represented by the common double Daffodil, stands in the first rank. Many of the single forms are of rare merit from an artistic point of view, their delicacy of colouring and beauty of form rendering them of the highest value for the embellishment of the garden and decoration of flower-vases for the drawing-room. The earliest, M. pallidus præcox, commenced to flower by the middle of February this season, when many things are unusually late, and will continue to well nigh the end of May, and sometimes even later than that. At the present time, among other varieties, Sir Watkin, Lobularis amplicorona, the Irish variety of maximus, Campernella, and others are very telling. Some of these should be in every garden, however small its dimensions, as they will gratify alike those who care for forms of individual beauty and others who only wish to see the place look cheerful and gay. They are the most accommodating subjects, flowering well alike in exposed situations or under the shade of trees, and will thrive in almost any soil.

The varieties of Hepatica which are now past their best call for a passing notice, and ought to be found in all collections of hardy flowers, being sweetly pretty, the single blue being perhaps the most beautiful, while the double blue, one of the oldest of hardy spring flowers, is still among the scarcest: these prefer a shady position. The Glory of the Snow, Chionodoxa Luciliæ, one of the most beautiful of recent introductions, has evidently a strong disposition to vary from the normal type, some flowers being much smaller and others larger and finer in form, and the blue and white more strongly contrasted. Those who have a stock of this may, by seeding and careful selection, obtain very satisfactory results, one here at the present time far outstripping Nemophila insignis, to which it may be compared for the distinctness of the blue and white markings.

Scilla sibirica, an old favourite, should be pretty liberally distributed in clumps among taller-growing things, its deep rich blue contrasting finely with the yellow Narcissus. Lasting in flower for two months, as this often does, and being a real gem, it deserves more extensive cultivation. The Scarlet Wind-flower, Anemone fulgens, is now gorgeous, and ought to satisfy anyone with a taste for flaming colours; it is perfectly hardy, and may remain undisturbed in the same place for years. Among white flowers, though now nearly over, must be mentioned the Christmas Rose, Helleborus niger, which in its normal type and the maxima variety has been in flower from Christmas till now. With the aid of a handlight, these come of a dazzling whiteness. Nothing else so easily obtainable can approach these for real usefulness; there are few places where they will not thrive, and partial shade suits them best.

Among ill-used and much-neglected plants may be cited Megasea cordifolia, which, with its handsome foliage and large trusses of beautiful pink flowers, deserves better treatment than it usually gets. It seems as though nothing would kill it, yet it is not a weed which cannot be kept in bounds. If there is a rockery or raised bank available, it should be planted on it, so that being elevated, the flowers can be the better seen. Dogs-tooth Violets, which are now past their best, form a beautiful front row; the foliage, if not eclipsing that of some of the occupants of our stoves, is scarcely less beautiful than many of them. Its only drawback is that it does not last long; but occupying very little space there should be room found for a few of them in small places. All the subjects mentioned in this paper are suitable for quite small gardens, and most of them are easily obtainable, and, with others to be commented on at a future time, can be managed by all.

All plants should be either correctly labelled or their position marked by a peg which will not be easily misplaced, because from the carelessness and ignorance of men who are often set to dig over flower borders, many of these when dormant are so liable to get turned topsy-turvy and buried with the spade. Either do the digging yourself, or make sure what manner of man he is whom you set to do it. The limited number detailed in this paper would, if judiciously planted, make a moderate-sized place gay during the first four months of the year, with the addition of Crocuses, Snowdrops, and Aconites, and a few of the earliest flowering Tulips.

Among shrubs remarkable for their beauty and perfume, is Daphne Mezereum, which being of moderate growth and very accommodating in respect to soil and situation, should have a place everywhere. It is a general favourite. Another gay, useful shrub is Mahonia, or Berberis Aquifolium, when kept in due limits. The foliage is very useful in dressing flower vases, and gives a good finish to a hand-bouquet of hardy flowers.—*W. B. G.*

BLUE, CRIMSON, AND YELLOW DISAS IN SOUTH AFRICA.

I cannot account for the scarcity of the lovely blue Disa in England, except by supposing that the tubers are generally sent over at a wrong time, and perhaps from a cultivated stock or roots gathered in a bad district. If you could see them in bloom here by the thousand together, with many other handsome species which are not in cultivation in England, I am sure you would say that they ought not to be much trouble in any cold frame, or even out-of-doors in warm situations. Too much nursing, and a notion that they must be grown in the same way as D. grandiflora, I daresay often destroys them. I will endeavour to describe how they grow here, and the facts will no doubt suggest a proper means of culture for this lovely genus to some of our clever brethren at home, should the plants ever come into their hands.

I notice that blue (Disa Herschelii) and other Disas form a new bulb every year, and that the old one slowly decays also every year. In a week or so after the flowers fade the wind and sun dries up the old flower-stems, and all traces of where the plants are to be found is entirely lost until the next flowering season comes round, their scanty foliage being mixed up with the long Grass and Heather. This ought to give the key to successful culture, for everyone knows so well where Heather grows at home, and it is in a similar place that our lovely Disas and Satyriums grow here. The soil is sandy; not particularly dry, but the earth is never cold. At the same time, I must impress upon you that there is nothing tropical in the climate in the district I allude to.

The weather here is made up of spells. On the coast-line we have rain more or less for nine months in the year. The dry, hot time is in December, January, and February. Sometimes for three or four days together we have rain, with terrific gales, and then after a storm comes a calm, with weather lovely and breezes balmy, but never the same for long together. Perhaps in the morning, until about ten or eleven o'clock, there is lovely weather; what light wind there may be being from the east or land side (not cold); all of a sudden the wind will chop round to the west, and for the rest of the day blow a gale off the sea. Singularly enough, the wind here may be said to blow always from the east or west, never from the south, except during transition, and from the north about once in two years—and that is once too often. It is our hot wind that comes across the Karoo, or down from Graff Reinett.

Disa Herschelii is found quite out in the open plain, and the variety here which I see blooming so beautifully round me seems very strong growing. It grows in sandy soil among the Heather, and generally on slightly raised ground. It is always covered with a thick coating of Grass, and is, therefore, but little affected by atmospheric changes. The earth is comfortably warm all summer and never very cold in winter. Disas may be said to never be inactive, for as soon as the flowers and leaves fade the new bulb is quite ripe and ready to start, which it at once proceeds to do slowly and surely, until, by the following January, the leaves spring up from the tubers which have last grown, and in February and March the tall spikes of four to eight clear blue flowers (on D. Herschelii) appear. December, January, and February are the warmest and dry months, and during that time the plants are the most active.

There are some pretty golden-yellow, white, and crimson Disas about here, as well as the profuse flowering and fragrant D. cornuta, and another white and blue Disa, and many showy Satyriums which your plant lovers at home would go wild over.

I scribbled this note to you in the bush whilst on a holiday ramble, being reminded of you by a copy of The Gardening World which I had in my pocket. I will also send a note on the Epiphytal Orchids and the trees they grow on, which may be of use to some at home.—*James Hall, Port Elizabeth, South Africa.*

FRUIT AS AN ARTICLE OF DIET.

One of the most salutary tendencies of domestic management in our day is that which aims at assigning to fruit a favoured place in our ordinary diet. The nutrient value of such food, in virtue of its component starches and saccharine materials, is generally admitted; and while these substances cannot be said to equal in accumulated force the more solid ingredients of meat and animal fat, they are similarly useful in their own degree, and have, moreover, the advantage of greater digestibility. Their conversion within the tissues is also attended with less friction and pressure on the constructive machinery. The locally stimulant action of many subacid fruits on the mucuous membrane deserves mention. Its control of a too active peptic secretion, and its influence of attraction exercised upon the alkaline and aperient intestinal juice, are points of more than superficial importance. To this action further effects, which aid the maintenance of a pure and vigorous circulation, are indirectly due. Thus it follows, on the simplest principles of physiology, that other essential organs, such as the skin and kidneys, are relieved by the transference of part of their excretory function to the bowel, and act with greater ease, the general vascular system is lightened by this regulating drain, and its faculty of absorbing the waste products of food and work is encouraged in proportion.

Almost all persons in fairly normal health may partake of sound and ripe fruit in greater or less amount. Except in certain cases, indeed, there is practically no exact limit to its consumption under these circumstances. Among such exceptions may be

noted the gouty and rheumatic diatheses. A tendency to diarrhœa or a dysenteric history obviously forbids the free or frequent use of fruit. Saccharine diabetes, or nervous conditions in which it is apt to appear, are similarly antagonistic—at all events, where any but the non-amyloid fruits, such as Nuts, are considered. Dyspeptic stomachs, on the other hand, are usually benefited by a moderate allowance of this light and stimulating fare. It must be remembered, moreover, that every fruit is not equally wholesome, let the digestion be as powerful as it may. Nuts, for example—consisting as they do, for the most part, of condensed albuminoid and fatty matters—cannot compare in acceptance, either by the palate or the stomach, with other more succulent kinds, even though they contain in the same bulk a far greater amount of nutriment. A little of such fruit is enough for digestion, and that little is best cooked. Nevertheless, if we take fruit as a whole, ripe and sound, of course, and consider its variety, its lightness, and nourishing properties, whether eaten alone or with other food, and its cheap abundance, we cannot hesitate to add our voice in support of its just claims on public attention. In former articles we have shown why vegetable produce of all kinds should enter largely into the food of children. Well-chosen fruits are consequently for them as safe and beneficial as agreeable.—*Lancet.*

SYDNEY BOTANIC GARDENS.

An obliging correspondent who has read C. B.'s remarks in our last number, sends us the following cutting from an Australian paper, in which the gardens are described in more favourable terms :—

"The recently added features to these gardens, on the site of the once famous and ever to be remembered Garden Palace, forms the subject of the sketch presented as a supplement with the present issue. The great beauty and fidelity of the picture will be recognized at once by those whose privilege it is to be able occasionally to visit our Sydney *Jardin des Plantes;* while to distant friends it will convey a very good idea of the great attention paid to floriculture, and the advanced state of landscape gardening, in a country which is generally supposed to be so engrossed in amassing money as to find little time or inclination for encouraging the elevating and salutary influences of horticulture.

"This is no place to institute comparisons as to the relative merits of the Sydney Botanic Gardens and other colonial establishments of the same nature, but it is beyond all doubt true that for beauty of situation, and for display of skill in utilizing the natural features of the situation, these gardens are far and away the most noteworthy of colonial institutions, and there are few gardens in the world which come near them for beauty and effectiveness. We miss the grand old Oaks, Elms, and Chestnut trees which are special features at the Kew and Hampton Court Gardens, and the stiff and formal lines of the French and other continental public gardens are not here to be found. The tropical features of the Perradinia Gardens, in Ceylon, and those of the famed cities on the South American coast, have all their special and typical beauty, for their chief features are the plants indigenous to the country.

"But the Sydney Gardens are more than this, and it only needs the visitor to take a leisurely stroll through them to be struck with astonishment at the patience and indomitable industry with which plants have been got together, literally from the ends of the world; and those who have any knowledge of the difficulties experienced in sending delicate plants great distances by sea, will appreciate to the full the amount of labour and care represented by the collection. The group of palms alone, near the entrance to the new grounds, is a miracle of beauty, and it is questionable if any other establishment in the world can exhibit such a diversity of typical forms growing in the open air, and in so finely developed a state. To mention even a few of these would be to carry the mind to countries separated from each other by thousands of miles, and to islands rarely visited by civilized man, and the very existence of which is rarely shown on any map.

"The Chamerops humilis, the only Palm of Europe (indigenous to the shores of the Mediterranean), grows side by side with the Hyophorbe of the Mauritius, the graceful Kentias of Howe Island, the Arenga of the Asiatic Islands, the Cocos of Ceylon, the Pritchardia of the Sandwich Islands, the monstrous Jubea spectablis, the Sabal Palm of Jamaica, the Cycads of Queensland and Mexico, the Date Palm of the East, the Diplothenium of Brazil, and other magnificent forms of this extensive genus from the various islands of the North and South Pacific. Indeed, to those who have grown rather rusty in their geography, it would be a difficult matter to point on the map to fully half the countries represented in this single Palm group. This feature is mentioned specially here, but really all other divisions of the garden are equally characterized by suggestiveness of the same nature.

"Valuable as are the gardens in this respect, it is to their great use as pleasure grounds that the public most appreciates them, without troubling much as to the order, genera, and habitat of particular plants and trees. Visitors only know they admire them, and that the gardens form a deliciously cool promenade and lounging place at all times; and this, too, in five minutes' walk of the town, and within a tram ride of less than half-an-hour from even the outlaying suburbs. Little wonder, then, that on fine days its shady walks are scarcely less brilliant than the borders with gaily dressed visitors, old and young, enjoying to their hearts content the health-inspiring zephyrs, and the magnificent views of the harbour, with its panorama of inward and outward bound ocean-going steamers, the butterfly-like flittings of yachts and sailing ships, and the stern and surly-looking men-of-war at anchor in the immediate foreground!

"Sydney has reason to be proud and grateful for its gardens, and must award to Mr. Charles Moore and his able assistants the praise they so richly deserve for keeping the place well up to the high standard of European gardening. If the learned curator could only find time to issue a popular guide to the place—such as is found so useful at Kew and other old-world places of the kind—they would be still further gratified, and the enjoyment of visitors would be much promoted."

HERBACEOUS PÆONIES.

The herbaceous Pæonies, originally of Chinese origin, constitute not only one of the most extensive groups among florists' flowers, but at the same time one of the most telling. It is, indeed, impossible to conceive a more valuable group of decorative plants, so stately are they in growth, with their massive globular heads of flowers, so varied in colour, so elegantly formed, and the plants withal of such simple requirements. To grow them to perfection a deep rich soil, of a somewhat holding character, is essential, and when once planted they must be allowed to remain undisturbed for several years. This is an important point in the cultivation of the Pæonia, for no group of hardy perennials, save the Christmas Roses or Hellebores, are more impatient of periodical transplanting. This will be seen at a glance when I state that old-established clumps of these Pæonies not unfrequently send their long tapering roots a distance of from 2 ft. to 3 ft. into the earth, and these being exceedingly brittle renders it impossible for even the most careful hands to remove large clumps without breaking a number of their roots; this, together with the fact that they annually increase in size and beauty, and, when established, constitute one of the chief summer-flowering ornaments among hardy plants, alone demands for them a place in all gardens, large or small, where a gorgeous display is sought after.

Those who are unacquainted with the Pæonia can form no adequate idea of its beauty and diversity of colour, combined in many instances with delicious fragrance. It must be numbered too among the hardiest of herbaceous perennials, withstanding unprotected our severest winters with impunity. But, notwithstanding all these excellent qualities, and their adaptability for back-row border plants or for grouping in shrubberies, they are only known to the few whose love for hardy plants, notwithstanding the incessant changes occasioned by fashion and time, remains unaltered or, it may be, intensified. Like most florists' flowers the Pæonia has been much improved both in form, size, and colour within the past few years, and to-day the varieties in commerce may be counted by hundreds, not all sufficiently distinct it may be, but none so bad that they should be discarded.

I cannot do other than give a prominent place to the old double crimson kind, which is seen to perfection in so many cottage gardens, and which is known as P. officinalis flore-pleno. Of pure whites, Alba Sulphurea, Candidissima plena, and Nivea plenissima are the best. Of blush-white kinds we have Faust, Festiva maxima, Grandiflora nivea, and Mdme. Marie Lemoine, all excellent free-flowering varieties. Of the various shades of rose, Versicolor, Reine des Roses, Rosea plenissima superba, and Mdme. Chaumy are grand and all distinct. Then we have Purpurea superba, Surpass Potsii, Mdme. Lebon, and Mdme. Furtado, with purple or purplish-rose coloured flowers, to which may be added Modeste Geurin. Then, with flowers of purplish-crimson or varying shades, we have Gloire de Douai, François Ortigat, and Etandard du Grand Homme. Of crimson, Atrosanguinea, Jupiter, and Victor Lemoine, the latter a dazzling reddish-crimson, are the best. Beyond these there are numbers of intermediate shades, exquisite in themselves but requiring descriptions too lengthy to be quoted here; those unacquainted with them, however, would do well to leave the selection to such nurserymen as keep collections of these plants. They may be planted safely from October to February in deep, well-enriched loamy soil.—*E. J.*

THE JERUSALEM ARTICHOKE.

The ambiguity of the name we give to this useful esculent, reminds me of an old anecdote of the definition which the French academicians, after some considerable research and consultation amongst themselves, gave to the crab, viz., a small red fish which walks backward. This being shown to Cuvier, that great naturalist remarked, "The definition is perfect! except that a crab is not a fish, is not always red, and does not walk backwards!" We can also say of this plant that it is not an Artichoke! and does not come from Jerusalem!

As it seems not to be generally known how it came by the name, a few explanatory words on the subject may not be inappropriate. The Brazilian or Spanish name used in Brazil, from whence it was imported into Europe, "Girasol tuberoso," coupled with the fact of a supposed resemblance of its flavour when cooked to that of the Artichoke (Cynara Scolymus), gave rise to the name it now bears. It is a variety of the Sunflower, and its botanical name is Helianthus tuberosus, Linn. Its introduction into England was from Canada by the French. Fabius Columna, who first wrote about it in 1592, called it Aster Peruvianus tuberosus, and also Flos solis Farnesianus, from the fact of having observed it first growing in the garden of Cardinal Farnesius, who had introduced it from the West Indies.

John Goodyer, writing October 17th, 1621, says, "I received in 1617 two small roots of Mr. Franqueville, of Londou, no bigger than hens' eggs; the one I planted, the other I gave to a friend; myne brought me a pecke of rootes, wherewith I stored Hampshire." Pelliterius calls it Heliotropium indicum tuberosum. Bauhin, in his *Podromus*, 1620, called it Chrysanthemum lutifolium Brazilianum, but in his *Pinax*, 1623, Helianthemum indicum tuberosum. Parkinson, in *Paradisus terrestris*, in 1625, calls them Batatas de Canada—Potatos of Canada—which, he says, "by reason of their great increasiug grown to be so common with us at London, that even the most vulgar begin to despise them, whereas when they were first received among us they were dainties for a Queen."

Johnson, in his revised edition of *Gerarde's Herbal*, 1633, says, "One may well perceive by the English name of this plant that those that vulgarly give names to plants have little either judgment or knowledge of them, for this plant hath no similitude in leaf, stalk, root, or manner of growing with an Artichoke, but only a little likeness of taste in the dressed root; neither came it from Jerusalem, or out of Asia, but out of America."—*Œdipus.*

Carpet Plants for Rose Beds.—What is best to grow in Rose beds, under standards and half standards, to cover the bare ground, and look nice without robbing or hurting the Roses?—*E. M. W.*

The Amateurs' Garden.

THE GREENHOUSE.

Shading.—The power of the sun is such now that it has become necessary to shade the greenhouse, but the material used for the purpose should be thin, as all that is requisite is to break the solar rays, and if this is done the more light there is the better will it be for the plants. If a fixed shade is used, a fishing-net strained over the roof is as good as anything, but it is preferable to have blinds to let up and down, and only to make use of them for a few hours during the middle part of the day. The house where plants stand longest in bloom are those having a north-west aspect, as there the flowers are not distressed, but keep their colour and remain fresh a very long time. Those, therefore, who are about to build should choose that kind of position, and have no more wood in the structure than is absolutely necessary to make it strong and answer the purpose of sheltering and growing good plants. These dry very fast at this season, and will need every attention in watering, or they soon suffer, not only by flagging at the time, but they show it after in the starved look of the foliage, and especially is this so with Pelargoniums and the herbaceous Calceolarias, which should have frequent supplies of weak liquid manure if at all cramped for room in their pots.

PITS AND FRAMES.

Zinnias and Asters are among the most showy of the annuals, especially when planted in large masses, for which purpose both are well adapted, as they last long in full beauty and produce a most striking effect. The way to get good plants of both is to sow in boxes or pans at once, and stand them in a pit or frame where they can have gentle heat, when the seeds will quickly germinate, and the seedlings be large enough for pricking out, which should be done in light soil, and as soon as the plants have got well hold of this they will be ready for planting in their beds, which ought to be rich and fully exposed to the sun.

BEDS AND BORDERS.

Spring Flowers.—Flower beds will now be gay with spring flowers, the weather for which has been exceedingly favourable, but in cases where any of the beds or borders are vacant, or have available spaces for filling, they should be dug that the soil may be aerated and prepared ready for receiving plants to be turned out in May. Most of these bloom best if the ground they are planted in is poor, but there are some that are greatly benefited by manure, chief among which are the Calceolarias, Zinnias, Asters, and Stocks, and for these the soil cannot well be too rich, nor too deeply stirred, as, unless they can get their roots well down, the hot weather affects them and spoils their beauty long before the season is over.

Herbaceous Phloxes generally send up many shoots, which, if left, crowd each other, and therefore the weakest should be taken out by pulling them away, or cutting them down beneath the soil, when the strength of the plants will be forced into the others, which will then produce fine heads of flowers.

Evergreens: Planting and Pruning.—As Evergreens are late this year in making their growth, they may yet be transplanted with safety, but the sooner the work is pushed through to completion the better, as the sun now begins to exercise very great power. To insure the fresh-lifted plants growing, the soil should be well washed in around them by using plenty of water when filling in and covering up the roots, and after that is done, the next important thing is to mulch by placing over the ground about the shrubs a good layer of half-rotten strawy manure, which will prevent evaporation and enable the plants to get quick hold and re-establish themselves. Pruning and thinning too may yet be carried out, as most Evergreens break again freely at this time of year; and if long straggling branches are removed, the plants may soon be brought into shape and made to furnish below.

Lawns and Grass Verges.—The change in the weather has set grass growing freely, and to have a good bottom it will now be necessary to mow once a week, and to look over the lawn occasionally to see that there are no Daisies or other noxious weeds showing themselves, but, if so, they should be removed by digging them out, or dropping into their crowns vitriolic or carbolic acid, either of which will burn them up, and destroy them at once. To get a fine herbage the roller must be used freely immediately after rain or during early morning while the ground is soft and moist, when by pressing down worm-casts, &c., the way will be prepared for the machine, the blade of which should be set to just clear the turf and cut the grass low.

Verges to Walks will now need trimming, which work may be done with a sharp edging-knife and a good eye to guide it, and as soon as the edgings are in order, attention should be directed to the gravel, which may be freed from small weeds and moss by giving a sprinkling of salt water when the weather is dry, but this must not be allowed near Box or it will make it look bad, and perhaps kill it outright.

THE FRUIT GARDEN.

Peaches and Nectarines are now forward enough for disbudding, which should be done gradually by taking off some of the shoots daily, so as not to check the trees by losing too much of their foliage at once. In most cases two young shoots are quite sufficient to leave on the old wood, the one best situated on the top at the base, and the other at the end, to draw the sap and feed the fruit below, and enable it to swell and ripen off properly. Green-fly is always more or less troublesome, and must be watched for and checked or got rid of at once, or it will cripple the leaves and spoil the health of the plants. Tobacco-powder is a good remedy against the aphis, and by the aid of an india-rubber distributor may be put on quickly, and with a syringe and water washed off again, which should be done after it has been on a few hours.

Strawberries and Raspberries.—The Strawberries ought at once to be cleared of their last year's foliage, and the plants hoed between and then mulched, which will shade the ground and keep it moist for the roots, a matter of the greatest importance, as then the blooms come up strong and bold, and the fruit swells off much larger and finer than it otherwise would. Raspberries are also benefited by the same kind of treatment, and any fresh-planted trees likewise need similar protection about the roots, and may require water unless rain comes soon, as the sun and wind have dried the ground quite a foot down.

The Vinery.—Vines are making rapid progress, and any that have been fresh planted must be looked closely after to have the main leaders tied and led up straight to form the future rods, while other side shoots, and all laterals, should be stopped, that the whole strength may be concentrated in making and building up good canes under each rafter. To have the canes short-jointed, air must be admitted freely into the house during the day, when the weather is warm and favourable, but at three o'clock or so the lights or ventilators should be closed, and the Vines syringed, if sunny, with tepid water, which will prevent red-spider and keep the leaves clean. Vines that are fruiting may be treated precisely the same till the berries are set, after which they are best not wetted, but the floor of the house should be damped down frequently by being sprinkled, and when the nights are cold it will be necessary to keep a little heat in the pipes, or the leaves of the Vines will go spotted, and suffer.

THE VEGETABLE GARDEN.

Hoeing and Watering.—Nothing does so much good among growing crops as the hoe, which should now be plied to stir the surface of the ground, to kill all young seedling weeds, and let in the air, which will make the soil sweet for the roots and expedite the growth of the plants. Cauliflower and Cabbages being gross feeders and fond of plenty of moisture will be much assisted and made more succulent and tender by being watered with strong liquid manure, with which they should have a good soaking, as also any forward Lettuce or beds of Spinach, if the weather keeps dry.

Peas and Potatos.—The great warmth has brought early Potatos through the ground, but as we may get frost any night, soil should be drawn over the tops to protect them, as they are very tender in the soft young state, and, if cut, the crop will be small. Peas: To have a constant supply of Peas during the summer a few must be sown regularly once a fortnight up to the end of June; one of the best, if not the best, being the Ne Plus Ultra, which is very rich in flavour and a capital cropper, and one that withstands mildew and bears the hot weather well.

Scarlet Runners and French Beans.—It is time to get a sowing of both of these in, the finest of the first-named being Carter's Champion, and the latter Canadian Wonder, both having fine long pods that are delicate and tender when cooked. To have Runners stand the dry weather and set their flowers it is necessary to dig and prepare a trench and manure the bottom, and then fill it nearly up, when the Beans may be sown thinly along or planted about 6 ins. apart, and after they are up and staked the rows should be mulched and soaked with water now and then, and if this is done the produce from the plants will be great. The Canadian Wonder, being a strong grower, should be sown a yard apart, but as it is late turning in, it is as well to plant a row of the Liver-coloured, Wilmot's, or Early Dun to pick first.

Beet, Salsify, and Carrots may all be got in now, and small sowings made of Radishes, Turnips, Spinach, Lettuce, Cauliflower, and Mustard and Cress, to keep up a regular succession all through the season. Asparagus beds may be freed from small weeds by giving them a sprinkling of salt, which will also improve the quality of the Asparagus, and Seakale, being a marine plant, will also be benefited by a like dressing.

A RUSTIC BRIDGE.

If there is one thing more objectionable in a landscape than telegraph-posts or tall chimney-stacks it is an ill-designed, ugly bridge; on the other hand, where water forms a component part in rural scenery, nothing seems to add such a finish to the picture as a bridge constructed on graceful and appropriate lines, whether it be of wood, stone, or iron. Visitors to Battersea Park cannot fail to have seen and admired the rustic bridge which forms the subject of the illustration on the opposite page, and which was prepared from a photograph taken last summer by a clever amateur photographer living in the neighbourhood—Mr. F. Williams, 167, Sabine Road, Shaftesbury Park. In summer, of the many "pretty bits" which the genius of John Gibson and of his successor, Mr. Roger, have provided for the delectation of the hundreds of thousands of people who visit this park, there are none which prove more attractive than the view of this bridge and its charming surroundings, while some idea of the "drawing" character of the views obtained from the structure itself may be gleaned from the fact that on any Sunday afternoon or general holiday a lingering crowd may at any time be found upon it. We should add that it is constructed of Oak and Scotch Fir, and is situated in that part of the park nearest to and in front of the new Albert Palace. During the past week vegetation of all kinds has made much progress, and as the park contains a rich assortment of flowering trees and shrubs, many of which are now in bloom, a visit just now is especially delightful to all lovers of the beautiful in nature.

STRAWBERRY TILES.

In the spring of 1850, a Mr. John Roberts introduced a Strawberry Tile similar to that described at p. 519, the only difference in the design being that the Roberts' tile was square and the present one is round, a difference of no material importance when being used for the purpose intended. At the time Mr. Roberts introduced his tile I employed a great many of them, and my experience does not lead me to appreciate the use of the contrivance as suggested by the original inventor. I have no intention of going into their merits or demerits at this time, but simply to state facts in reference to priority of introduction. Mr. Roberts also had "Celery Sockets," "Asparagus Tubes," "Grape" and "Melon Tiles," &c., and although used by many at the time, they are numbered, so far as my knowledge goes, with the things that were.—*Man of Kent.*

THE NATIONAL AURICULA SHOW.

The Annual Exhibition of the Southern Section, as it is termed, of this Society was held at South Kensington on Tuesday last, and, whether due to some recent disunion or to the season, it is certain that the competition in most of the classes was smaller than usual, and the average quality of the plants generally not equal to what has been seen in some previous years. Complaints as to the disastrous effects of the recent spell of cold easterly winds and of the enervating influences of the more recent hot sunshine were rife, thus evidencing what we last week propounded, that the Auricula is a difficult and even costly flower to cultivate; and giving as it does so little floral return for its year's culture, it is, indeed, disappointing when that return is materially discounted by distressing weather.

We have seen both Show and Alpine varieties in finer form than this season. The very best of the delicate show flowers doubtless were those which had been assisted by artificial heat. Yet there is hardly a stronger argument put forth in favour of the cultivation of this old florists' flower than that it is hardy and does well in cool houses and frames. The primary features of a show Auricula are so delicately traced and evenly balanced that a little additional warmth in the spring season is found not merely desirable but essential to perfect development.

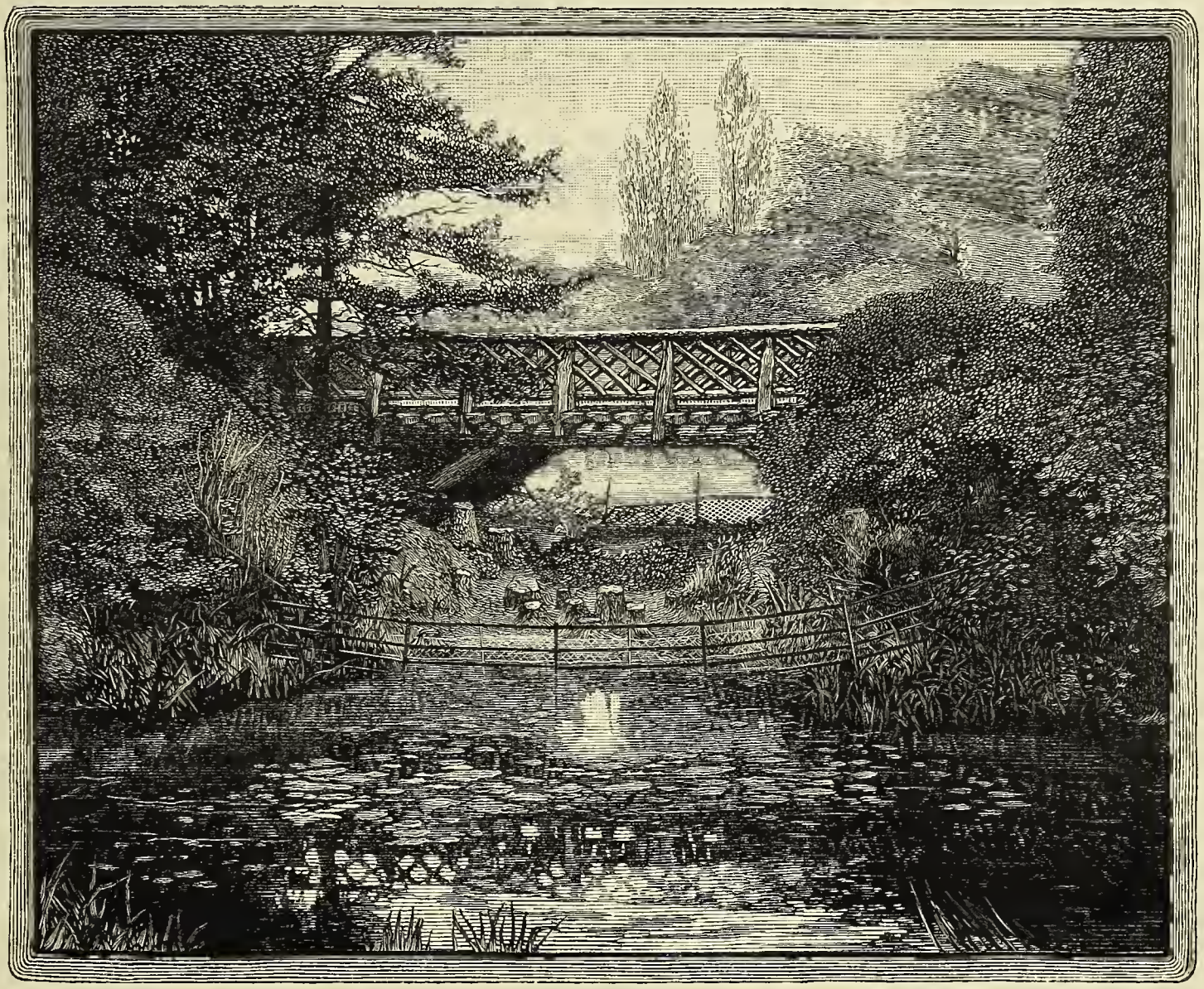
The Rev. F. D. Horner, who is always the premier exhibitor, fitly had the premier flower of the Show in his singularly beautiful Greyhound, one of his own raising; and it is the exceeding good fortune which attends upon Mr. Horner's efforts as a raiser as well as upon his labours as a cultivator that serves to place him year by year in the same proud position. The absence of some former and always popular growers was to be deplored, but the season or some other cause operated against them. Mr. Barlow's Gold-laced Polyanthuses and Mr. Llewellyn's Primulas have long been specially interesting elements of this Auricula Show, and their absence this year created a void that was too apparent.

In the Alpine section Mr. Charles Turner held his own as usual, though his flowers, beautiful as they were, lacked that pleasing freshness and finish we have seen in some previous years. These, however, always make an attractive class. The pretty laced forms shown by Mr. Dean, and the curious, though hardly pleasing, fancy forms shown by Mr. Douglas, attracted much attention, whilst, as usual, the beautiful Primula species, and the Fancy Polyanthuses and lovely clumps of double and single hardy Primroses, won universal admiration. These classes need extending if the Auricula Show is to be made popular with the general public, as is desirable, for they are the flowers of myriads, whilst the choice Auricula must ever remain the favoured flower of the few. Some day the title of the Society will perhaps be changed to that of the Primula Society, and thus in its scope include all members of one of the most interesting, as indeed one of the most beautiful families of plants that decorate our earth in almost every region of the globe.

The limited space at our disposal precludes the possibility of our giving a complete list of the awards, but we add those made in the leading classes. As usual, with twelve show Auriculas, the first prize was won by the Rev. F. D. Horner, Lowfields, Burton-in-Lonsdale, who staged a very fine lot of flowers, nearly all seedlings of his own raising. They were Greyhound, green-edged; Mrs. Horner, a lovely purple self; Greenfinch, green-edged; Heroine, plum-purple self; Monarch, green-edged; Lynette, bluish-purple self; Thebis, grey-edged; Reliance (Mellor), white-edged; Rev. F. D. Horner (Simonite), green-edged; George Lightbody (Headly), green-edged; Sapphire, violet self; and Nigella, white-edged. Mr. James Douglas, gardener to Francis Whitbourn, Esq., Great Gearies, Ilford, was second; Mr. W. Pohlman, Halifax third; and Mr. Turner, Slough, fourth. Mr. Horner was again well in front of Mr. Douglas with six varieties, his flowers being Heroine, Monarch, green-edged; Rev. F. D. Horner, Florence, purple self; George Lightbody and Albatross, white-edged. Mr. Pohlman was again third, and Mr. R. Dean, Ealing, fourth.

The first prize for four went to a Lancashire grower, Mr. W. Bolton, Wilderspool Road, Warrington, who had Prince of Greens, Mrs. Wilson, plum-coloured self; Frank Simonite and Lancashire Hero. Mr. J. E. Henwood, Hamilton Road, Earley, near Reading, came in second in this class, W. Brockbank, Esq., Brockhurst, Didsbury, Manchester, being third; Mr. C. Phillips, Earley, near Reading, fourth, and the Rev. E. L. Fellowes, Wimpole Rectory, Royston, fifth. Mr. Henwood had the best pair in Read's Acme and Mellor's Mrs. Heap, and the other awards in this class were taken by Mr. C. Orchard, gardener, Coombe Warren, Kingston-on-Thames, the Rev. E. L. Fellowes, Mr. W. Bolton, Mr. Brockbank, and Mr. Phillips. The competition with fifty plants was confined to Mr. Douglas and Mr. Turner, who secured the awards in the order named, and who both staged very meritorious collections.

In the Alpine classes, Mr. Turner carried off the whole of the first prizes, his twelve consisting of Edith, Philip Frost, Placida, Sunrise, J. J. Coleman, Selina, Mrs. Knighton, Duncan, Mungo McGeorge, Mabel, Viscount, and Troubadour. Mr. Douglas was second. The six sent from Slough consisted of Edith, Unique, Pallas, Tennyson, Mrs. Lumby, and Placida. In this class Mr. Douglas was second, Mr. R. Dean



A RUSTIC BRIDGE IN BATTERSEA PARK.

third, Mr. A. Spurling, The Nest, Blackheath, fourth, and Mr. C. Orchard fifth. The best single Alpine with a gold centre was Mr. Turner's Rosalind, and the same grower's Philip Frost was the best white or cream-centred variety. In the first-named class, Lovebird, Lucretia, Minstrel, and Diadem were well represented; and Chastity and Ada Hartridge, among the white centres, also took prizes. For six dissimilar Gold-laced Polyanthuses the first prize went to Mr. Douglas, who had nicely-flowered examples of John Bright (Barlow), Prince Regent (Cox), George IV. (Buck), Formosa (Burnard), Lancer (Bullock), and Red Ground (Elliott). Mr. Brockbank was second, and Mr. R. Dean third. With three varieties Mr. Brockbank turned the tables on Mr. Douglas, Mr. R. Dean being again third. Mr. Douglas and Mr. Dean also had the best fancy Auriculas, the first-named staging nearly all yellow-ground flowers, and the latter laced varieties. With a dozen Fancy Polyanthuses Mr. R. Dean was well to the front, his plants being level in size and well bloomed; and with an equally fine lot of double and single Primroses the same exhibitor was also first, Mr. Douglas in both cases being second.

SUNLIGHT AND VEGETATION.

Professor Schübeler of Christiania has found by investigation that the aroma as well as the colour of plants is greatly heightened by exposure to uninterrupted sunlight. Thus the Norwegian Juniper has been found to yield a larger proportion of essential oil than more southern examples of the same shrub. This also has been shown to be the case with Lavender. With regard to such garden plants as common Celery, Garlic, and Onions, the flavour is said to have become so intensified as to render these vegetables no longer savoury to ordinary palates. This excess of aroma is found to be accompanied by a deficiency in sweetness. The Greengages, for example, of Christiania, although large and both finely-coloured and flavoured, are sour compared with those of France. Professor Schübeler accordingly concludes that aroma is engendered by light, and sweetness by heat; and he finds this corroborated by the observations of Dr. Edmond Göze on the Strawberries grown at Coimbra, in Portugal, which are said to be exceedingly large and sweet, but very deficient in aroma and flavour.

The most important result, however, of these investigations is the discovery that seed raised under the continuous sunlight of Northern Scandinavia is superior to that grown further south, under the ordinary conditions of night and day. If seed taken from the south be planted as far north as it will grow, the resulting seed is both larger and heavier than that sown; and if it then be taken back and planted in its original home it gradually dwindles to its former dimensions. Still more remarkable is the fact that the seed from the southern locality ripens quicker in the far north, although the mean temperature may be lower; and this quality of speedy development also disappears gradually after the return of the seed to the south. The northern seeds have a thinner rind, germinate more rapidly, and have greater germinative power than those raised in the south. Numerous experiments on these points have been made by German and other agriculturists, and some of the results of these will be found in *Forestry* for February last. On comparing the weight of the rind with that of the core, Professor Haberlandt found that in a Norwegian sample of Oats the rind weighed 22·78 per cent. of the entire seed, while the average of fourteen samples from other countries gave 27·15 per cent.

In experiments with seeds of red Clover from various countries, while German seeds were found to possess an average germinative power of 60 to 70 per cent., it was frequently over 90 per cent. in the case of Swedish samples; Swedish Wheat and other cereals were found to have an average germinative power of 93 to 95 per cent. With regard to rapidity of germination, it was found that one hundred grains of German Barley developed one hundred and eighty-eight primordial roots in seventy-two hours after planting, while the Swedish seeds yielded nearly twice that number in the same time; the total length of the roots in the latter being two and a half times that of the former. The seeds of trees belonging to the Fir and Pine tribes in Sweden were found to have a like superiority over those of more southern districts. Their greater vigour rendered them less liable to diseases arising from the attacks of fungi and insects; thus seeds of German and Swedish Pine were planted in alternate beds as an experiment in Denmark, with the result that while all the young plants were attacked by disease the Swedish specimens survived, while most of the German plants succumbed. The germinative power of German Pine seed is stated at from 30 to 40 per cent., while that of Sweden is said to be frequently 95 per cent. These facts seem to point to Northern Scandinavia as a source of seed for countries less favoured with summer sunlight, and already Swedish agriculturists in the southern districts of the peninsula are contracting for supplies of seed from their northern brethren.

Great attention has of late years been paid by agriculturists and men of science in Sweden to this question of the comparative merits of seed grown in different latitudes, and the proof that has lately been afforded of the superiority of seed grown in high latitudes to all others is likely to lead to a gradual increase in the Swedish exports of this raw product. The area of ground under cereal crops in Sweden has greatly increased of late years. There is ample room for extension of agriculture in this, one of the most thinly peopled countries of Europe, and Sweden may yet become, by virtue of its prolonged sunlight, one of the chief seed nurseries of the world.—*Scotsman.*

FRUITS.

Fruit Culture under Glass.—Melons: As soon as the rich aroma of the ripening fruits in the earliest house can be detected, a drier and more airy atmosphere should be maintained. Do not, however, withhold atmospheric moisture altogether. On the contrary, damp the floor of the house about eleven o'clock, and again about half-past three in the afternoon, when reducing the air on bright days, and give sufficient clear water to the roots to prevent the plants from flagging. In order to impart high flavour to the fruit, leave the ventilators, top and bottom, open a little at night.

Setting the Fruits.—As the plants in successional houses come into flower the latter should be impregnated daily when the pollen is dry until the desired number of fruits are set pretty regularly over the plants, four or five of which, according to the condition of the plants and the size to which the respective varieties attain, will be sufficient to leave on each plant for a crop.

The Atmosphere, which during the interval from the time the plants came into flower until they had set their fruit had been kept rather dry and airy day and night, should now be somewhat reversed; that is to say, the houses and plants should be thoroughly syringed with tepid water first thing in the morning and again at closing time, half-past three in the afternoon during bright sunny weather. The houses, however, should be ventilated freely between the hours of opening (from half-past seven to eight in the morning, according to the aspect and character of the structure) and closing of the house, and water be distributed over the floor about eleven o'clock and again at one. Aim at a night temperature of 70 degs., and 15 degs. higher by sun-heat, and a free circulation of fresh air, and run it up to 90 degs. or 95 degs. at closing time, with, as already stated, plenty of atmospheric moisture, at the same time giving liberal supplies of tepid liquid manure to the roots when necessary.

Successional Crops.—Make successional plantings in houses, pits (vacated by Potatos), and frames, setting the plants on hillocks composed of rich fibry loam, with a little lime-rubble added, the same depth in the soil as they were in the pots. The hillocks, be it distinctly understood, should be made sufficiently high before setting the plants thereon to remain 3 ins. above the soil surrounding them after the necessary thickness of the latter to cover the roots protruding through the sides of the mound has been added thereto to prevent the lodgment of water, and consequently damp soil being about the stem of the individual plants, which would be likely to cause the latter to "canker" at the point of contact with the wet soil.

In Planting, make the soil firm about the roots, and afterwards give sufficient tepid water to settle the former about the latter, and shade during the heat of the day until the roots have taken to the soil, after which it should be discontinued, and the plants exposed to the full force of the sun.

Plants Swelling their Fruits in frames or hot-beds should have the fruit well exposed to the sun by elevating them on flower-pots after they have attained to the size of a bantam's egg, for if exposed to the sun before they reached this size they would probably turn yellow and fall off the plant. Keep the shoots well thinned and pinched and the leaves clean, by making a judicious use of the syringe at closing time in the afternoon. Plants of such excellent varieties as Blenheim Orange and Cox's Golden Gem should be prepared for taking the place of those from which the fruits have been cut by sowing seeds singly in 3-in. pots three parts filled with light mould a few weeks before the house is ready for them, shifting the young plants into larger pots, as they require more room at the roots prior to finally planting them on the mounds, which should have a little fresh soil added, and the glass and woodwork be thoroughly cleansed before planting takes place.

Strawberries.—Keep Strawberry plants in every stage of growth well supplied with water at the roots, giving those swelling their fruit liberal supplies of weak tepid liquid manure until the berries begin to colour, when clear water only should be given. Keep the fruit well thinned, leaving nine berries of uniform size to each plant, and the plants well syringed overhead twice a day, except those having ripe fruit on them, to keep down red-spider, and, with the same object in view, keep the roots and leaves of Fig trees well supplied with moisture, and the shoots judiciously pinched.—*H. W. Ward, Longford Castle.*

The Fruit Room at Welford Park.—With regard to the system of keeping Apples here, alluded to in your last, I may say that the fruit-room is built with hollow walls and double roof, the under one being thatch, the outside tiles; there are two windows having shutters, which are generally kept closed, as light has a tendency to make fruit shrivel. The room is plastered, and in the middle of the ceiling there is a hatch about 18 ins. square; there is a ventilator in each gable under the inner roof, which, with the hatch, are kept open for about six or eight weeks after the fruit is gathered, in order to carry off the moisture. When the fruit gets dry the ventilators are closed, and even when the weather is hot outside the room always feels cool. The shelves are made with spars 2¾ ins. broad, and between each there is an opening of ¾ in. They are made of Poplar, as all resinous woods are apt to give the fruit a bad flavour unless they are painted. But, besides a good fruit room, something else is required to keep fruit well. Apples should never be gathered till quite ripe, which is seldom the case, owing to the rough autumn winds; when put away they should all be lifted out of the basket by hand singly, not tumbled out anyhow, and those that are wanted for late use should have only one layer on a shelf; for the first supply they may be laid four or five deep. All decaying fruit should be taken away as soon as noticed, but the sound ones should not be touched till wanted; in short, it should be let alone and be kept cool and dark. In your notice of the Apples you say there were fifty-two; it should have been thirty-two varieties.—*Charles Ross, Welford Park Gardens, April 20th*, 1885.

NEW GARDENING PATENTS.

156. Boilers for Heating Conservatories, &c. (J. Watson, St. Albans).—The boiler is horizontal, and is constructed with its sides rising outward, then turning inward and upward, being joined above by the crown. The hot gases from the furnace below circulate outside the boiler, and pass through an internal flue and pipes before escaping to the chimney. To increase the heating surface a wedge-shaped water-way extends downward into the flue.

1,036. Straw-Separating Apparatus (F. Barrett, Wisbeach).—The object is the more thorough separation of the straw or haulm from the grain or seeds. For this purpose a series of adjustable vibrating-forks or blades are arranged upon a horizontal shaft over the shakers of a threshing machine.

FLOWERS.

Seasonable Work in the Plant-houses.—The most important work in the plant-houses at the present time will be to see that everything is kept well watered. As many of the hardier bedding plants may now be put into more exposed quarters, it will afford an opportunity for giving other plants more room, and for potting on those that require it. While there is so much work of importance that demands attention from day to day, the future must be studied, for it often happens that failure is caused by plants being neglected in the initial stage. At this season, when plants are making rapid growth, they must be potted on as they require it, and in the case of any plants that require stopping, this must also be attended to. In stopping such plants as Bouvardias, Fuchsias, &c., care should be taken that all the shoots are stopped at the same time, or they will not form well-shaped plants.

Poinsettias.—As these begin to start into growth they should be placed in a favourable position, and be given a little mild stimulant to induce them to make a good strong growth. The cuttings may now be put in as soon as they have attained a sufficient length. The treatment of these will depend a good deal upon what the plants are required for; if for conservatory decoration or any purpose where tall plants are serviceable, they may be grown on freely without being stopped, but early struck plants require great care to keep them from losing their bottom leaves. To secure good dwarf plants with clean healthy foliage down to the pots, the tops should be taken off the young plants and put in as cuttings again. To have good plants from 1 ft. to 2 ft. high, it will be time enough if the cuttings are put in about the end of August, that is if good strong cuttings can then be obtained. The old plants, except under very favourable conditions, will not provide good cuttings so late in the season, therefore it is better to commence propagating early. The young plants that have their tops taken off, if cut back to within three or four eyes of the bottom, will branch out and produce three or four heads of bracts.

Anopteris glandulosus.—When introduced from Van Dieman's Land some forty or more years ago, this very handsome evergreen shrub had a future before it as an exhibition plant, but somehow or other it never came well to the front, and is now but seldom seen at all. Its large, lanceolate, serrate, shining, deep green leaves, and showy panicles of pure white flowers, render it, however, an object of great beauty. It is a plant that requires plenty of root-room, and, for that reason, should be planted out in a bed of peat and loam in a temperate house, where it will thrive well with plenty of water when making its growth.

Two Good Hardy Primulas.—Primula viscosa nivea is a real gem on the rock-work or a shady border, and a grand plant to grow in pots to assist in keeping the cold-house or pit gay in spring, for embellishing the stands, &c., in the house, or to cut for select bouquets, &c. Wherever used it is not out of place, and meets with many admirers; it is so pure and white, and flowers in such dense clusters. Primula rosea is a fine companion to the above; on a rock-bank here it has been simply grand. It produces four and five trusses of flowers on a plant of the most lovely rose-pink colour. These two should be grown by every owner of a garden.—*J. C. F.*

Camellia Jacksoni.—When in the Glasgow Botanic Garden a week or two ago, Mr. Bullen, the able curator of the establishment, directed our attention to a most beautiful double white Camellia under this name planted out in the large circular winter garden. It is quite distinct from alba plena, and has a beautiful round petal, of great substance and purity. The tree is a good grower, and the flowers of good size. It can well be described as a perfect beauty.

Scented Tree Carnations.—It has often been remarked that perpetual-flowering Carnations are not sweet-scented, but it should in justice be noted that the assertion does not apply to all of them. Our correspondent Mr. Warden has favoured us with blooms of Empress of Germany, white; Valencia, crimson; and Vulcan, bright red, which are all highly perfumed. Our correspondent remarks that he does not consider Empress of Germany, one of Mr. Turner's fine seedlings, is so well known as its merits deserve. It is certainly a very fine white.

Tuberous Begonias.—It will doubtless be a surprise, even to those who know something of the immense trade done in these plants, to hear that Messrs. John Laing & Co.'s stock of seedlings this year numbers no less than 90,000, and all obtained by crossing the best varieties. We understand that the Messrs. Laing will show this season some striking novelties in edged and striped flowers, and also a sweet-scented variety, the most valuable acquisition of all—"a large flesh-coloured flower, sweeter than Violets," having made its appearance among last year's seedlings. The show-house is already filled with strong plants, many of which are in bloom, with the promise of a marvellous gathering of flowers to follow soon.

The Rose Garden.—Frost and Green-fly: I have been taking a look through my Roses and those of some of my neighbours, and have had an eye for green-fly, Rose-maggot, and other depredators, especially in some, more advanced than the rest, that I had from Swanley, and that I planted in a warm border in the front of a south wall. Those in the open, that were soft and luxuriant, and that I pruned early, have had the young shoots and foliage badly turned back by recent frosts. At this time last year those shoots were a mass of aphis, and required constant syringing with carbolic soap and water to keep them in check: now not one is to be observed. I want to know if you think this is to be attributed to the frost?—*W. J. Murphy, Clonmel.* [No.—*Ed.*]

Rhododendron Gibsoni.—In the division of the new range in the Glasgow Botanic Garden devoted to Indian Azaleas, of which Mr. Bullen grows some neat, thrifty, trained specimens, we noted recently a handsome specimen of this beautiful Sikkim species, producing a rich profusion of its large white blossoms. Its free branching habit lends itself more easily to the formation of a neat specimen than do most of the Indian species, but we do not often see a better example of it than this, which is about 5 ft. high.

Cineraria Snowflake is the name of a new white variety of much merit, which has been submitted for our inspection by Messrs. James Carter & Co. Good white Cinerarias have always been at a premium, so poor, as a rule, do they generally come; but in Snowflake we have a flower 2 ins. in diameter, with broad, substantial, ray florets, and a purple disc.

VEGETABLES.

The Kitchen Gardener's Calendar.—Celery Planting: There are various ways of carrying out this operation, but the most preferable is, in my opinion, the following:—The trenches, which should run north and south, and be one spit deep, 16 ins. wide and 4 ft. from centre to centre, should be got ready at once for an early planting, and the ridges between should have a good slope, in order to leave the trench well open to the rain. Six ins. or 8 ins. thick of the best manure obtainable on the place should be dug into each trench, and the soil broken fine as the work proceeds. Then, assuming that the plants have been properly hardened off in the manner indicated in these columns from time to time, take them up carefully with a ball of earth while moist at the roots. Remove any suckers that may be found, and plant one row in each trench at 9 ins. from plant to plant, taking care in doing so that the plants are not buried deeper in the soil than they were before, and that it is made moderately firm about their roots, which should then be watered to settle it. The ridges can be planted before the Celery with two rows of Lettuce 9 ins. apart and 12 ins. asunder from plant to plant in the row. The planting should be done from the trench before the dung has been put on, and, in the absence of rain, then watered.

Vegetable Marrows and Cucumbers.—Plants intended for growing under hand-glasses should be planted forthwith on mounds of prepared soil (three-parts of light loam and one of rotten dung and leaf-mould). Make the soil firm about the roots in planting. Water and shade the plants from bright sunshine for a few hours during the heat of the day, until the roots have pushed into the soil, after which it will not be necessary. Damp the plants overhead with the syringe on bright afternoons when closing the lights, over which place mats at night as a protection to the plants from a few degrees of frost.

General Work.—Prick out young Celery plants in 2 ins. thick of finely sifted soil which has been placed over a like thickness of short dung on a hard surface out-of-doors. The rows should be 4 ins. or 5 ins. apart, and the plants the same distance asunder in the rows. Water and shade the plants for a few days, and see that they have plenty of water when established. Onions which were sown on March 2nd are up nicely, even in the rows between which the Dutch-hoe has been run somewhat deeply, so as to well loosen the surface of the soil, which, as is usually the case with crops of this description the first hoeing after they have come through the soil, was rather hard. If not already done, remove the pots and boxes from Rhubarb plants and store them away for use another season.

Forcing Department.—Give copious supplies of tepid liquid manure to the roots of Tomato plants swelling their fruit, and keep the shoots and leaves of the same well pinched, and the fruit fully exposed to the sun. French Beans, which should now be grown in pits, will require daily attention in the way of airing, watering, and syringing; and Capsicums which are intended to be fruited in pots should be shifted into larger ones as they require more room at the roots, and those which are intended for planting out-of-doors later on, at the foot of a south wall or fence, should be gradually hardened off for that purpose.—*H. W. Ward.*

Blanching Endive.—In gardens where a white salad is in demand every day in the year, as it has been here during the seven years I have had charge of this garden, several methods of blanching Endive have to be resorted to. Lettuces and Endive are the salad plants most appreciated by my employer, and I think I am not far wrong in saying that everyone else prefers these to any other two salading plants grown, such a nice, delicate, and digestible salad do they make. In blanching the Endive, we adapt our methods to the weather. Early in the season we tie them when dry like Lettuces; sometimes we put pots over them, such as large Seakale pots, instead of placing pieces of slate or board over the top, in which case they rot in wet weather. Our favourite method when the winters are not too severe, is to cover a quarter of plants in the open ground with dry fern, when they are nice and dry, and in this way we get good white heads of the very best Endive all through the winter, except in extreme weather. To make sure of a good supply we take up some plants and keep them in a cold shed under mats, and others are put in the Mushroom-house. Being short of room in the pits which are filled with tender border plants, &c., we can only afford a three-light box for Endive, and this we put over five rows on the border, sown very late in summer for late use, and these keep us going till the end of April. I have seen them planted in deep drills and earthed for use in September and October. After trying many sorts we now grow nothing but Batavians. I may add that we grow other salad plants, and our mode of cultivation shall be detailed at some future time.—*J. C. F.*

Manure for Potatos.—A Wiltshire correspondent of *The Field* advises every grower of Potatos to try Messrs. J. Jensen & Co.'s Fish Potash Manure, which after three years' use on poor soils he has found the best manure for Potatos that can be used. The manure contains the essential ingredients of ammonia, phosphates, and potash in a form hitherto deemed impracticable, and uniformly good results have followed its application.

THE

Orchid Growers' Calendar.

Orchid Shading.—This is a subject on which extremists have done much mischief. The dense shade of the thick blinds of olden time was bad for the majority of plants, but not, perhaps, more fatal than the practice of growing plants in unshaded houses, which a few from time to time advocate. Periodically the alarm is sounded that things are kept too shady—that Dendrobes are often found growing in the blazing sun, and Lælias and other Orchids in very exposed situations. While, however, we give all due thanks to collectors for their remarks as to the situations occupied by the plants in their native habitats, we must be careful only to adopt them in such a form as to be available when tried on plants under glass.

It is a very differeut thing for plants to be growing in their native habitats in the full blaze of the sun, but with a free circulation of air around them, and frequently with at least a few of the lesser branches of the trees waving over them, to what it is to place them under glass with no shading to break the sun's rays, and that any advocate for growing Orchids unshaded will be convinced of and never forget if he stands in one position in the full sunlight iu a glass structure for five minutes. Lælia anceps, L. autumnalis, some Cattleyas, and many other Orchids can be grown in an unshaded house, provided great care is taken in giving a free circulation of air all around them, but they can be grown better and with less trouble with a thin shading over them.

Shading Materials.

I think, therefore, it may safely be said that every Orchid-house should from now throughout the summer be provided with a thin shading, varying in the openness of its texture or thickness according to the plants which are under it. The Lælias and other Orchids from Mexico and Guatemala require that of the thinnest texture. The Cattleyas and other intermediate-house plants will do with the same, or a material a trifle closer, and the East Indian Orchids, Cypripediums, Odontoglossums, Masdevallias, evergreen Calanthes, Angræcums, Phalænopsis, &c., must have shading of the closest quality (not necessarily thick or heavy), as such plants suffer most from bright sunlight, and it can never be let directly on to them without injury, although the damage like that from cold chills in winter often does not show itself for some time. Often at the change of the season from summer to autumn mysterious spots, blotches, and withered leaves appear without any apparent cause. I am convinced that the injury may often be laid to the damage done to the tissues by even accidental exposure to the direct rays of the sun in the previous summer.

All, therefore, who wish to grow their plants to perfection will do well not to play with the question, but see at once that each Orchid-house is fitted with a roller blind. At the same time, those who have charge of the management of them may be reminded that the blinds are only there to protect the plants from injury from the sun, and that they are only to be left down while required for that purpose, as every hour they are unnecessarily used robs the plants of vital force which will be required to carry them over the dull season. Seeing then that all the light which can be got without risk of burning by sun is required, the blinds should be pulled up as soon as the sun goes off the house, and in many cases the lower part of the blind may be rolled up an hour or so before the upper half.

Permanent Shading: False Economy.

Some, for supposed economy sake, have a fashion of whitening the glass to give shade in summer, but there are several objections to such a course. In the first place, the shade is on day and night in fair and in dull weather alike, thus robbing the plants of the clear light which is so necessary for them. The shading applied by a brush, too, has a trick of wearing off in places by the time the sun gets its greatest power, and consequently it does in such cases more harm than good. Shading applied by painting the glass is false economy, and should only be used on the spaces between the blinds or on the lower panes of glass which the blinds sometimes fail to cover.

Fixing the Blinds.

In fixing the blinds it is of great advantage, where practicable, to so arrange them that they do not rest on the glass. This can easily be done by placing strips of wood or rods of iron at intervals along the roof, so as to keep the shading off the glass. In new buildings it is an arrangement which should be attended to during the process of constructing the houses, as it is a matter of some moment, the houses so fitted maintaining a better and more even temperature in summer than they do where the blinds rest on the glass. Where air can circulate between the blinds and the glass the glass itself is kept cool and a little air is allowed to pass through the laps, and this has a marked effect in keeping the house cool in very hot weather. In some houses I have seen the blinds run over the top ventilators and close to the glass, in which case the ventilators are not of the least service at a time when they are the most needed. In such cases, where no other means of obviating the difficulty suggests itself, it is better to have a portion of the blind over the ventilator removed, and the glass of the ventilator painted over to make up the deficiency.

It is very certain that it is costly and unsatisfactory work to keep Orchids too much exposed to the sun, and as shading materials in the present day are both cheap and good it will be a matter of gain to liberally employ them, the more particularly that, when properly used, they save labour. As much difference of opinion exists as to the best material for shading, it would be well if some of your Orchid-growing correspondents would give their opinions as to what they find to be the best, cheapest, and most durable.—*James O'Brien.*

ORCHID NOTES.

Orchids in Flower at the Right Hon. J. Chamberlain's, Moor Green, Birmingham.—Amongst other good things in this collection, I noted down recently the following: Saccolabium ampullaceum (very fine variety); S. Hendersonianum; Cypripedium niveum, fine large flowers, three upon a spike; Cattleya citrina, growing in a shallow pau, was flowering wonderfully well, two bulbs carrying two flowers each; a fine plant of Dendrobium densiflorum, bearing eighteen spikes, a good showy old Orchid when well grown, as in this case. Masdevallia Veitchii superba is a plant seldom seen, but so fine that any one could covet it. Oncidium Marshallianum was represented by a fine plant and variety. Mr. Cooper has some capital specimen Odontoglossums under his charge, including a very fine type of O. triumphans, one flower of which measured 4½ ins. across. O. Ruckerianum had two spikes, one carrying twenty-seven flowers. My visit was a hurried one, so that note-taking was necessarily limited, but I was particularly struck with the cleanliness and good order apparent throughout the extensive glass structure.

Out-of-doors, too, in the beautiful pleasure grounds, the same good order and neatness prevailed, and which, while reflecting great credit upon Mr. Cooper, was, I should say, a source of pleasure and gratification to his employer. I must just add that the North American Cypripediums grow and flower well on the banks of one of the lakes in the pleasure grounds at Moor Green.—*D. Simcoe, The Gardens, Lake House, Cheltenham, April 20th*, 1885.

Dendrobium thyrsiflorum.—In the conservatory at Broomhall Field, Broomhall Park, Sheffield, there is a magnificent plant of the above Dendrobe, bearing fourteen racemes of its beautiful yellow and white flowers. The plant is without blemish, and has twelve fine pseudo-bulbs of last year's growth, besides numerous older ones. A short time ago there was a gorgeous display of D. Wardianum, D. nobile pendulum, and D. nobile Wallichii in the same structure. Orchids are as well or better cultivated in a quiet and unpretentious way at Broomhall Field as in any garden in the neighbourhood of Sheffield.—*Visitor.*

HORTICULTURAL SOCIETIES.

Royal Horticultural, *April 21st.*—At the meeting on Tuesday, held instead of on the 28th, as originally fixed, but few new plants came under the notice of the Floral Committee, but in view of the annual show of the National Auricula Society, several of the leading nurserymen sent attractive groups of plants or cut-flowers. Notwithstanding the extensive collection of Daffodils shown last week by Mr. T. S. Ware and Messrs. Barr & Son, these well-known growers again contributed splendid banks of flowers of a quality much surpassing those of the previous week, thanks to the more genial circumstances as regards weather under which the flowers opened. Both firms were awarded Silver Banksian Medals. Messrs. William Cutbush & Son sent a neat collection of hard-wooded flowering plants, principally Heaths and Epacrises, but including also a few Azaleas, the fine white Choisya ternata, and the rarely seen Anopteris glandulosa, on which a note will be found in another column. Mr. Prinsep, gardener to the Hon. Mrs. Portman, Buxted Park, Uckfield, received a Cultural Commendation for a splendidly-flowered specimen of Dendrobium nobile, with about three dozen spikes.

The plant was exhibited to prove that Dendrobiums can be grown under what is called the pruning system; that is to say, that the old bulbs can be cut off without injury to the plant. The specimen shown certainly proved that Dendrobium nobile, at all events, will stand pruning, and will make vigorous growths if subsequently submitted to an abnormally high temperature, but it did not prove that other Dendrobes will submit to the same treatment, and when we consider that D. nobile can for all practical purposes be as well grown as any gardener need to have it under ordinary stove treatment, the advantage of the pruning system was not apparent. Mr. Turner sent from Slough a group of Indian Azaleas and decorative Pelargoniums that much pleased the connoisseurs, the plauts being grandly bloomed and remarkably bright and fresh. Among the Azaleas Apollo, a grand white, with a few carmine stripes; Roi de Holland, bright scarlet; and Mrs. Turner, bright pink, margined with white, were very conspicuous for their fine quality. Of the Pelargoniums we noted in rare form such sterling good sorts as Triomphe de St. Maudé, crimson; Digby Grand, white, with a dark blotch; Duchess of Bedford, white, with carmine spot; Duchess de Morny, rose, with maroon spot; Rosy Morn, pink, with carmine spots; and Madame Thibaut, a light-coloured variety with fringed petals.

From Messrs. Paul & Son, The Old Nurseries, Cheshunt, again came a very interesting collection of Alpine and herbaceous plants; and from W. Crawford, Esq., Lakelands, Cork, came some cut blooms of the magnificent Magnolia Campbellii, which flowered with him for the first time some three years ago, aud this year the tree, which is 35 ft. high, has borne forty flowers. A small collection of Alpine Auriculas, of small size but fair quality, came from W. Toby, Esq., St. Mark's Grove, West Brompton. Messrs. James Carter & Co. showed a large group of Cinerarias, well flowered and the colours good, and including one plant of special interest, the shape and style of the flowers being like those of C. cruenta, but of a good light blue colour.

Only two First-Class Certificates were awarded at this meeting, and of these Mr. Ballantine, gardener to Baron Schroder, took one for the lovely Phalænopsis Mariæ, one of Mr. Burbidge's finds in Borneo. The flowers are of the Luddemanniana character, white ground, barred with chocolate and rich violet, the latter in the centre. It has plain green leaves, and is quite a gem. The other certificate went to H. J. Elwes, Esq., for Tulipa Oculus solis var. Mervensis, a large flower of a bright scarlet colour. Sir Trevor Lawrence exhibited a large and superbly bloomed specimen of Masdevallia Turneri, a fine old Orchid, with crimson and cinnamon coloured sweet-scented blossoms. A very fine variety of Odontoglossum mulus, with the distinguishing name of Courtauldianum, was shown by S. Courtauld, Esq., Bocking Place, Braintree. It is very distinct, the ground colour being brighter, and

the blotches and bars more sharply distinct than in some varieties, and, we believe, came out of one of Messrs. Low's importations. Mr. Courtauld also had a good O. Wilckeanum. Messrs. Hugh Low & Co. exhibited a Cattleya gigas, Frontino var., and a well-flowered plant of Dendrobium onosmum Dayanum, lilac, with a conspicuous crimson blotch on the lip, and possessing a strong aroma of Turkey Rhubarb. Messrs. James Veitch & Sons exhibited specimens of two double-flowered Azaleas of the Narcissæflora group—Mina Van Houtte, blush, and Louis Aimé Van Houtte, deep flesh-pink.

Royal Botanic, *April 22nd.*—The second spring show here was as usual of somewhat smaller dimensions than the first one, but a bright and interesting little exhibition nevertheless. The stove and greenhouse plants were small and of no special merit. Mr. H. James, Castle Nursery, Norwood, took the first prize, Mr. G. Wheeler the second, and Mr. R. Butler the third. Roses in pots were shown only by Messrs. Paul & Son, Cheshunt, and Mr. P. Perry, gardener to W. G. Rowlett, Esq., The Woodlands, Cheshunt, but both secured first prizes. For a dozen Amaryllis, Mr. Douglas was first with a group somewhat past their best, the season being late. Mr. Turner was the only exhibitor of Show Pelargoniums, and secured first honours with a very fine fresh lot of plants. There was a fairly good competition with Azaleas, but the flowers suffered much from the bright sunshine. Mr. Turner was first among trade growers and Mr. G. Wheeler among amateurs. Messrs. H. Lane & Son were first with a group of twelve hardy Azaleas, large well-flowered plants of such sterling varieties as Ernest Bach, Comte de Gomer, W. E. Gumbleton, Alphonse Lavallée, and Comte Papadopoli, &c. With Show Auriculas Mr. Douglas beat Mr. Turner and Mr. Pohlman, but Slough was triumphant with the Alpines. Three competing groups of Cinerarias made up a glorious bank of colour. The plants were all of good size and superbly bloomed, but Mr. J. James was as usual unapproachable for quality—his plants were simply magnificent. Mr. James Douglas was second, and Messrs. James Carter & Co., third.

Of miscellaneous contributions we noted immense collections of Daffodils and other spring flowers from Mr. T. S. Ware, Messrs. Barr & Son, Messrs. Veitch & Sons, and Messrs. Collins, Bros. & Gabriel; fine groups of Cinerarias and Alpine plants from Messrs. Carter & Co.; herbaceous plants from Messrs. Paul & Son; Auriculas from Mr. Turner and Mr. Douglas; Rhododendrons from Messrs. H. Lane & Son; hard-wooded plants from Messrs. W. Cutbush & Son; new plants from Mr. Bull and Mr. Williams; and three charming baskets of Roses from Mr. J. Walker, of Thame, one of which was filled with Maréchal Niels of grand quality.

The new plants certificated were few in number for Regent's Park. Mr. Wm. Bull received Botanical Certificates for Alocasia Sanderiana, the very fine ornamental leaved plant illustrated in our number for January 31st; and for Vriesia Janeirense variegata, a strong-growing, handsome species, with broad arching green leaves, having a broad band of white up the centre. Messrs. James Carter & Co. received a similar award for Saxifraga Vandelli. Floral Certificates were accorded to Messrs. Veitch & Son for Amaryllis Prince George of Wales, a good-shaped bright scarlet, with a light centre; to Mr. J. Douglas for Amaryllis Fairlop Oak, bright crimson, with a light centre; to Mr. W. Nicoll, Merton, for his beautiful double white Azalea Princess of Wales; to Messrs. Collins, Brothers & Gabriel for a handsome Narcissus called spurius coronatus, but different, as it seemed to us, from the plant so named and certificated at South Kensington a fortnight ago; to Messrs. Barr & Son for Narcissus M. M. De Graff, one of the Leedsii section, with a broad yellow corona tinged with apricot and broad white segments; to Mr. J. James for Cineraria Countess, regal purple, very large and fine in form; Cineraria Amy Robsart, a lovely shade of violet-rose; and Cineraria The Bride, a grand pure white; to Mr. Turner for Alpine Auriculas Sunrise, gold centre, maroon shaded; Chastity, cream centre, dark purple, shaded with violet; and Rosalind, gold centre, maroon, shaded with purple; and to Mr. J. Douglas for Alpine Auricula Alwine, a maroon, shaded, gold-centred flower.

Notts Horticultural and Botanical.—The general monthly meeting of the members of this Society was held at the Mechanics' Institute, Nottingham, on Wednesday evening, April 15th, under the presidency of Mr. C. A. Pearson, of the Chilwell Nurseries. There was a very large attendance of gardeners and others interested in the Society, and a splendid display of plants and cut-flowers was made by the members and others. Messrs. Cannell & Son, Swanley, exhibited a beautiful stand of hardy spring flowers, amongst them being some fine varieties of Narcissus, Fritillaria, &c. The same firm also sent some enormous flowers of Zonal Pelargoniums, Cinerarias, and other florists' flowers, for which an unanimous vote of thanks was awarded. Mr. T. S. Ware also sent a remarkably beautiful stand of Narcissus, Scillas, Fritillarias, and other hardy spring flowers, which attracted the attention of a large number of growers. A vote of thanks was also passed to Mr. Ware. Mr. Samuel Thacker, one of the vice-presidents of the Society, had a small but choice and well-grown collection of Orchids, amongst which were Cattleya Sanderiana, Cattleya Trianæ, and Cattleya Mossiæ, Dendrobium nobile, Oncidium luridum, &c. Mr. Lamb, gardener to Pious Lewenze, Esq., The Park, Nottingham, exhibited a good example of the old but somewhat fickle Dendrobium chrysanthum, carrying thirty four fine blooms upon remarkable stout growths, averaging from 4 ft. to 5 ft. in length. But perhaps the most noticeable feature amongst the exhibits were some dozen plants of Cinerarias growing in 6-in. pots, which were sent by Mr. Anderson, gardener to H. R. Clifton, Esq., Clifton Hall, and which possessed every quality as regards brilliancy of colour and size of flower and truss. Some of the heads of flowers measured over 3 ft. in circumference, and many of the individual flowers were over 2 ins. across and of fine shape. It is needless to say they were much admired and commented upon by all present. The same exhibitor had also some enormous trusses of Mignonette, a variety of his own raising. The President of the Society, T. B. Cutts, Esq., Malvern House, Nottingham, exhibited a nice group of flowering Orchids, amongst which were nicely-flowered plants of Lælia autumnalis, Oncidum Marshallianum, Phalænopsis amablis, Odontoglossum triumphans, &c. This group was much admired, and reflected upon the gardener (Mr. German) the greatest credit. He had also some cut blooms of a hybrid Rhododendron. Mr. Walker (gardener to J. W. Lewis, Esq., Hardwick House), had a large bunch of that beautiful and useful Rose, Lamarque, which attracted a good deal of attention, as did also from the same garden a well-grown plant of the true Sion House variety of Anthurium Scherzerianum. Capt. Lambert, Messrs. J. R. Pearson & Sons, W. H. Cooper, Esq., and others, each sent various exhibits, and after each exhibitor had given a description of his productions and of their culture (which caused a lengthened discussion in some cases), a hearty vote of thanks to all brought a very interesting meeting to a close.

ANSWERS TO CORRESPONDENTS.

FRUITS.—*Exhibitor.*—When a dish of Grapes is asked for in a schedule it is usually taken to mean three bunches; and a dish of Peaches, Nectarines, or Apricots should consist of six fruits of each.

NAMES OF PLANTS.—*J. L. Grant.*—Some of the numbers had got loose by the time they had reached us, but all the pink flowers are varieties of Phalænopsis Schilleriana, and the white ones P. amabilis, and several of them exceptionally good ones, though not distinguished by varietal names. Nine is Dendrobium japonicum.

ORCHID ALBUM.—*J. S., Exeter.*—It is published in monthly parts, price 5*s.* each, by Mr. B. S. Williams, Victoria and Paradise Nursery, Holloway, N.

SALESMEN.—*F. T. J.*—We regret we cannot oblige you. It is against our rule to recommend salesmen. Your best plan is to visit the market and make your choice on the spot.

COMMUNICATIONS RECEIVED.—W. H.—A. R.—E. R. C.—W. B.—J. S.—J. K.—H. T.—A. H.—G. F.—E. A.—J. W.—W. J.—T. B.—A. S. C.—J. L.—J. McE. (many thanks).—A. F. L.—W. J. M.—J. H. W.

Trade Catalogues Received.

BARR & SON, 12, King Street, Covent Garden, W.C.—Catalogue of Daffodils, Bulbs, and Plants for Spring Planting.

THOMAS S. WARE, Hale Farm Nurseries, Tottenham, N.—Dahlias, Carpet-bedding Plants, Hardy Florists' Flowers, &c.

CHARLES FRASER, Palace Plain, Norwich.—Illustrated Catalogue of Greenhouses, Pits, Frames, &c.

LONDON SEED TRADE.

April 22nd, 1885.

MESSRS. HURST & SON, 152, Houndsditch, and 39, New Seed Market, Mark Lane, report a fair trade in all kinds of Agricultural Seeds, but orders, although numerous, are becoming smaller, indicating that the sowing season is gradually drawing to a close. Values all round are still firm; English Red Clover of fine quality is scarce, and lower grades also. Foreign Seed continues in plentiful supply; holders, however, are not anxious to sell except at full rates, as at the present low figures stocks are considered safe to hold over. American Red is comparatively scarce, and some consignments have recently been reshipped to New York, as better prices appear to be obtainable there. White and Alsike both firm at previous quotations, with little prospect of any material change in values unless a speculative demand should arise. Trefoil steady and fine qualities difficult to procure. Grasses still meet with brisk demand and prices firm. Spring Tares, Rape, and Mustard more slowly. Bird Seeds unchanged.

COVENT GARDEN MARKET.

April 23rd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6- 6 0	Pine-apples, Eng., lb.	1 0- 2 0
— Nova Scotian, per barrel	15 0-21 0	—St. Michaels, each	3 0- 8 0
Grapes, New, per lb.	5 0-10 0	Kent Filberts and Cobs, per 100 lb.	-
Grapes, Old, per lb.	6 0-12 0	Strawberries, per lb.	4 0-10 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Asparagus, English, per bundle	10 0	Horse Radish, bundle	3 0- 5 0
Beans, French, per lb.	- 2 6	Lettuces, Cabbage, per dozen	2 0-
Beet, per dozen	2 0- 3 0	— Cos, each	0 6-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	-
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Marguerites, 12 bun.	4 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Narcissus, various, French, doz. bun.	3 0- 6 0
Azalea, 12 sprays	0 6- 1 0	Pelargoniums, per 12 sprays	0 9- 1 0
Bourvardias, per bun.	1 0- 1 6	—scarlet, per 12 sprays	0 6- 0 9
Camellias, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 6- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun.	-
— large, 12 blooms	-	Pyrethrum, 12 bun.	-
Cyclamen, doz. blooms	0 3- 0 6	Roses (coloured)	2 0- 6 0
Cineraria, per bunch	0 6- 1 0	Roses, indoors, p. doz.	1 0- 3 0
Epiphyllums, 12 blms.	-	Roses (French), per doz.	0 6- 0 9
Eucharis, per dozen	3 0- 6 0	Stephanotis, 12 spr.	4 0- 8 0
Gardenias, 12 blms.	2 0- 4 0	Tuberoses, per dozen	1 6- 2 0
Heliotropes, 12 sprays	0 6- 1 0	Tulips, per doz.	0 6- 0 8
Hyacinths, Roman, doz. sprays	0 6- 0 9	Violets, doz. bun.	0 4- 0 9
Lapageria, white, 12 blooms	2 0- 3 0	— French, per. bun.	-
Lapageria, red, 12 blms.	1 0- 2 0	— Parma, per. bun.	3 0- 4 0
Lily of the Valley, doz. sprays	0 9- 1 6	White Jasmine, bun.	0 6- 1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ficus elastica, each	1 6- 7 0
Arum Lilies, per doz.	9 0-18 0	Foliage Plants, various, each	2 0-10 0
Azalea, per doz.	18 0-42 0	Genista, per dozen	9 0-15 0
Begonias, per dozen	4 0-12 0	Hyacinths, doz.	6 0- 9 0
Bouvardias, dozen	9 0-18 0	Hydrangea, per doz.	12 0-24 0
Cineraria, per dozen	6 0-12 0	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargonium, per doz.	9 0-21 0
Deutzia, per dozen	4 0 -9 0	Pelargoniums, scarlet per dozen	4 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	-	Rhodanthe, per doz.	6 0-12 0
Evergreens, in var., per dozen	6 0-24 0	Spiræa, per dozen	12 0-18 0
Ferns, in var., dozen	4 0-18 0		

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EXCELSIOR SHADING.—This shading is stronger and more durable than Frigi Domo, and from its make being principally manufactured cotton and wool it keeps the morning frost off and the heat in, as well as forming an efficient shade from the burning sun, 36 ins. wide, 1*s.* per yard.

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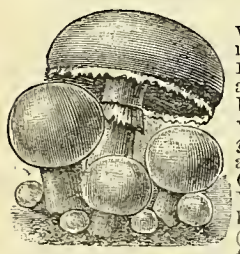

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PEAT, best brown fibrous, 4*s.* 6*d.* per sack; 5 sacks for 20*s.*
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LOAM, best yellow fibrous .. ..
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} 1*s.* per bushel (sacks included).
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COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1*s.* each; 10 sacks, 9*s.*; 15 sacks, 13*s.*; 20 sacks, 17*s.*; 30 sacks, 25*s.*; 40 sacks, 30*s.* Truck-load, loose, free on rail, 25*s.* Limited quantities of G special quality, granulated, in sacks only, 2*s.* each.

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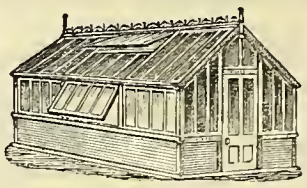
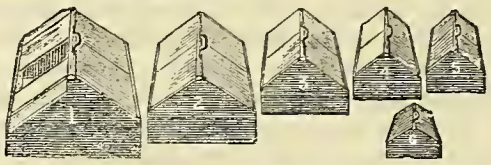


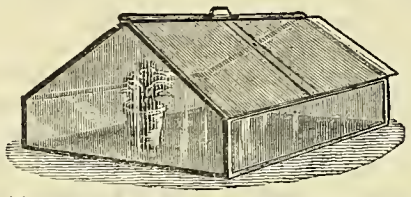
Span-Roof Greenhouses, fitted complete, glazed with 21-oz. glass, and painted three coats.

Tenant's Fixture, 10 ft. by 8 ft., £15.

For Brickwork, £13 7*s.*



Set of Six Handlights to cover 15 square feet, diminishing sizes, painted three coats, glazed with 21-oz. glass, per set, £1 15*s.*



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Cucumber Frames, Lights, 2 in. thick, glazed with 21-oz. glass, painted four coats.

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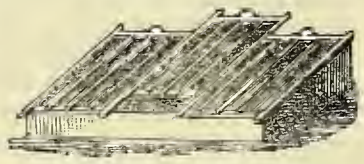
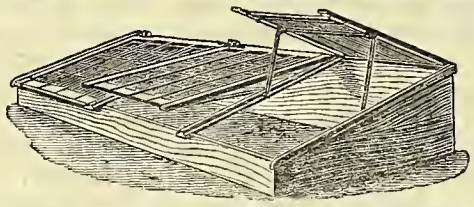
4 ft. by 6 ft.,	1	18	0
8 ft. by 6 ft.,	3	4	6
12 ft. by 6 ft.,	4	12	6

Cases, 5*s.*





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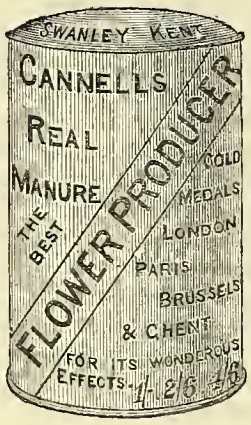

THE SECRET!

Not one, but all; and it is a surprise and the conversation with all wherever we exhibit; and whoever comes to see our flowers remarks, "How do they get such a quantity of Blooms with such brilliancy of colour, and nice small bright foliage?" The answer is, "Their REAL MANURE" and Fumigating Material.

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Horticultural Builder, &c.,

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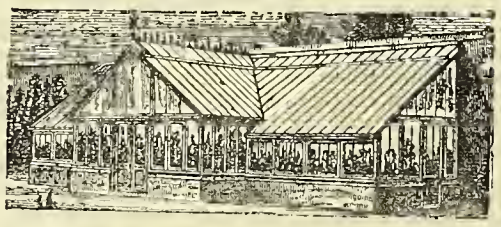

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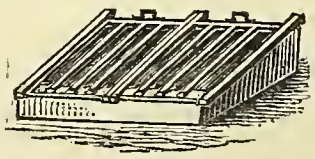

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GARDEN REQUISITES, FIRST QUALITY.

W. WARREN & CO.,

8. WHITE CROSS PLACE, WILSON STREET, FINSBURY SQUARE, supply Cocoa-Fibre Refuse, 4-bushel sack, 1*s.* 3*d.*, 10 sacks, 11*s.*; best brown Fibrous and black Peats, 4*s.* 6*d.* to 5*s* 6*d.* per sack; yellow Fibrous Loam, Leaf and Peat Mould, each 1*s.* per bushel; Bulb Composts and best Derbyshire Sand, each 1*s.* 3*d.* per bushel all imperial measure. The very best Tobacco Cloth 8*d.*; Specialité Paper 10*d.* per lb.; Archangel Mats, Raffia, Manures, Labels, and every article in the trade at low prices. Special terms for larger quantities and truckloads. Cash with order. Before purchasing, write for free list of prices.

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FUCHSIAS, 250 finest varieties, 12 fine named, in 6 sorts	2	0
12 distinct kinds	2	6
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OUR GUINEA COLLECTION

Contains 16 dozen fine healthy Plants, as follows:—

24 Geraniums, assorted colours.
6 Ageratums, dwarf blue.
6 Verbenas, choice named.
12 Calceolarias, Golden Gem.
18 Lobelias, dark blue.
12 Petunias, large-flowered.
6 Chrysanthemums, fine named.
6 Mimulus, large-flowered.
12 Antirrhinums, mixed.
18 Phlox Drummondi, mixed.
18 Asters, fine double.
12 Pansies, mixed sorts.
18 Pyrethrums, Golden Feather.
6 Dahlias, fine named sorts.
6 Fuchsias, named.
6 Phloxes, fine named Perennial.
3 Pentstemons, in variety.
6 Heliotropes, of sorts.

Double the above quantity 40*s.*; Half the above quantity 11*s.* 6*d.*

No charge made for Packages.

This collection will be ready for sending out in May; and all orders will be executed in the same order of rotation as received.

Subject to slight alteration as the Season advances.

From Mrs. KEYMER, Guildford.
March 24th, 1885.
"Mrs. Keymer was so pleased with the Choice Collection of Bedding Plants sent her last year by Messrs. Daniels Bros., that she wishes to order a similar Collection to be sent to her again this year at the proper time."

Orders with Cheque or P.O.O. should be sent in at once to

DANIELS BROS.,
TOWN CLOSE NURSERIES, NORWICH.

ORCHIDS A SPECIALITY.

The stock at the Clapton Nursery is of such magnitude that, without seeing it, it is not easy to form an adequate conception of its unprecedented extent.

HUGH LOW & CO.

Very cordially and respectfully solicit an inspection by all lovers of this interesting and beautiful class of plants, whether purchasers or not.

CLAPTON NURSERY, LONDON, E.

GREENHOUSES FOR EVERYBODY.

TO all who are about to Buy, call and see the Little Gems, Span-roof, 75*s.*; Lean-to, 65*s.*; a perfect novelty, not to be believed until seen. Also Cucumber Frames, glazed and painted, from 20*s.* Send four stamps for the Photo. of the Little Gem, and see what you are buying for yourselves. Call or write for OGDEN & CO.'S Special Price Lists for 1885. Post free, two stamps, at the Alexandra Palace Horticultural Works, Wood Green, London, N.—*Copy of Testimonial*: "To Messrs. Ogden & Co., Gentlemen, I have now got the Little Gem Greenhouse I had from you fixed up, and think it but right to tell you that it gives me every satisfaction. Many of my friends have been to see it, and they all agree as to its being a marvel of cheapness. It would have cost half as much again if made locally.—I am, faithfully yours, T. LLEWELLYN, Ogmore Vale, March 9th, 1885."

NEW AND RARE DISAS

(From a Temperate District in S.E. Africa).

MESSRS. PROTHEROE & MORRIS will include in their SALE on FRIDAY, May 1st, a sound collection of

NEW AND RARE DISAS,

Including a splendid DISA with large crimson flowers, many on a spike; DISA CORNUTA, very fragrant; DISA POLYGOPHYLLA, orange; DISA CHRYSOSTACHYA, handsome golden flowers; DISA HERSCHELII, grand tubers of this fine blue Disa from a new district; DISA SPATULATA, fine sky-blue, one and a half inches across; SATYRIUMS, red, pink, and blush. Also some grand masses of the pure white and fragrant ANGRÆCUM ARCUATUM, a pretty Orchid or cool-house.

Also some VALUABLE IMPORTED ORCHIDS from MR. F. SANDER, including a fine lot of imported ONCIDIUM SARCODES.

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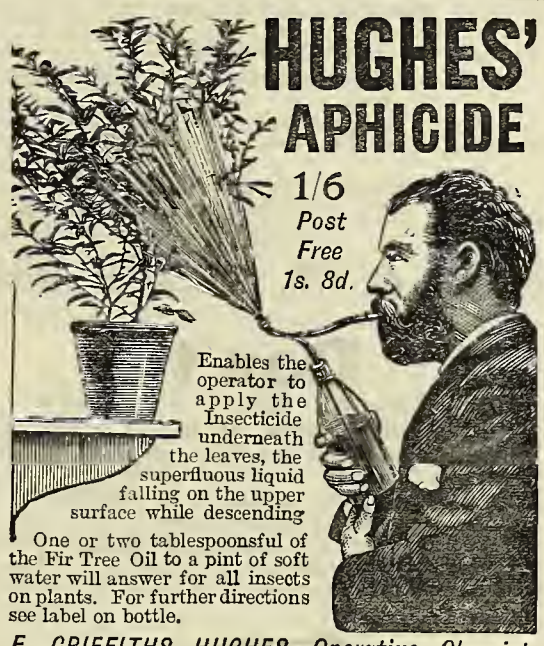

One or two tablespoonsful of the Fir Tree Oil to a pint of soft water will answer for all insects on plants. For further directions see label on bottle.

E. GRIFFITHS HUGHES, Operative Chemist,
VICTORIA STREET, MANCHESTER.

CARNATIONS EXTRAORDINARY.

We make a speciality of magnificent double border CARNATIONS. The varieties offered are robust, free-blooming, fragrant kinds in all the grandest shades of colour and the choicest markings. Unsurpassed for border decoration. These are the production of a celebrated florist, and are exceedingly vigorous, and were one of the finest sights in England last autumn. Strong well-rooted plants, from layers last autumn, in variety, per doz., 3*s.* 9*d.*; 25 for 7*s.*; 50 for 12*s.* 6*d.* Finest named Carnations, 6*s.* per doz. The choicest Picotees named, 6*s.* per doz. Finest named Pinks, 4*s.* per doz. For upwards of a century Lancashire has been famed for these favourite flowers. All free by Parcels Post.

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12 BRILLIANT COLEUS, in twelve finest named kinds, from our magnificent collection, for 2*s.* 6*d.*, well-rooted stuff. Our plants always please. Hoya Carnosa, well-rooted plants, each, 9*d.*, two for 1*s.* 3*d.* All free and safe per post.—RYDER & SON, Sale, Manchester.

20,000 VIOLAS.—A fine stock of sturdy, well-rooted plants—very best kinds. Violas produce at a slight cost a display unequalled by any other hardy plant. The flowers are produced in great abundance, and are as large as many Pansies. The following low prices should induce customers to plant in large quantities:—12, in 4 kinds, 2*s.* 3*d.*; 25, in 5 kinds, 4*s.*; 50 for 7*s.*; 100 for 12*s.* Including all the choice colours. Carriage free.—RYDER & SON, Sale, Manchester.

COLOURED PRIMROSES.—Like ordinary Primroses, but in various colours, such as lilac, pink, rose, deep ruby-red, &c., &c. Charming border plants, blooming most abundantly. 12 for 2*s.* 6*d.*; 25 for 4*s.* 3*d.*; 50 for 8*s.*; in many beautiful colours. Carriage free.—RYDER & SON, Sale, Manchester.

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WHITTLESEA, NEAR PETERBOROUGH,

BEGS TO CALL ATTENTION TO THE FOLLOWING

SPECIALITIES.

FOR GREENHOUSE.

	Per Doz. *s.*	*d.*
*Coleus, in great and beautiful variety	2	0
In pots, well established	5	0
Cyclamen Persicum Giganteum. From the best varieties 2*s.* and	3	6
In pots, well established 5*s.* to	12	0
Eucharis Amazonica, flowering bulbs, each 1*s.* 6*d.* &	2	6
*Fuchsias, an immense collection. Single and Double Varieties from	2	6
Ditto, in 4-inch pots ,,	5	0
Gloxinias, Erect, Horizontal, and Drooping varieties	2	6
Ditto, Plants in pots 6*s.* to	24	0
Balsams. Rose and Camellia fld.	2	0
Begonias, Mixed Tuberous, Rooted, from splendid varieties, Laing's and Low's Strain from	3	6
Ditto, in pots 6*s.* to	24	0
Grevillea Robusta, splendid Fern-like Plants, suitable for table decoration 6*d.* each, or	4	0
Mimulus (Queen's Prize), choice	2	6
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Ditto, in pots 6*s.*, 8*s.*, and	12	0
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☞ *Many other Greenhouse Plants in Stock.*

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Pansies. Strong Plants, from English Show and Fancy, Belgian, French, and all the leading varieties from	1	0
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1s., 2s., and 3s. per Bottle.

Observe the Company's Signature round the Cork, without which none are genuine.

BEWARE OF SPURIOUS IMITATIONS.

THE AMORTISER we particularly recommend for Greenhouses, it being so pleasant for use and for its perfume. Its properties for destroying insect pests, &c., is equal to our Carbon Paste. We guarantee, if used as per directions, it will not injure the most delicate foliage or blooms any more than water.

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STEVENS & CO.'S
CARBON PASTE

(NON-POISONOUS).

Four Gallons for One Shilling.

Will destroy in a few moments the Larvæ of the Aphides, Hop-Flea, Green and Black Fly, Mealy Bug, Thrip, Red and White Spider, Brown and White Scale, American Blight, Woolly Aphis, Ants, Mildew, Ear-Wigs, Caterpillars, and all insect pests.

1-lb. Tins, 1s.; 3-lb., 2s. 6d.; 7-lb., 5s. 6d.

TO HOP AND FRUIT GROWERS, FLORISTS, FARMERS, &c. IT IS INVALUABLE.

STEVENS & Co.'s CARBON PASTE is a most wonderful and economical preparation, and is certain destruction to every kind of Insects that infests Trees and Plants, and we guarantee, if used as per directions, it will not injure the most delicate foliage or bloom any more than water.

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CHEMISTS,

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RETAIL OF ALL CHEMISTS AND SEEDSMEN.

Special Quotations for large quantities. Sample sent for 1s. 6d.

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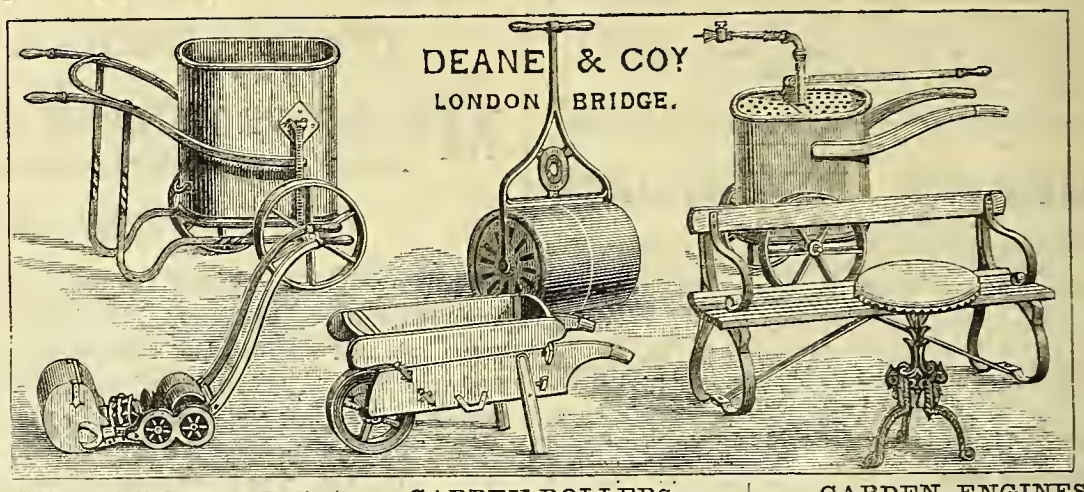

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20 PER CENT. FOR CASH OFF MAKERS' PRICES. CARRIAGE PAID.

All the Best Makes in Stock, Excelsior, Invincible, Shanks', Green's, Ransome's.

SWING WATER BARROWS,

Strongly made, with galvanized iron cistern.

15 Gallon.....30s. | 30 Gallon.....46s.
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GARDEN ROLLERS.

Fine cast, highly finished, and well-fitted, with balance handles.

DOUBLE CYLINDER.

20 in. by 18 in., 50s. | 24 in. by 22 in., 65s.
22 in. by 20 in., 55s.

SINGLE CYLINDER.

16 in. by 16 in., 32s. | 20 in. by 20 in., 45s.
18 in. by 18 in., 35s. | 22 in. by 22 in., 52s.

STRONG WOOD BARROW,

Well constructed of seasoned elm, well painted, and cheap. Price 24s. 6d.
With loose top (as engraving), 32s. 6d.

GARDEN ENGINES.

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SUBURBAN SEAT

(as engraving), strong and easy, the cheapest seat made.
Length, 5 feet, 17s.; 6 feet, 19s.
GARDEN SEATS IN GREAT VARIETY.

BRONZED IRON TABLE.

With solid walnut top.
18 in. diameter, 12s. | 24 in. diameter, 16s.
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All orders sent carriage paid to any railway station. Discount on cash payments.

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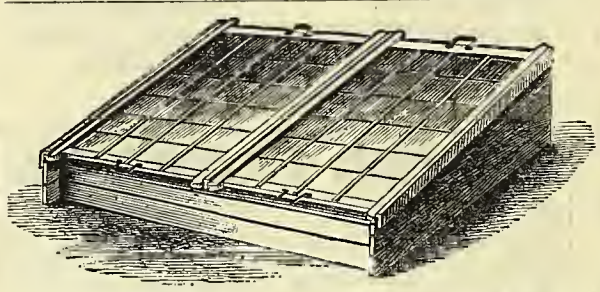
SEED PANS, SEED PANS.—12 Strong pans, 9 by 6 by 3, used by all florists; everlasting wear, 5s. I enclose with Pans 1 pair new Garden Scissors.

OH! SCISSORS—GARDEN SCISSORS! 3 pair of our popular patent Scissors, best steel, post free, 2s.

EVERY MAN HIS OWN TINKER.—Soldering tools in nicely made box, with accessories and instructions, by parcels post, 1s. 9d.—TIPPETS, Aston, Birmingham.



PORTABLE CUCUMBER FRAMES.

R. HALLIDAY & CO. desire to draw special attention to their Cucumber Frames, of which they always have a large stock, ready glazed and painted. They are made of the best materials and can be put together and taken apart in a few minutes by any one.

Prices, delivered to any station in England.

		£	s.	d.
2-light frame, 8 ft. by 6 ft.	Packing cases free.	3	10	0
3-light frame, 12 ft. by 6 ft.		5	5	0
6-light frame, 24 ft. by 6 ft.		10	0	0

TESTIMONIAL.

"The Gardens, Burghley, Stamford,
"September 11th, 1884.

"GENTLEMEN,—I have received the Garden Frames, and I am quite delighted with them. They are really well got up, well timbered, and the sides and ends being grooved, will prevent that objectionable swaging so prevalent in these kind of boxes. I shall certainly recommend them to my brothers in the trade.—R. GILBERT, Head Gardener to the Marquis of Exeter."

R. HALLIDAY & Co.,

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IS unrivalled for Gardeners', Foresters', Farmers', Joiners', and Amateurs' use. It requires no oil. Sharpen with a spittle or water. Puts on a keen sharp edge; no humbug about this. Cut in Hones for Axes, Hedge Knives, Razors, Penknives, and Plane Irons, &c. Honourable mention Paris Exhibition, 1878; and Bronze Medal London International Exhibition, 1884. Ask your ironmonger or other retail house to get you one, and give my address; if he won't, drop me a note.
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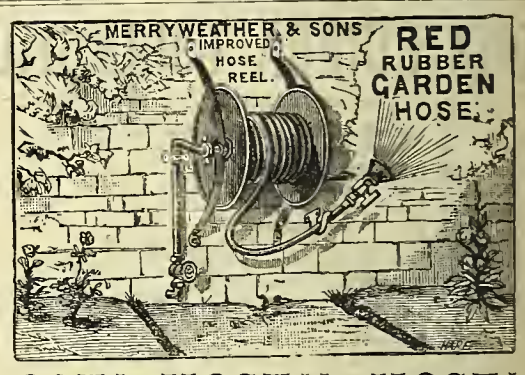

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PATENT ANTIMONIAL RED RUBBER GARDEN HOSE.

Lasts four times as long as ordinary white vulcanised hose. Stands severe Government tests, thus proving superiority of quality, lighter in weight, greater in strength, and cheaper in the long run than any other hose for garden use. A correspondent writes—"I have had a length of your Red Rubber Hose in use nine years, and it is now as good as ever." Samples and priced Catalogue of Hose, Garden Engines, and Fittings, free.

Beware of common quality hose, *coloured* red, and order any length direct from

MERRYWEATHER & SONS,

Sole Manufacturers,

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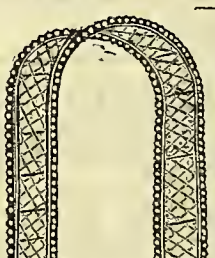
E. J. PIKE,

HORTICULTURAL WIRE WORKER,

Denmark Hill Wire Works, Camberwell, S.E.



Specialities straight from the Manufacturer. Galvanized Arches, 7 ft. high, 4 ft. span, 1 ft. deep, 9s. 6d. each, with twisted borders. Pea Guards, galvanized, per doz. 6s. Diamond Trellis, galvanized, 3-in. mesh, from 3d. per sq. foot, for training Creepers, &c., made to any required dimensions. Straight Lattice Work, for protecting glass houses, &c., ½-in. mesh, galvanized, from 5d. per sq. ft. Light Iron Poultry Fencing, 6 ft. high, 6 ft. long, 1½-ins. mesh, bar iron frame with prong feet, 1½ ins. by ¼ in.; upright rods, ¼ in. thick, 7s. per yard. Chicken Coops, with box, 3 ft. run, from 6s. 6d. each.

Estimates free for every description of Iron and Wire Work.

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CAMBRIC POCKET HANDKERCHIEFS.

Children's, 1/5 Ladies' .....2/6 Gents' .....3/8 per dozen

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No. 35.—1885. SATURDAY, MAY 2ND. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

Royal Horticultural Society.

THE ORCHID CONFERENCE BANQUET will take place at THE ALBION, Aldersgate Street, E.C., on TUESDAY, MAY 12th, at 6.30 p.m. SIR TREVOR LAWRENCE, Bart., M.P., will take the chair.

Gentlemen desirous of attending are requested to send in their names at once to W. LEE, Esq., Downside, Leatherhead. Tickets (including wine), 25*s*.

Royal Botanic and Horticultural Society of Manchester.

THE GRAND NATIONAL HORTICULTURAL EXHIBITION of 1885 will open at the Gardens, Old Trafford, Manchester, on FRIDAY, MAY 22nd, at 2 p.m. Entries close on the 15th inst. For further particulars apply to the undersigned,

BRUCE FINDLAY.

Royal Botanic Gardens, Manchester.

CLEMATIS, 12*s*. to 24*s*. per doz., strong plants in pots. List, containing descriptions of best singles and doubles of every shade from white to dark purple (some of the flowers of which become 10 ins. across), free.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

ROSES IN POTS, "New of 1885," 30*s*. and 36*s*. per doz. "Teas," Noisettes, &c., 18*s*., 24*s*., and 30*s*. per doz. Very strong H. Perpetuals for forcing, 24*s*. to 30*s*. per doz.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

NOW IS THE TIME TO TRANSPLANT HOLLIES and many other choice Evergreens. For prices of beautiful specimens at very low price, see "Special Offer of Surplus Stock."—RICHARD SMITH & CO., Worcester.

£1,000 OFFERED FOR PRIZES AT DUNDEE INTERNATIONAL EXHIBITION, 1884, where Dobbie's Prize Strains of Leeks, Turnips, Parsnips, Beet, Greens, Celery, Asters, French and African Marigolds, Cockscombs, &c., gained First Prizes respectively.

Catalogues, *free*, of Dobbie's Choice Pansies, Seeds and Plants, containing an Election of Pansies, the Culture thereof, with Remedies for the Prevention of the Pansy Disease, the True Secret of Growing Leeks and Onions for Competition, may now be had from DOBBIE & CO., Rothesay, N.B.

ROSES IN POTS, NEW and OLD.—12 splendid new varieties of 1885 for 36*s*.; 12 fine plants of Tea-scented (older varieties), coming into bloom, for 18*s*.; 6 new varieties and 6 older "Teas" for 27*s*. Cash to accompany all orders. Purchasers may select varieties. Descriptive lists on application to KEYNES, WILLIAMS & CO., The Nurseries, Salisbury.

NEW CATALOGUE FOR 1885, containing probably the largest and best collections of Pansies, Violas, Phloxes, Pentstemons, Antirrhinums, named Hollyhocks, Mimulus, Double Potentillas, Delphiniums, Pyrethrums, Hardy border Herbaceous and Alpine plants, Dahlias, Pelargoniums, Fuchsias, Double Begonias, &c., &c., ever brought together, is now ready. Should be consulted before buying elsewhere, and will be posted on application. JOHN FORBES, Nurseryman, Hawick, N.B.

HARDY AQUATICS.—Finest collection in the country, Herbaceous, Alpine, and old-fashioned border plants, from per doz. in 12 sorts, 4*s*.; from per 100 in 50 sorts, 30*s*. Catalogue on application to J. VANDER REES, Exotic Nursery, Tooting, S.W.

PURE WHITE GERANIUM, "NIPHETOS."—A hybrid nosegay, of a purer white than any we are at present acquainted with. It differs from all other white varieties in that it remains pure white to the very last, and never under any circumstances becomes tinted with pink, or any other colour. The trusses are of immense size, producing in nearly every case upwards of a hundred flower pips each. It is of a strong, robust, dwarf habit, free flowering, and whether for Winter or Summer flowering, or for cultivating indoors or out, will be found invaluable. Price 6*s*. per doz.—H. LEANEY, Upton Nursery, Forest Gate, Essex.

Laing's Prize Begonias

JOHN LAING & Co.

GOLD MEDAL Prize Plants. Now again in bloom, presenting an unrivalled floral display.

Visitors are cordially invited.

Frequent trains from the City and from the West End to Catford and Forest Hill Stations.

Begonia Growers, Forest Hill, S.E.

1885. **Scotch Florists' Flowers.** 1885.

R. B. LAIRD & SONS (successors to Downie & Laird), will have much pleasure in posting their new Catalogue of the above.

OUR COLLECTION has been well known for many years to be the largest and best in Scotland.

ROYAL WINTER GARDEN, EDINBURGH.

CHRYSANTHEMUMS.—Now is the time to plant. 12 varieties, 1*s*. 9*d*.; 24, 3*s*. 3*d*., correctly named.

Early-flowering varieties, bloom out-doors from July till November, 6 for 1*s*. 3*d*.; 12, 2*s*.

SINGLE CHRYSANTHEMUMS.—Very free bloomers and most useful for cut bloom and decorative purposes, bloom well out-doors, and can be had in bloom from October till January; 6 for 1*s*. 6*d*.; 12, 2*s*. 6*d*. Catalogue, with directions as to cultivation, four stamps.—W. E. BOYCE, F.R.H.S., Yerbury Road, Holloway, London.

Irish Ferns for Sale.

800 SPECIES and VARIETIES Botanically named and labelled at moderate prices. Three Maiden Hair Ferns, and one each of Ceterach crenatum, Asplenium marinum, Black Maiden Hair Spleenwort, Polystichum aculeatum with thorns, Lastrea æmula, like Parsley, Cystopteris fragilis, and the rare Polypodium semilacerum, Royal Fern, Blechnum spicant, Crested Harts-Tongue and marginatum Ferns, &c. All large and well rooted. The Twelve rare and assorted species and varieties, 3*s*. 6*d*., post free; or 8*s*. per 100.

The Beautiful Mountain Avens, Yellow Rock Rose, Trailing Arbutus, Sundew, the insect killer, Crowberry, Bloody Cranes Bill, Pinguicula, Orchis mascula, and Lady's Mantle. The selection 3*s*. 6*d*. Post free to any part of the United Kingdom.

P. B. O'KELLY, Botanist and Fern Collector, Ballyvaughan, county Clare, Ireland.

ASPARAGUS.—This delicious Vegetable does not require half the expense often incurred; for directions see Seed List, free. Strong Roots, 2*s*. 6*d*. per 100; extra strong ditto, two years old, 3*s*. 6*d*. per 100; forcing, 12*s*. 6*d*. per 100.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

120 Plants for 5s.

WILLIAM BADMAN offers his 5*s*. box of plants, containing 60 Geraniums of sorts, 10 Blue Lobelias, 10 Fuchsias, 10 Blue Ageratums, 10 Calceolaria, 10 Scarlet Tropæolums, 10 Sweet Heliotropes. All well rooted, and sure to give satisfaction. Half the above for 2*s*. 6*d*.; post-free 6*d*. and 9*d*. extra.—P.O.O. with order.—Cemetery Nursery, Gravesend.

Good and Cheap Insecticides.

TOBACCO PAPER and CLOTH (Roll).—Thoroughly reliable quality; low prices. Trade supplied. RICHARDSON & CO., Tobacco Works, Leith, N.B.

WEEDS: HOW TO DESTROY THEM.—Use SMITH'S celebrated WEED KILLER, the cheapest and most effectual preparation ever invented. Testimonials and prices on application to MARK SMITH, Manufacturing Chemist, Louth, Lincolnshire.

ORCHID BASKETS, RAFTS, BOATS, &c., including copper pins and wires:—

INS.	DOZ.	INS.	DOZ.	INS.	DOZ.	INS.	DOZ.
3	4*s*. 6*d*.	4½	6*s*. 6*d*.	7	10*s*. 6*d*.	10	17*s*. 6*d*.
3½	5*s*.	5	7*s*. 6*d*.	8	12*s*. 6*d*.	11	21*s*. 6*d*.
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Rafts 1*d*., Boats, 1½*d*., Cylinders 2*d*. per inch run.

Sample of 12 Baskets, Raft, Boat, and Cylinder, 14*s*. 6*d*.

J. E. BONNY, 88, Downs Park Road, Hackney, London, Grower of the leading varieties of Orchids.

This Advertisement appears every Month.

£20.—TOBACCONISTS COMMENCING.—An Illustrated Guide (110 pages) "How to Open respectably from £20," three stamps.—H. MYERS & CO., Cigar and Tobacco Merchants, 109, Euston Road, London. Telephone No. 7,541.

The Best Hardy Plant Nursery.

PAUL AND SON, THE OLD NURSERIES, CHESHUNT.

ROSES, in all ways;
FRUIT-TREES for Orchards and Garden Walls;
GOOSEBERRIES, CURRANTS and STRAWBERRIES;
TREES; SHRUBS; EVERGREENS; CLIMBING PLANTS;
RHODODENDRONS and other AMERICAN PLANTS;
ALPINE, ROCK and HOT-HOUSE PLANTS;
BULBS and SEEDS.

NURSERIES AT CHESHUNT STATION, G.E.R.
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,, HIGH BEACH STATION, Chingford, G.E.R.

Carefully prepared, illustrated, and fully-priced descriptive Catalogue, post free.

JAMES BOYD & SONS, PAISLEY and LONDON, Horticultural Builders and Heating Engineers to Her Majesty the Queen, H.R.H. the Prince of Wales, H.R.H. the Duke of Connaught, H.R.H. the late Duke of Albany, H.M.'s Board of Works, London and Dublin, H.M.'s Colonial Department, the Royal Horticultural Society, the Royal Botanic Society, and the Royal Dublin Society. Gold Medal, Paris, 1878.—London Office, 48, Pall Mall, S.W. Illustrated Circulars post free. Complete Catalogue, 3*s*.

HERBACEOUS AND ALPINE PLANTS.—Catalogue of 50 pages, containing full information as to colour, height, situation, time of flowering, &c., free on application. A capital collection for Rocks, Stumps, and Borders, from 25*s*. per 100, or 4*s*. per doz. Most of the plants being in pots may be despatched at any time, or by Parcels Post when fit.—RICHARD SMITH & CO., Worcester.

JOHN KENNARD'S Horticultural Soils, Sundries, and Berkshire Pottery Depôt. Catalogue of all Horticultural Sundries, &c., Post Free. Established 1854.—Swan Place, Old Kent Road, London, S.E.

WHAT IS IT? A FACT, that all Spite, Prejudice, and Menace can be overcome by an outlay of twopence, and prove "HEAPS'S FOOD FOR PLANTS" the BEST, SAFEST, and most CONVENIENT to use of all artificial manures. "Heaps's Food for Plants," with directions for use, is printed on salmon-coloured paper on each 2*d*. box, with red air-tight ends. Be sure you get it, don't be persuaded to take any other. Sold everywhere; a sample free, 3*d*. One doz. will be sent, carriage paid for 2*s*. Trade terms on application. HEAPS & SON, Lordship Lane, London, S.E.

6 CAMELLIAS or AZALEA INDICA, full of buds, 10*s*., large healthy plants of either in 5½ pots, all different choice sorts and colours. Packing gratis, and extra plants for carriage.—E. VAN DER MEERSCH, Queen's Nursery, Selhurst, S.E.

"YE NARCISSUS OR DAFFODYL." An interesting history of the Daffodil, covering a period of the 300 years, with its poetry, and notes on hybridization, with many illustrations. Price one shilling, published by BARR & SON, 12 and 13, King Street, Covent Garden, W.C.

A GAY GARDEN for a Shilling.—Eighteen packets of showy flower seeds post free for 1*s*., such as Stocks, Asters, Zinnias, Petunias, Single Dahlias, &c., by which a garden may be stocked with flowers summer and autumn. A box of "Heap's Food for Plants" will be enclosed with above for three stamps extra.—J. F. DACE, Florist, High Street, Leyton, Essex.

TO GARDENERS and AMATEURS.—When you order from your Seedsman be sure and include TEBBS'S FUMIGATOR, a useful addition to the Greenhouse.

PROTECT YOUR FRUIT FROM THE FROST AND BIRDS.—Good Netting, 18 square yds. for One Shilling, shrunk too much for fishing use, but just suitable for gardening purposes. This Netting will last much longer than new, it having been preserved for the *sea*, which thus prevents the *rain* from *rotting* it. Can be had any width. Carriage paid on all orders over 5*s*.—HENRY JOHN GASSON, Fish Merchant, Rye, Sussex.

GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 ozs. to the gallon of soft water, 4 to 16 ozs. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s*., 3*s*., and 10*s*. 6*d*.

GISHURSTINE keeps Boots Dry and Soft on wet ground. Boxes—6*d*. and 1*s*., from the trade. Wholesale from PRICE'S PATENT CANDLE CO. (Limited), LONDON.

JOHN LAING & Co.

All Good Tubers just starting into Growth, free by Parcels Post. Catalogues Gratis.

OUR OWN UNRIVALLED VARIETIES.

Laing's Begonia Tubers.

Named Sorts, per dozen, Singles: A, 42*s*.; B, 36*s*.; C, 30*s*.; D, 24*s*.; E, 18*s*.; F, 12*s*. Named Sorts, per dozen, Doubles: R, 63*s*.; S, 48*s*.; T, 42*s*.

Unnamed Sorts, per dozen, Singles: G, 21*s*.; H, 18*s*.; J, 15*s*.; K, 12*s*.; L, 9*s*. For Bedding, per 100: M, 40*s*.; N, 30*s*.; O, 24*s*. Unnamed Sorts, per dozen, Doubles: W, 80*s*.; X, 24*s*.; Z, 18*s*.

Begonia Growers, Forest Hill, S.E.

SALES BY AUCTION.

Orchid Conference Week.
SPECIAL SALE OF ORCHIDS IN FLOWER.

MESSRS. PROTHEROE & MORRIS beg to announce that they purpose holding a SPECIAL SALE of ORCHIDS in flower at their Central Auction Rooms, 67 and 68, Cheapside, E.C., on THURSDAY, May 14th, the day following the Show.

Messrs. Protheroe & Morris will be glad to receive from intending Exhibitors an early intimation of their desire to include any lots they may wish to dispose of.

WEDNESDAY NEXT.
Carnations, Picotees, and Plants.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on WEDNESDAY next, May 6th, at half-past twelve o'clock precisely, 100 lots of choice named Carnations and Picotees from the celebrated collection of Mr. CHARLES TURNER, Slough, an assortment of Greenhouse Plants in Flower, and Ferns from an English Nursery; a consignment of Pancratiums and Amaryllis received direct from the West Indies; Pinks, Cloves, and a variety of Hardy Plants and Bulbs and 400 Gold Fish.

On view morning of Sale and Catalogues had.

FRIDAY NEXT.
By Order of Messrs. F. Horsman & Co.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION at their Central Auction Rooms, 67 and 68, Cheapside, E.C., on FRIDAY next, May 8th, at half-past twelve o'clock precisely, importations of Lælia anceps, dark forms in splendid well-leaved pieces; Schomburkia tibicina, the largest specimen ever imported; Odontoglossum Rossii majus, the well-known superb strain; Cattleya citrina in large masses; Epidendrum vitellinum majus in large masses; E. Brassavolæ, rare and very beautiful and established Orchids in flower; also a grand specimen of Cattleya Dowiana flowering on five growths.

On view morning of Sale, and Catalogues had.

Orchid Conference Week.
ORCHIDS IN FLOWER.

MR. J. C. STEVENS begs to announce that his usual monthly SALE OF ORCHIDS IN FLOWER will take place at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY, MAY 14th (the day following the Orchid Conference at South Kensington). Gentlemen desirous of entering plants for this Sale will please send particulars of same not later than Thursday, May 7th.

Sales for Next Week.

MR. J. C. STEVENS will SELL by AUCTION during the ensuing week as follows, at half-past twelve precisely each day:—

AT CAVERSHAM PARK, READING.
MONDAY and TUESDAY.—The Collection of Orchids, Stove and Greenhouse and Bedding Plants of the late Mrs. Crawshay, together with a quantity of Garden Implements, &c.

AT 38, KING STREET, COVENT GARDEN.
THURSDAY.—Valuable Importations of Orchids from Messrs. SHUTTLEWORTH, CARDER & CO., and the small collection of established Orchids formed by Mrs. Brock, of Lexden Park, Colchester.

On view mornings of Sale, and Catalogues had.

Special Offer of Orchids.

CHEAP ORCHIDS.—In consequence of having received large importations, I am able to dispose of my stock of plants received last year, now nice established plants, at very low prices; all are healthy, and those who prefer it can have this season's imported pieces. Growers of Orchids would do well to order at once, as many fine gems are contained in the numerous importations received, which are mostly unflowered. Established plants which have flowered and are flowering can also be had if required, but many growers prefer unflowered plants, because there are frequently valuable varieties which well repay the purchaser, shillings well invested being quickly converted into pounds.—Apply to W. GORDON, The Nurseries, Twickenham, Middlesex.

F. SANDER & Co., ST. ALBANS,
ORCHID GROWERS & IMPORTERS.

An immense Stock of fine robust Plants always on hand.

THE FARMER AND CHAMBER of AGRICULTURE JOURNAL. EVERY MONDAY. ONE PENNY. This JOURNAL, in its forty-second year, is now published at One Penny weekly, and is the largest, cheapest, and best Agricultural Paper. It contains all the Agricultural News of the Week, the Latest Markets, and numerous original and interesting articles on Farming subjects by the leading Agricultural Writers of the day. Should be in the hands of every Farmer. Post free, 6*s.* 6*d.* per annum. Specimen copies will be sent for one month, post free, for 6*d.*—Office, 291, Strand, London, W.C.

Price 1s., by Post 1s. 1d.

COW-KEEPING by FARM LABOURERS.
BY
HENRY EVERSHED,
Author of "The Supply of Milk to Labourers:" (Journal of the Royal Society of England, 1880.)

On behalf of the Royal Agricultural Society, the author of this pamphlet visited the principal estates where cow-keeping by farm labourers is encouraged, including that of Lord Tollemache in Cheshire, where nearly 300 labourers and cottagers keep cows, and insure them in admirably managed cow clubs, presenting the most successful example of cow-keeping on a well-organized system in England. The pamphlet contains numerous Communications on Cow-keeping, by Land Proprietors, and others, with Plans of Cottages, Cowhouses, and Outbuildings.

HENRY EVERSHED, HURSTMONCEUX, SUSSEX.

PANSIES
FOR
EXHIBITION.

My Pansies for the present season are now ready for sending out. The plants are remarkably strong and healthy, and, devoting as I do considerable time and care to the improvement of these flowers, my customers may rely upon receiving none **but the best.** It is my aim now, considering the numberless varieties put into commerce, not to offer a COLLECTION of Plants, but a **Selection** of the really first-rate and most highly deserving in their respective classes, and such as are worthy of a place in every collection.

Catalogues free on application.

JOHN DOWNIE,
Beechhill Nurseries, Murrayfield,
EDINBURGH.

CARNATIONS EXTRAORDINARY.

We make a speciality of magnificent double border CARNATIONS. The varieties offered are robust, free-blooming, fragrant kinds in all the grandest shades of colour and the choicest markings. Unsurpassed for border decoration. These are the production of a celebrated florist, and are exceedingly vigorous, and were one of the finest sights in England last autumn. Strong well-rooted plants, from layers last autumn, in variety, per doz., 3*s.* 9*d.*; 25 for 7*s.*; 50 for 12*s.* 6*d.* Finest named Carnations, 6*s.* per doz. The choicest Picotees named, 6*s.* per doz. Finest named Pinks, 4*s.* per doz.
For upwards of a century Lancashire has been famed for these favourite flowers. All free by Parcels Post.

RYDER & SON, SALE, MANCHESTER.

12 BRILLIANT COLEUS, in twelve finest named kinds, from our magnificent collection, for 2*s.* 6*d.*, well-rooted stuff. Our plants always please. Hoya Carnosa, well-rooted plants, each, 9*d.*, two for 1*s.* 3*d.* All free and safe per post.—RYDER & SON, Sale, Manchester.

20,000 VIOLAS.—A fine stock of sturdy, well-rooted plants—very best kinds. Violas produce at a slight cost a display unequalled by any other hardy plant. The flowers are produced in great abundance, and are as large as many Pansies. The following low prices should induce customers to plant in large quantities:—12, in 4 kinds, 2*s.* 3*d.*; 25, in 5 kinds, 4*s.*; 50 for 7*s.*; 100 for 12*s.* Including all the choice colours. Carriage free.—RYDER & SON, Sale, Manchester.

COLOURED PRIMROSES.—Like ordinary Primroses, but in various colours, such as lilac, pink, rose, deep ruby-red, &c., &c. Charming border plants, blooming most abundantly. 12 for 2*s.* 6*d.*; 25 for 4*s.* 3*d.*; 50 for 8*s.*; in many beautiful colours. Carriage free.—RYDER & SON, Sale, Manchester.

COLOURED MARGUERITES (Single Pyrethrums).—The flowers are over 2 ins. in diameter, in beautiful colours, and are very much admired. For cutting are grand, and last a long time in water. Quite hardy, and succeed everywhere. 6 for 2*s.* 6*d.*; 12 for 4*s.* 6*d.*; 6 magnificent double hardy Pyrethrums (the flowers are as large as Chrysanthemums), in six named kinds, for 2*s.* 9*d.*; 12 for 5*s.* All carriage free.—RYDER & SON, Sale, Manchester.

SUPERB PETUNIAS.

MY PETUNIAS (single), are superior to all others. For size of bloom, substance, richness of colour, and freedom of flowering they are unequalled. Equally suitable for pot culture or for bedding; grow in any soil, town or country. 5,000 splendid plants now ready at 1*s.* 4*d.* per doz., free in strong box; or 2*s.* per doz. for extra large plants. Numberless testimonials. Sixth year of distribution. **DOUBLE PETUNIAS,** finest varieties to name, 3*s.* 6*d.* and 5*s.* per doz., safe and free by Parcels Post; 6 plants for 2*s.*

ALSO

	s.	d.
FUCHSIAS, 250 finest varieties, 12 fine named, in 6 sorts	2	0
12 distinct kinds	2	6
12 grand exhibition varieties	3	6
COLEUS, 12 good kinds	2	0
12 very fine new varieties	3	0
6 splendid novelties	4	6
CHRYSANTHEMUMS, 6 pairs best sorts	2	0
12 distinct	2	6
12 pairs fine varieties	3	6
WHITE MARGUERITES, splendid bushy plants per doz.	3	3
BLUE MARGUERITES (Agathæa), 6 plants for 1*s.* 6*d.* per doz.	2	6

For above and many others see Illustrated Catalogue, three stamps; lists of seedlings and cuttings free.

B. C. RAVENSCROFT,
GRANVILLE NURSERY, LEWISHAM.

FERNS A SPECIALITY.

HUNDREDS OF THOUSANDS OF
FERNS AND SELAGINELLAS.
The Largest Stock in the Trade.

CATALOGUES ON APPLICATION.

W. & J. BIRKENHEAD,
FERN NURSERY,
SALE, near MANCHESTER.

NEW CATALOGUE for 1885

Beautiful Flowers for Indoors, selected from an immense Stock. Our Glasshouses cover nearly 2 acres.

Wm. Clibran & Son's New List
(90 Pages Double Column)

Of the *newest* and *finest* varieties of all classes of Plants for Greenhouses, Stoves, &c., may now be had for two stamps. It includes only the best varieties of their respective classes. Every season new sorts are added. Comparisons of the varieties when in bloom carefully made, and the inferior kinds discarded. Intending purchasers may rely when selections are ordered as under on being supplied with varieties of merit only.

The following cheap Collections of finest named kinds consist entirely of our selection. Purchasers may select from the Lists at Prices as per CATALOGUE, which please see before ordering elsewhere.

12 Abutilons, 12 sorts, 3*s.*
12 Achimenes, 12 sorts, 2*s.* 6*d.*
12 Begonias, Tuberous, 12 sorts, 6*s.*
12 ,, Ornamental, 12 sorts, 4*s.*
6 ,, Evergreens, 6 sorts, 2*s.*
12 Bouvardias, 12 sorts, 4*s.*
12 Caladiums, 12 sorts, 6*s.*
12 Camellias, 12 sorts, 24*s.*
12 Chrysanthemums of any or all classes, Large Flowered, Pompon, Anemone, or Japanese, 2*s.* 6*d.*
50 ,, ,, 10*s.*
100 ,, ,, 18*s.*
12 Coleus, 12 sorts, 3*s.*
12 Ferns, 12 sorts, 9*s.*
12 Fuchsias, 12 sorts, 3*s.*
25 ,, 25 sorts, 5*s.* 6*d.*
50 ,, 50 sorts, 12. 6*d.*
100 ,, 18*s.*
12 Geraniums of any kind or all classes, Zonals for pots, or beds, Ivy-leaf, Doubles &c., 3*s.*
50 ,, all classes, a lovely selection, 12*s.* 6*d.*
12 Gloxinias, 12 sorts, 6*s.*
12 Greenhouse Plants, 12 sorts, 9*s.*
12 Heliotrope, 12 sorts, 2*s.* 6*d.*
12 Lantanas, 12 sorts, 2*s.* 6*d.*
12 Liliums, 6 sorts, 12*s.*
12 Palms, 6 sorts, 18*s.*
12 Pelargoniums, Show French, Fancy, &c., 9*s.*
12 Roses, 15*s.*
12 Salvias, 2*s.* 6*d.*
12 Stove Plants, Flowering 9*s.*
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12 Tropæolums, 2*s.* 6*d.*
12 Tree Carnations, 9*s.*
12 Verbenas, 2*s.* 6*d.*

W. CLIBRAN AND SON'S NEW CATALOGUE (free for two stamps) of Hardy Plants and Florists' Flowers for outdoors, is a list of the finest Collections in the Country of Low Priced Plants, and includes only varieties which are annually tested and compared to ensure the weeding out of all inferior plants. The following cheap Collections are of our selection only, all named sorts for Garden or Exhibition:—

12 each of ANTIRRHINUMS, PENTSTEMONS, PHLOXES, for 9*s.*, or 12 of any separate for 3*s.* 6*d.*
12 PYRETHRUMS, 5*s.*; 12 POTENTILLAS, 5*s.*; 12 DELPHINIUMS, 7*s.* 6*d.*; 12 PÆONIES, 9*s.*; or 12 of each, 22*s.* 6*d.*
12 CARNATIONS, 6*s.*; 12 PICOTEES, 6*s.*; 12 PINKS, 3*s.* 6*d.*; 12 Show or Fancy PANSIES, 3*s.*; or 12 of each for 17*s.* 6*d.*
12 DAHLIAS of any class, Show, Fancy, Bedding, Bonnet, or Single, 3*s.*; 50 varieties, 12*s.* 6*d.*; 100 varieties, 25*s.*
12 lovely IRIS, 3*s.*; 12 beautiful MIMULUS, 3*s.*
12 lovely PRIMROSES, Double, 6*s.*; 12 SAXIFRAGAS, 3*s.*; 12 SEDUMS, 3*s.*
12 Sweet VIOLETS, 2*s.* 6*d.*; 12 VIOLAS, 2*s.* 6*d.*; or 100 in four colours, 12*s.*
12 beautiful Seedling HOLLYHOCKS, 4*s.*; 50 for 12*s.* 6*d.*; 100 for 21*s.*
12 beautiful PRIMULAS SIEBOLDII, 12 sorts, 6*s.*
40 Acres fine NURSERY STOCK.
5 ,, HERBACEOUS PLANTS.
2 ,, GLASS HOUSES.

The Oldfield Nurseries, Altrincham, Cheshire, and the Seed and Bulb and Cut Flower Depôt, 12, Market Street, Manchester.

CLAPTON NURSERY, LONDON, E.
BUSH HILL PARK NURSERY, ENFIELD, N.

At the above-named Nurseries are cultivated in unusually large quantities, Azaleas, Bouvardias, Camellias, Climbing Plants, Cyclamen, Epacris, Ericas, Ferns, Ficus, Flowering and Decorative Plants in variety, Fruit Trees, Gardenias, Genistas, Grape Vines, Greenhouse Plants in variety, Palms, Pelargoniums, Rhododendrons, Roses, Shrubs, Stove Plants in variety, &c.

ORCHIDS A SPECIALTY.—The Stock at the Clapton Nursery is of such magnitude that, without seeing it, it is not easy to form an adequate conception of its unprecedented extent.

The glass structures cover an area of upwards of 236,000 superficial feet.

HUGH LOW & CO.
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The Gardening World.

SATURDAY, MAY 2ND, 1885.

THE PROPOSED POTATO CONFERENCE.—As compared with the reception accorded the other day at a meeting of florists to the proposed Primula Conference, it seems that whilst the latter has found the accompaniment of a wet blanket, the former will find hearty co-operation. The proposal to hold a conference on matters relating to the Potato, emanates from the fertile brain of Mr. Shirley Hibberd, who has long occupied a prominent position in Potato matters, and who in suggesting this conference is actuated by a desire to render Potato theory, if the term may be so used, popular amongst practical growers. It is purposed to hold the conference on the second morning of the exhibition of Potatos and of other garden produce, which will take place on October 27th and 28th next, in the conservatory of the Royal Horticultural Society's Gardens, South Kensington, when no doubt a large number of cultivators of the esculent, and others interested in it as an article of commerce, will be present.

It might well have been thought that a conference of the kind proposed would have been originally associated with the International Potato Exhibitions so long held at the Crystal Palace. These were originally established to promote the culture of the Potato, to increase its popularity as an article of food, and to make it interesting and pleasing as an exhibition subject, and it would have well harmonized with such considerations had an annual or even a triennial conference been a portion of the exhibition programme.

The committee of that exhibition has done something practical in its work at Chiswick in relation to the censorship of seedlings, and judging by what has been sent in for growth this season, it seems probable that a heavy duty will be thrown on the Seedling Committee later on. Of course, in association with work of this kind, knowledge is acquired that cannot fall to the lot of many to gather, and such knowledge may well be utilized in any conference on the Potato that may arise. As the International Potato Committee, however, have not adopted the conference as a part of its programme, it cannot complain if it is taken up and utilized elsewhere. Neither will it, we are assured; indeed we may go farther, and assume that as far as possible that body will willingly render what assistance lies in its power.

As to the nature of the topics to be conferred upon or discussed, that may well be a matter for consideration. It is hardly worth while to convene such a gathering as is proposed, and then allow it to take a merely theoretical or impractical form. Necessarily there must be much talk, but the value of that talk depends upon the quality of the information it encloses, or rather discloses. We may learn through the conference much that is new and valuable concerning Potatos. We may learn nothing. Gardening papers nowadays have become congresses for the discussion of topics that provoke differences, and the discussions are usually of a thorough character. The

chief drawback to be found in such discussions is that the parties thereto are often absolute strangers to each other personally, and so remain. A conference may therefore possess valuable social elements, which, in many ways, can hardly be too highly esteemed.

No doubt it will be asked what sort of topics, in relation to the Potato, can be discussed, and we may reply, that between the subject of Potato species of an edible kind, or suited for human food, and the final, and by no means uninteresting subject of cooking Potatos, and serving them up for human consumption, there is a vast field open, over which the inquirer could range with usefulness to himself and his audience. Assuming that allied Potato species become the subject of a paper, there would follow production of kinds from garden varieties, cultivation as a profitable market crop, and for garden and exhibition purposes; culture in relation to disease, with special reference to the experiments concerning the protective moulding system now being tried at Chiswick; fungoid and other Potato diseases; storing and preservation; cooking and serving up, and various other topics, all full of interest, if they are treated as worthy of interesting discussion.

The fact that a large display of tubers will be made at South Kensington at the time of the proposed conference will materially assist to accentuate interest in the proceedings on the part of cultivators, both professional and amateur. Even more may that interest be excited by the prospect of a grand Potato season, for such at least is the present promise. We cannot be sure that such promise may be borne out, for none can tell what, in the way of weather and disease, the summer may bring forth. We see a grand fruit season in prospect, and if we get the one we may be almost certain of a good Potato year also, especially that the promise in both cases was never greater than now. We may well hope, therefore, that when the conference does meet in October next it will have universally to testify that the Potato crop has been one of the finest on record.

Spiræa japonica.—Although there seems to be good reason for believing that plants of Spiræa japonica may be grown and prepared for market work in this country as well as in Holland, it discounts all efforts in that direction when we find that really first-class roots or clumps can be purchased abroad at 10*s*. per 100, a rate of production which it seems impossible to hope that home-growers can cope with. It is this element of cheapness in production which gives foreign growers such an advantage over home-growers in many things, but it is not to be assumed that in these matters we are altogether losers. Most certainly many of our market-growers and nurserymen will tell us that it is the primary comparative cheapness of many of the things they grow for public sale in our home markets which enables them to do business at all; indeed, but for the case with which many of these things can be obtained, trade here in many of them would be next to nothing, and labour in many ways would suffer.

With regard to Spiræas, their greatest enemies here are found in late frosts and keen easterly winds, which so commonly prevail just when the roots in the open air are making their first growth. To ensure absolute immunity for the plants from these evils, it is desirable that when divided in the winter whilst at rest, they should be at once planted up thickly, in low broad frames, in which they can remain until the month of May, being well hardened by free exposure on fine days. The roots will then have thrown out masses of rootlets, and, being lifted, will carry with each some soil attached. When planted out at about a foot apart in good soil, they will during that summer develop into really strong plants, and in the winter the crowns will be found large and plump. It is so important to save the first growth from injury by frost and wind in the spring, that no trouble should be spared to ensure that end. Clumps in 32-sized pots may be divided into three or four smaller ones, as they extend rapidly, and the crowns come all the stouter for having ample space and root room.

The Paris International Horticultural Congress.—The following is a free translation of the questions, eighteen in number, which it is proposed to discuss at the Congress to be opened at the head-quarters of the National Horticultural Society of France, 84, Rue de Grenelle, on May 21st, at 2 p.m.:—

1. The charges of railway companies for the carriage of vegetables.
2. Rules for naming garden plants, hybrids, and the necessity for retaining the names of the parents.
3. What is the influence of the electric light on vegetation?
4. Does moonlight exercise any appreciable influence on vegetation? If so, of what nature?
5. What influence has age in seeds on the products?
6. Can one tell, on seeing a seed of a diæcious plant, the sex of the plant which will come from it?
7. Are there any signs by which seeds which will produce plants with double flowers can be told?
8. Is it possible to tell seeds which will produce variegated plants?
9. How can it be explained that the ovary of an Orchid which has not been properly fertilized may swell to the size of one which has, and yet not contain seeds?
10. Are the changes which cultivation brings to the flower of a plant accompanied by morphological changes in the whole of that plant?
11. Has the temperature of the water used in watering a plant any influence on it, and, if so, what is it?
12. Can a cause for variegation be determined, and a means of causing it laid down?
13. How has it been possible to obtain plants (such as Mr. Bleu's Caladiums) in which there is no trace of chlorophyl in the leaves, and yet they grow well?
14. The use of bottom-heat in stoves and the degree which it may not pass without becoming injurious.
15. What foundation is there to the theory of Van Mons, according to which, in obtaining varieties of fruits from seeds, it is necessary to get those of bad quality before getting those of good?
16. What is the general opinion respecting Mr Louis Vilmorin's idea that a plant never gives a variety with variegated flowers until after it has produced one with perfectly white flowers?
17. What is the best way of seeding Orchids?
18. Is charcoal useful for mixing with the soil for Orchids?

We should add that the Congress will be continued from the 21st to the 23rd of May; that ladies will be admitted and allowed to take part in the discussions; and that the French language will be the official one for the occasion.

The Gardeners' Royal Benevolent Institution.—The report and list of subscribers for 1885 of the Gardeners' Royal Benevolent Institution has just come to hand, and I find on running through the list of pensioners as they appear, that from 1880 to the last election no less than sixty-one aged persons have been placed on the funds of the Society. Of this number, thirty-two are males and twenty-nine females, now receiving £20 and £16 per annum each respectively. Is there any other society within the reach of gardeners' opportunities and means doing half so much for the aged and infirm amongst us? If not, what a great inducement such facts should offer for everyone to take into consideration the desirability of making themselves eligible for such a comforting relief, should it be needed, by forwarding a guinea annually to Mr. Culter, or a ten guinea subscription paid down at once.—*W. Swan, Fallowfield, Manchester.*

Gardening Miscellany.

The offices of the Gardeners' Royal Benevolent Institution are temporarily removed from 14, Tavistock Row, W.C., to 20, Spring Gardens, Charing Cross, in consequence of the former premises being required for the extension of Covent Garden Market.

The Royal Horticultural Society of Ireland postponed its Spring Show from the 16th to the 22nd inst., in the expectation of being favoured with a visit from their Royal Highnesses the Prince and Princess of Wales, but suffered a great disappointment for so doing. The show was a good one, but it rained hard all day, and the attendance was perhaps the smallest ever witnessed at any previous show.

Messrs. Protheroe & Morris and Mr. J. C. Stevens both announce sales of flowering Orchids for the day after the Orchid Conference, Thursday, May 14th.

The lease of Wills's Nursery, Fulham Palace Road, S.W., will be put up for sale at The Mart, Tokenhouse Yard, E.C., on May 7th.

At an early date, Mr. Stevens will sell the collection of Orchids formed by A. D. Berrington, Esq., of Pant-y-Goitre.

The first annual exhibition of the recently-formed Highgate, Finchley, and Hornsey Chrysanthemum Society is announced to be held on November 5th and 6th, in the Northfield Hall, Highgate.

An Aster and Zinnia Show will be held at Maidstone on September 2nd, under the auspices of the local Gardeners' Mutual Improvement Society.

Mr. G. J. Cloke, lately gardener at Briarley, Aigburth, Liverpool, has succeeded Mr. Mortimer as gardener at Purley Park, near Reading.

Messrs. James Dickson & Sons, Chester, who bought Mr. Pickstone's stock of bulbs of the grand "Sir Watkin" Daffodil, have sent us a very fine bunch of flowers, some of which are larger than any we had seen before. The delicious fragrance of this variety is by no means its least conspicuous merit.

We learn that the floral decorations on the occasion of the recent visit of the Prince and Princess of Wales to Limerick Station were supplied from Summerville, the seat of J. F. G. Bannatyne, Esq., and arranged by that gentleman's gardener. On the raised dais on which their Royal Highnesses received the deputations were two groups of Marguerites, blue, white, and yellow; the crimson carpeting showing them off to the greatest advantage. Other available places were filled with groups of Spiræas, Dracænas, Palms, &c., giving a very charming effect, and adding much to the appearance of the scene. On the landings, and in various nooks and corners leading to the luncheon-room, were placed specimen Crotons, Palms, Dracænas, Pandanus Veitchii, Azaleas, &c. The luncheon table was tastefully decorated with Orchids and Ferns from the same establishment. The Princess also graciously received from the hands of Miss May Bannatyne, a young lady of four years, a splendid bouquet, most tastefully made up by Mrs. Bannatyne, and which consisted of Eucharis, Gardenias, Carnation Miss Joliffe, and many choice Orchids, prominent among the latter being spikes of Odontoglossum Alexandræ and Ada aurantica. The bouquet was edged with real Limerick lace and tied with the Danish colours. The Princess also received a bouquet from Lady Emly, and a very pretty basket of flowers from Miss Irvin, daughter of the resident magistrate.

Window Gardening.—At the Rathmines Town Hall, Dublin, on the evening of the 13th ult., a lecture on "The Difficulties of Window Gardening" was delivered by Mr. F. W. Burbidge, F.L.S., in connection with the Rathmines Sanitary Association. Mr. Lombard, J.P., presided. The lecturer, having first spoken of the advantages and the pleasures to be derived from a cultivation of flowers and plants, referred at some length to the difficulties attending the culture of window plants. Having disposed of these, he proceeded to detail the proper methods of growing such plants. They should obtain the proper kind of soil, and a sufficient amount of light and air, and constant moisture also should be allowed to the plant. The Rev. Canon Bagot, in moving a vote of thanks to the lecturer, spoke of the extent to which window gardening had been carried on in London. If there was to be a flower show in connection with this Association he hoped that there would be prizes given for the window gardening of children. It would inculcate in them habits of thrift and industry, above all things necessary in this country. He would be willing to contribute towards providing prizes. The motion was seconded by Mr. Hogg, and passed with acclamation.

EUPATORIUM RIPARIUM.

Can too much be said or written in praise of this plant? I think not; or, at least, not until it is known and grown by every one who has to supply white flowers in quantity at this season of the year. However much may have been written about the plant, I at least am not yet tired of singing its praises. I consider that I pay it a poor compliment when, after it has supplied me with armfuls of long branches of white flowers for weeks in succession, I throw the plant away; but I make it the *amende honourable* by again calling attention to its merits, and at this particular season, because now is the time to put in cuttings for next year's display. A small potful of cuttings—say eight or ten, each about 3 ins. long—should be placed in any close frame, or out of the reach of the sun's influence, until they have struck root, which will be in about a fortnight. They will then want potting off in small pots, which they will soon fill with roots, and make nice little plants if kept in a warm place.

They must next be hardened off, so that by the end of May or the beginning of June they can be planted out in an open border, where they will grow away freely during the summer months, and by the end of September will have become large enough to be called "bushes." They will then require good-sized pots, for they will have a mass of roots, and all close at home. If, after potting, they are placed in a shady, sheltered place for ten days before being housed, they will not then flag much when they get the sun upon them. They will begin to flower in February if they can be put in a stove temperature, and in the ordinary greenhouse in March they will open their innumerable small composite flowers. To prolong their season of flowering we remove some of them into sheds having a north aspect, so that they can get plenty of light and air by day by letting the doors remain open, and when there is no prospect of severe frost we leave the doors open at night too. They will keep fresh for cutting from in this way for a month.

If the flowers of this particular plant were of any other colour than white it would not be half so valuable, white flowers being used for such a number of purposes at the present day. For weddings or funerals coloured flowers will not suit, while at Eastertide the demand for white flowers for church work seems to be practically unlimited. Many gardeners have to supply flowers regularly all the year round, except during Advent and Lent, for the private chapels of the families they serve under; and perhaps few men could have given more useful information on this subject than the late Mr. Wilson of Arundel. I have often wished that he could have given us some of his experience with plants and flowers that are suitable for this purpose. In The Gardening World for December 27th last there is an article on E. Weinmannianum as a winter-blooming plant, but E. riparium is *the* plant for March and April, and those who have it not should either buy, beg, or borrow a plant to propagate from.—*T. W.*

A DENDROBIUM NOBILE SPORT.

It is strange that our old friend Dendrobium nobile should have been with us for so many years without varying, and that within the last two or three years it should independently produce sports in several places. The circumstance is all the more curious as the sports come from the old stock and not from the recent importations, which are noted for a difference in the habit of growth and in the colour of the flowers. The sport consists in the petals partaking of the colouring and, in some cases, of the form and other peculiarities of the lip, so much so, that some of them at the first glance seem to have three lips.

A DENDROBIUM NOBILE SPORT.

The first mention of these peculiar D. nobile sports was made by Professor Reichenbach, when he named Mr. Toll's plant (flowers of which had been sent him three years in succession), D. nobile Tollianum. At the same time the Professor stated that Mr. Lee had a good plant of it, and wisely remarked, "Mr. Toll's last flowers show a tendency to become twisted, and if the plant is well taken care of it will, no doubt, produce surprises of many kinds, at least I hope and I suspect so. We must admit that the petals are assuming the character of the lip, and when the three lips are fully developed the fovea will disappear, and when the column is reduced there will be a flos plenus."

I have seen Mr. Lee's fine plant twice, some of the flowers being plain and others slightly curled, and it very closely approaches the variety of flower which we here illustrate, and which was taken from a plant exhibited by Mr. James Moon, Mark Hall Gardens, Harlow, Essex. With reference to it Mr. Moon says, "It is a sport from D. nobile of 1883, from an old plant that has been here about ten years in a basket. I have not had any importations from anywhere, and therefore I am sure of its being a sport." Messrs. James Veitch & Sons, Royal Exotic Nursery, have Mr. Moon's variety, and sports after the fashion of the original D. n. Tollianum have appeared in other places. These, together with the plants of the true Tollianum, which seems to improve steadily every year, make a most beautiful and pleasing set of novelties which, growing well with the old D. nobile, will have an eager circle of admirers anxious to associate it with that easily grown and useful old Orchid. —*James O'Brien.*

THE VICAR'S GARDEN.

The most generally cultivated of spring flowers is, perhaps, the Hyacinth; indeed, in many small suburban gardens, Crocuses, Snowdrops, Hyacinths, and Tulips are the only early-flowering plants grown, and the cheapness of the bulbs combined with the small amount of labour involved in procuring a brilliant display has much to do with this. The Hyacinth is deservedly from its delightful fragrance, bright and beautiful colours, comprising many shades of blue, red, pink, and yellow, with the purest white, the first favourite. In most gardens a supply of roots is bought annually, and a bed of home-grown bulbs as we see them here is somewhat of a rarity. It is quite true that many of the spikes are not so fine as some of the imported oues, and far from being of an uniform size, but being planted thickly they present a more natural and artistic appearance, the smaller, thinner spikes being for vase decoration infinitely superior to the heavy lumpy spikes we see at spring shows.

All who have light warm soils, if content with moderate spikes of flower, need seldom be at any expense with these save for labour and manure. One thing of vital importance is to see that the bulbs are properly matured before putting them away till the autumn, when they are replanted, as should a mistake be made in this direction many bulbs may perish, and some of those which survive will fail to throw their flower-spikes satisfactorily. Those with limited space who cannot afford a separate bed for them, may dot them about in patches of various colours, and so treated they may remain undisturbed for years, care being taken to mark their position, so that they do not get dug up and misplaced.

The Arabis and Aubretias now in bloom are so generally found in gardens that it seems scarcely worth while to mention them. Rabbits, where they can get at it, will sometimes eat off the former, and where slugs are troublesome these will require some looking after. A real gem among early spring-flowering bulbs is Triteleia uniflora, now past its best. In a dry soil this is comparatively safe, but to insure this it is best to give it some slight protection; some half-decayed leaf-soil would in most places be sufficient, and it will well repay for a little extra care. A large clump or bed of this flowering really well is a sight once seen not soon forgotten, its light blue flowers shading to white being very lovely individually and collectively.

Among hardy-flowering shrubs the flowering Currant must always have a first place. Moderate pruning will much improve the appearance of this. Ribes speciosum is distinct from this, with a striking resemblance to the Gooseberry in growth. It is an old favourite of mine, flowering in May, and it is, I think, deserving of wider cultivation. Very few of the present generation of gardeners even know of its existence, yet it is one of the most beautiful of hardy-flowering shrubs. Garrya elliptica, recently noticed in your columns, should find a place wherever there is room to spare for it.

Chimonanthus fragrans, usually found against a wall, will succeed well enough anywhere south of London quite in the open. Its delighful fragrance is not its only recommendation, but to those who delight in sweet odours this will afford them a treat at a time when the vegetable kingdom seems wrapt in slumber, for it flowers in the depth of winter. Andromeda floribunda, one of the very best evergreen flowering shrubs now in bloom, is from its neat compact habit of growth suitable for the smallest places. It will thrive almost anywhere by giving it a little peat if the soil is not naturally adapted for it.—*W. B. G.*

GRAVEL PATHS AND WEEDS.

One of the first and most essential things with those who wish their gardens to present a well-kept appearance is clean gravel paths, and to keep them clean and neat, considerable expense is incurred in re-gravelling, or, where the depth of gravel will admit of it, in turning them. In many localities, from the distance gravel has to be brought it comes very expensive, and this is not the only objection, for should wet weather set in at the time, a great deal of annoyance and discomfort will result from dirt and grit being carried into the house on our boots. When all this has been done, even in the most satisfactory manner, it will not be very long before the weeds put in an appearance, when either hand-weeding or salting is generally resorted to. The first process is a very tedious one, and owing to the loosening of the gravel, and the loss resulting by much of it, when loose, being swept away, is a wasteful and, as I will show, a very unnecessary proceeding.

To salting the walks there are several objections. First, it only lasts for a limited time, and unless the application of it is pretty frequently repeated the weeds will grow all the stronger after a time. Again, it is unsightly, and should dry weather ensue it often lays a long time and gets carried into the house and on to the grass, which it turns brown. On the other hand, it sometimes happens that a sudden storm comes on, when it gets washed into the grass verges and kills the grass wherever it touches; and the most careful cannot always avoid either of these contingencies happening.

Having had a good experience of Smith's Weed Killer, which I see advertised in your columns, I can with the greatest confidence recommend it as being the most labour-saving material ever brought under the notice of the gardening community. If anything can be urged against it, it is that if universally used the sale would drop off after one season, because it does its work so well that there would not be so much of it wanted. This, however, is a producer's objection, and the consumer is not likely to urge it. Its application is simple, the only thing to be attended to is to saturate the paths evenly with the solution, and not to let it touch either grass or box edging. My own practice is to protect them with one inch of sand. This we have found quite sufficient, and when dry it can be swept up and used again, but not for any other purpose, and this should be specially borne in mind. Fowls and domestic animals must be kept out of the way till it has soaked into the ground, and if these simple precautions are taken it is quite safe.

We have some paths which were treated with it two years ago, with very few weeds in them, and still looking bright and fresh. It not only keeps the weeds down, but seems also to consolidate the gravel, making it when dry more firm and solid. Another recommendation is its cheapness, the first cost of doing the same amount of surface of gravel with it being about one half the cost of salt. All who may give it a trial will soon see that an annual or biennal re-gravelling is a very unnecessary expense. I should add that when using it the operator should avoid wetting his hands as much as possible, which with care can easily be managed.—*W. B. G.*

BELVOIR CASTLE, GRANTHAM.

Many have heard of this splendid seat of the Duke of Rutland's, and not a few of the beautiful Spring Garden which Mr. William Ingram has created as a product of his own genius. The Castle stands on a spur of the range of hills that rise from the Vale of Belvoir, running east and west, and attaining a mean elevation of 400 ft. They give a feature of interest to the landscape, and their picturesque character is enhanced by the rich woods with which they are clothed as far as the eye can reach in each direction. The Castle itself seems embowered in trees, and it is only on approaching it by a broad carriage-road that sweeps in bold curves through the encompassing wood that we observe that around its towers are extensive slopes of smooth lawn on the south approach, while on the east a portion of the ancient earth embankment that formerly surrounded the castle still remains, and shows what a formidable stronghold it was even as late as the time of Charles I., keeping at bay as it did the Parliamentary forces for the space of six weeks. A bastion abuts from the west terrace, and the cannon with which it is furnished commands the chief approach and the glacis sloping from the Castle.

A broad walk is carried along the foot of the glacis, shaded by a noble line of evergreen Oaks, and beneath them a screen of shrubs effectively concealing the Castle gardens. This is done with the best taste, as privacy is secured for the gardens, which, though so close, are still concealed, and the flowers are not brought prominently into notice, as the juxtaposition of cannons and flower-beds would be incongruous and out of character. Near the carriage-road a path pierces the screen of Evergreens, and, passing through a gate, we enter

The Castle Garden,

which is richly surrounded by noble trees and shrubs. A Silver Fir of grand altitude stands in the gardens; a copper Beech is also a striking object; and a splendid specimen of Magnolia tripetala occupies a central position. A charming summer-house gives a pleasing feature to the garden, and fronting this retreat are numerous flower-beds, clothed at every season of the year with plants appropriate to the time, but especially bright and gay in the early spring months with Alpine and hardy flowers, for which Belvoir has long been famous. One of the great charms of the place is in the prevailing irregularity of outline, and this is seen in a very marked degree in the flower garden. Looking from the commanding position of this garden, a charming view is obtained of a beautiful dell embossed in trees. Towards its lowest depth rests an elaborate arrangement of flower-beds; disposed as architectural adjuncts are six statues, representing the mythological deities that typify the seasons: these were the work of a brother of Colley Cibber, the dramatic poet, and formed part of the embellishment of an ancient and more elaborate garden. Going along the broad walk that encircles the Castle, at the foot of the grassy slope that surrounds it, and immediately below the terraces that rise in tiers on the south side, there are two fine examples of Cupressus Lawsoniana, planted by their Royal Highnesses the Prince and Princess of Wales, on the occasion of their visit to Belvoir Castle some years ago. Then retracing our steps and gaining the carriage approach road, we turn from the Castle and, descending the hill, reach what is called

The Horse-shoe Turn,

where we find converging roads leading east, west, and south: the southern road is up a steep ascent, conducting to the Mausoleum and to Blackberry Hill. It may be mentioned that the Mausoleum is shown on application. Then branching from the main road, out of the foot of the ascent, a walk turns into the wood called the Duke's Walk; this conducts us to the "Garden in the Walk," sometimes known as the Duchess's Garden, a singularly beautiful spot, situated on the hillside, in the form of a bay, exposed to the south, and guarded on the north-east, north, and west by tall trees that rise from the sides and on the embourage of hills. In this sheltered spot the Camellia grows and flowers, the Bay tree flourishes, the Bamboo grows luxuriantly, and a magnificent Araucaria imbricata stands in a central position in the garden. The arborescent vegetation is also represented by some fine examples of Cedar of Lebanon, Hemlock Spruce, Deciduous Cypress, Silver Birch, Lawson's Cypress, and the Chinese Juniper. Rare and beautiful shrubs are distributed about the garden: Azara microphylla, a lovely-flowering shrub, deliciously fragrant when flowering in early spring, and not nearly enough grown; Olearia Haastii, and many fine Azaleas and Rhododendrons; the variegated Acer negundo has a particularly bright effect when in full leaf. On the

Grassy Banks and Gentle Slopes

flower-beds are disposed, and terraced beds hold up the steeper portions of the garden: all these beds are filled summer and winter. The spring display, such as can now be seen there, is most delightful and beautiful during March, April, and May, when the noble owner has the opportunity of enjoying them. The great feature of the garden is the rock-work, profusely covered with Alpines and other hardy plants. This extends along the upper slopes of the semi-circle of hills, and from the walks and slopes that lead to its summit fine views of the lower reaches of the garden are obtained and of the adjacent country. A waterfall adds to the picturesque beauty of the scene, and many interesting plants may be found distributed in suitable positions on its slopes. This may be called the first resting-place in the Duke's Walk, which extends for nearly three miles. Round the hill beyond the garden, and connected with the walk, are various seats, a grotto, summer-houses, and the garden of the fountain. To reach these a long day is required.

The Kitchen Garden.

To reach the kitchen garden it is necessary to return towards the Castle, and either go by way of the dairy, by a steep path descending from the Horse-shoe Turn, or by pursuing the carriage-road, leading either past the Turn or southwards, when a sharp curve to the left conducts past the dairy-road to the approach to the kitchen garden by an imposing avenue, that runs through a wood called the Wilderness. This avenue is terminated by a Gothic-arched entrance to the kitchen garden, a space of eight acres enclosed within high walls, and having a fine range of vineries fronting the walls on its northern extremity.

The interest of this garden is less in its fruit trees—the collection of which is extensive—or its crops of vegetables, but in the great collection of herbaceous plants found in the reserve garden, which supplies the extensive flower garden near the Castle. There is a growing desire for flowers of a more varied character and of greater interest than are found in an ordinary garden devoted to bedding-plants, and this want Mr. Ingram is meeting by collecting and cultivating a large collection of the most manageable and desirable. Large beds of Narcissi, Anemones, Tulips, Scillas, the beautiful Chionodoxa Luciliæ (Glory of the Snow), Primulas, Auriculas, Gentians, Corydalis, reveal the character of the garden in spring. In summer can be seen Aquilegias, Limnanthes, the double Pyrethrums, the beautiful double white Rocket, Tropæolum polyphyllum, the Alpine Poppy, St. Brunos' Lily, Lilium tenuifolium, and other species and varieties, Saxifraga Cotyledon, Verbascum phœnicium, the pretty Primula Sikkimensis, Gentiana septemfida, Gladioli, and a host of others—all beautiful and hardy—serve to illustrate the interest in the herbaceous garden. Plant-houses, Cucumber-houses, Strawberry and Pine pits, are found without the walls, and extensive orchards surround the gardens on a scale of importance commensurate with the grandeur of the Castle.

The Spring Garden.

But what pen is competent to do justice to the beauty of the famed Spring Garden as seen at the middle of April. It is so utterly unlike, and so unapproachably superior to any of the spring gardens seen or heard of in the past, that its peculiar charms must be seen to be appreciated. Unusual precocity is the ruling characteristic of the spring display. By means of persistent selection Mr. Ingram has so "educated" (as he terms it) his plants—selecting the very earliest types that he has, Primroses and many other things in bloom long before they are seen in flower farther south. Snowdrops, Crocuses, Hyacinths, Scillas, Chionodoxa, Tulips, Narcissi, Primroses, Polyanthus, Aubrietias, Arabis, Forget-me-nots, Saxifrages, large-leaved and mossy, Anemones, and many other things, too numerous to mention, are employed in this unrivalled garden. Where else can be seen the beautiful creeping Forget-me-not (Omphalodes verna) as it is to be noted here, so free, so large in blossom, and of such a beautiful blue. Saxifraga ligulata, one of the earliest of the large-leaved Saxifrages, is largely used by Mr. Ingram, and with the best possible effect. But it is impossible to do justice to Mr. Ingram's Spring Garden by any description—it must be seen to be properly appreciated.—*R. D.*

Watering Gardens.—We learn from Messrs. Merryweather, of Long Acre, that over fifteen miles of the Patent Antimonial Red Rubber Garden Hose was despatched by them last season to all parts of the globe, and they anticipate the manufacture of treble the quantity this season. This particular sort of hose is carefully made by hand from pure raw Para Caoutchouc and Antimony strengthened with linen, and is undoubtedly a good article.

SINGLE DAHLIAS.

Next week will be a busy one with the wholesale growers of Dahlias, for it is during the first and second weeks in May that the young plants are sent out by thousands all over the country, some to fail, and some to succeed in affording pleasure to their recipients, according as the plants are treated from the time they are received. Those, therefore, who have not made up their minds what of the new or of the old sorts they should obtain, must quickly decide the question if they desire to participate in the first pick, for in most nurseries the old rule of "first come, best served" still holds good.

Having obtained the plants, the next thing to consider is whether they are all wanted to flower early or late, or whether it is desirable to extend the season as long as possible. With most flower lovers the latter is the desideratum aimed at, but some want to exhibit at the local shows, and with them the *sine quâ non* is a good head of bloom to select from at the date of exhibition. If flowers are wanted early, the young plants, as soon as received from the nursery in thumb pots, should be shifted into 48's, using a good, fairly light compost, and be grown on in a frame for two or three weeks, during which time they will attain some size, and if carefully planted will suffer no check from the operation.

Those which are planted out during the next week or two without a shift into larger pots, though protected at night by having a flower-pot placed over them until all danger of frost is passed, are checked a little in their growth at starting, and these will give the late blooms. Given a well-enriched deep soil, a good mulching of short manure, and plenty of water in dry weather, and few plants will make such a display in the autumn as single Dahlias.

Since the single Dahlia became such a popular favourite again, immense strides have been made in its improvement, and so fine are the best named sorts that have already been obtained, that a new one must be good indeed now to pass muster. Mr. T. S. Ware, of Tottenham, who grows these plants in immense numbers, planted out 30,000 seedlings last year, and only obtained, about a dozen sorts sufficiently distinct and good to warrant their being named and sent out. The ordeal through which seedling flowers have to pass at Tottenham is no doubt a severe one, but quality will tell in the long run, even with those who are satisfied with unnamed seedlings to start with.

Of the Hale Farm seedlings raised last year, and to be sent out this season, the following may be noted as unusually fine:—Dorothy Fell, pure white, edged with deep pink; Kate Vaughan, pale pinkish-mauve; Formosa, rich dazzling crimson with a golden disc; Marion Terry, salmon, shaded with rosy-scarlet; Alfred Smith, crimson lake, shaded with maroon; Laura Linden, deep mahogany; The Mahdi, deep lake, edged with magenta; Marion Hook, white shading to rose-pink; and Lizzie Webster, brilliant scarlet, with a yellow centre.

Of the older sorts, the best white, all things considered, is White Queen, though as regards the quality of the flower Duchess of Westminster carries the palm Lutea grandiflora is still the best of the yellows; Beacon the finest of the dark reds; and Scarlet Defiance the best of the scarlets.

BOUVARDIAS.

No plants that we grow are so much admired by visitors as the Bouvardias. The dull time of the year during which they flower, and the paucity of growers in this part, may in some measure account for this. As there are numerous readers of The Gardening World in this district, a few notes from one on the spot may prove acceptable, and be the means of inducing others to commence their cultivation. To me their culture is as easy as that of the Fuchsia, and the treatment which they receive differs but little from what is usually accorded to that common greenhouse plant. Excepting from November to February, when they have a temperature of 50 degs. at night, they are either in the open air, in a frame, or a cool greenhouse.

After the last of the flowers have been cut off each plant, it is moved into the greenhouse and watered sparingly, as heavy watering in a low temperature would prove disastrous. When the last plant has been so treated for two or three weeks, the whole are pruned back from one to four joints, whichever may be thought the best considering the strength of the shoots and the necessity of preserving the plants in good form. We then introduce them into a greenhouse along with some Fuchsias, where they are kept rather close and syringed every afternoon. Under this treatment they break freely, producing as many as a score of shoots on plants in 5-in. pots. After all the plants have become well on the move they are turned out of the pots, and all the soil that will readily shake away is removed, and some of the longest roots shortened. Many of the plants are placed in the same sized pots again, and others in smaller ones, according to their vigour.

If the condition of the soil will admit it, they may be watered immediately after being potted, so as to settle it round the roots. If, however, the soil is moderately moist, it will lay close enough, and the plants will be all the better without water for three or four days. They should be sprinkled over head every afternoon, either with a fine rose on the can, or with the syringe. We prefer the latter, as they are apt to get overdone by the other method. Some of the plants are moved into larger pots as they require it and plunged in frames, and others are planted out on a gentle hotbed and protected by a frame, which is raised up as the plants require more head room. If we subjected the largest plants to this treatment, they would grow too large for the house we have to devote to them during the time they are in flower, and they make such a quantity of roots that we are compelled to give them larger pots than we care for, or run the risk of losing many of the leaves through unduly reducing the roots.

Planting out should not be attempted by small growers or those who may not have a suitable structure to place them in after they are lifted and potted. Ordinary greenhouses, vineries, or peach-houses, are worthless for the purpose, and to introduce them into these would end in the plants dying if left in them long enough. Unheated pits will not answer the purpose in all seasons, for before the plants are established the nights get cold, and as the plants have to be shaded from the sun, there is not sufficient warmth to stimulate them into active growth quickly, and the moist atmosphere by which they must necessarily be surrounded will cause many of the leaves to decay, if not some of the tender growths as well.

The pit which we devote to this purpose has flow and return hot-water pipes, which can be regulated by valves. The interior is sunk below the ground level, and on this cool bottom the plants stand, and it seems to suit them admirably, for scarcely a shoot droops. Those who have not got similar accommodation should confine themselves to pot culture, which will give little trouble beyond ordinary attention to watering, and as plants with three to four dozen heads of flowers can be grown in a 6-in. pot, there is little necessity for having recourse to planting out. We have grown two or three plants in 8-in. pots, and as they were too large for the frame we plunged them in a partially spent hotbed of leaves, fully exposed from July to September. Those in frames seldom have the lights placed on them for three months in the summer, but we find the frames a great protection from wind, and should it blow with great force the lights are placed over the plants as well as during very wet weather.

Some of the plants have the shoots pinched, and others are allowed to grow on so as to give a succession of good heads of flowers, the finest being of course produced by the sucker-like shoots which come from the base and are left unpinched. In most instances the plants will have rooted through into the plunging material, and if so, the pots must be lifted up and placed back, the frame kept moderately close and shaded, so as to allow the plants to recover before being taken into the greenhouse.

The readiest mode of propagating Bouvardias, is to shake all the soil from a plant and select pieces about 2 ins. long from the thickest roots and insert them in pots containing a mixture of leaf-mould, loam, and sand. In order that the top of the cutting may be slightly covered with soil, the depth of the pot should not be under 3 ins. Extra strong pieces of roots if placed three in a pot and moved undisturbed to larger ones as required will make nice specimens before the end of the season, providing there is convenience for propagating and pushing them on after. The following year each plant may be potted singly after being rested and pruned as already directed. My experience of the different varieties is limited, and I have only grown B. jasminoides, B. elegans, B. Humboldtii corymbiflora, B. Vreelandii, and the double-flowered Alfred Neuner, which I do not like so well as either of the others.—*W. P. R., Preston.*

THE CANARY BELL-FLOWER.

I have looked in vain in Mr. B. S. Williams's "Flowering Stove and Greenhouse Plants" for this plant. I have looked through some leading plant catalogues and found it not. Has it nearly or quite gone out of cultivation? There has been so much searching after novelty of late years, that not a few things that we should rave about, were they introduced for the first time, have unfortunately fallen away into neglect. Undoubtedly, one of these is the Canary Bell Wort, or Bell Flower—Canarina campanula—for it was introduced from the Canaries many years ago. It is one of the oldest and best of the exotic Bell Worts, being a very showy, deciduous, herbaceous plant, doing well in an ordinary greenhouse.

It will attain the height of 5 ft.; the root is thick and fleshy, and it has an erect, branching, succulent stem, with a flower at the top of every branchlet. The flowers are pendulous, an inch in diameter, and of a bright reddish-brown, streaked in the inside with purple. I am sure, if a well-grown and flowered plant of this interesting object could be brought to one of the meetings of the Royal Horticultural Society, it would awaken a great amount of interest. I once knew a gardener, living in a small place in an obscure village—in such a place as one sometimes sees something exceptionally well done—who, in an unpretentious way, cultivated this plant with great success, and when his specimen was in full bloom it was a sight to be remembered.

He gave it ordinary greenhouse treatment, growing it in good mellow loam, peat, and leaf-mould, draining the pot well, and allowing it plenty of head room. In order to have it in perfection, it would perhaps be a good plan to get it into flower in a warm house, and then gradually harden it off, placing the plant in a cooler atmosphere, when it will remain in beauty for a considerable time. In watering when the plant is in a young state, care is necessary not to give it too much, the plant being of a somewhat tender, succulent nature, and so liable to damp off. When at rest it may be kept pretty dry. The gardener to whom I have referred used to propagate it by means of cuttings, just as one would Dahlias.—*R. D.*

NOTES FROM GARDENS.

Woodville, Lytham.—In the gardens of J. Turner, Esq., Woodville, Lytham, I noticed a few days ago a fine plant of Rhododendron fragrantissimum, trained on a balloon-shaped trellis 4 ft. in diameter. The plant was in a thoroughly healthy condition, the whole of the trellis being covered with growth, and the flowers opening fast Many trusses were already expanded, but a large number had yet to open; many of the blooms measured 4½ ins. across. As its name implies, this is deliciously fragrant, and even if it were not, its immense pure white flowers would cause it to be a most desirable acquisition for conservatory decoration.

In the conservatory where this plant was standing were also some three dozen plants of Vesuvius Pelargoniums in 8-in. pots. These Mr. Cross informed me had been taken in when the Chrysanthemums were over, and have been a mass of bright scarlet ever since. It need hardly be said that such a quantity of flowers of so bright a colour associated with other spring-flowering plants gave this house in the early spring a rather novel and yet an attractive appearance. Here also we noticed some large Tea Roses on trellises doing well, among the sorts thus managed being Adam, Madame Falcot, Madame Charles, Perles des Jardins, Aline Sisley, and Comtessa Riza de Pas.—*W. Swan, Fallowfield.*

The Amateurs' Garden.

THE GREENHOUSE.

Turning Plants Out-of-doors.—There are many things in the greenhouse now that may with safety be turned out-of-doors, where, if they receive proper care and attention, they will do better than they will if left under glass, as they will make a more steady growth and flower more freely when brought in again. This applies to nearly all the hardy subjects, but in the case of those having young tender shoots already made, shelter is needed for a time longer, till the weather gets warmer, and when they are turned out they should have a sheltered position or the foliage will suffer from the sun and wind acting upon it.

The way to grow Solanums well is to plant them out, after they have been pruned back, in some open spot, where they will soon break again and bloom and set a fine crop of berries. Spiræas and Callas, being water-loving subjects, do best in shallow trenches, as there they can easily be flooded and kept wet, and therefore preparations should be made for planting them out, before doing which they may be divided if it is desired to increase the stock or limit the size of the plants.

Chrysanthemums may yet be propagated, and cuttings or shoots taken off put in quite a month later will make useful stuff for furnishing in small pots if the points of the shoots are not stopped or only nipped out once just after they are rooted, when they may be either planted out or grown on in pots, the former plan giving the least trouble, as by running the spade round them any time during the summer they lift well in the autumn, and may be potted then without feeling much check. Those intended to make large specimens ought now to be potted on without further delay, the soil most suitable being a good holding loam, mixed with a little rotten manure, or have a sprinkling of one or other of the many

Artificial Manures now sold for such purposes. Clay's Fertilizer is as good as any, and a dust of this scattered over the top of the ball of any pot-bound plant works wonders in its appearance, and being inodorous and so handy for application it can easily be used by anyone without the least unpleasantness in the air of a room, and is therefore the thing for amateurs to keep by them. Clarified soot-water is also an excellent stimulant, and may be applied frequently, with the best effect, if weak; and as worms dislike it, it is of the more value by helping to keep the soil free from such plagues.

PITS AND FRAMES.

Bedding Plants.—The frames will now be full to overflowing with bedding-stuff, which should be gradually hardened by having the lights drawn off for a few hours during the warmest part of the day, and shutting them when the weather is not so favourable, by doing which the tissues of the leaves will become firm, and the plants in first-rate condition for turning out when the time comes for putting them into the beds. Half-hardy annuals, such as Zinnias, Asters, and Salpiglossis, may still be sown, as they will be quite soon enough, and plants raised thus late are often the best, as they grow on throughout without feeling a check. Any that are up and large enough to handle should be pricked out, and quick-growing bedding-stuff, such as Lobelias, Ageratums, Heliotrope, and others of that class, may be served in the same way, as they lift from the soil with good balls and do far better than when pinched in pots and often suffering from being dry at the roots.

BEDS AND BORDERS.

Bedding Out: Box Edgings.—The time is now near at hand for these to be filled with their summer occupants, and to be ready for putting the plants out advantage should be taken of the first rain that comes to soften the turf to get the edgings trimmed, which ought now to be done with the edging-knife, which will leave them sharp and clean, ready for running the shears after, and these will then be sufficient to keep them clipped and in excellent order for the rest of the season. If the edgings are of Box, and that has become too large and heavy, it may be reduced now with safety, as when cut thus early, before growth commences, the old stems break again and soon become refurnished with fresh foliage. Box may also be relaid, and if at all thick the surplus will generally pay for the job, as one yard will do three when it is pulled to pieces, and jobbing gardeners have always a demand for spare stuff.

Walks.—With the edgings in order, walks should be put in trim by just breaking the surface so as to destroy weeds and moss, but not deep enough to displace and bring up the large stones, or they will be a source of bother and discomfort for the rest of the season. As soon as the weather has destroyed the weeds a thin sprinkling of fresh bright gravel, that will not bind, should be put on and rolled down, and this will give a finish to the place and make it look neat all the summer.

THE FRUIT GARDEN.

Watering Fruit Trees: Insects on Peaches.—The dry weather has been telling severely on fresh-planted trees, all of which should be heavily mulched and watered to prevent contraction of the bark through shrivelling, which does much harm to the plants as the cells close and the rind becomes bound, causing the buds to start feebly and the growth to be slow and poor. The cold, too, has acted injuriously on Peaches and Nectarines, which are curled through fly getting on to the leaves, as is generally the case when the progress of the trees is slow, and unless these parasites are destroyed the shoots will soon be crippled to such an extent as to spoil them. To assail the enemy successfully, the best way is to finish the disbudding of the trees right off, and then set to work at the fly by wetting them with tobacco-water and dusting them with tobacco-powder, after which a heavy syringing should be given, or the garden engine used, to wash them all off.

THE VEGETABLE GARDEN.

Protecting Potatos.—As yet we cannot consider ourselves safe from frost, and therefore any Potatos that show their tops through the ground should be watched, and protected if an unfavourable change takes place in the weather. The readiest way of affording the necessary shelter is to run the hoe alongside of the rows and earth the Potatos up, but this should be done early in the day that the soil may become dry before night, as in its damp state it attracts frosts and conducts it to the young shoots just under its surface.

Peas.—Although early Peas do well up to this time sown in the ordinary way, those for coming in later require special preparation and treatment to enable them to stand the hot weather. The best course, unless the ground has been already very deeply cultivated, is to dig trenches, after the manner of those for Celery, and heavily manure the bottom, when they should be nearly filled up again and the Peas sown, which, by having so much root-room and good food below, will grow strong and set their blossoms freely and produce a fine crop.

Scarlet Runners also like the same kind of treatment, and in arranging for these and Peas the rows should be at wide distances apart, 10 ft. being the proper space for them, as then the Celery, which does best in partial shade, may be planted between, by managing in which way the one helps the other.

Beet and Carrots.—If these are not yet sown, no time should be lost in getting them in, but in preparing the ground avoid undecomposed manure, the best dressing for both being a sprinkling of soot, and, in addition to this, the Beet will be benefited by having a little salt dug in, and the same where Cabbage, Broccoli, or any of the Brassicas are to be planted.

Planting Winter Greens.—The great thing with most of these, and especially with Brussels Sprouts, is to get them out early, and before they are drawn, which being so, drills should be drawn ready that the plants may be put into them immediately after rains and while the weather is dull, as then they receive little or no check, but start on and get hold at once. Cauliflower and Lettuce that are approaching the turning-in stage will be greatly benefited by frequent applications of liquid manure, and to keep up a supply of both it will be necessary to sow and plant at regular intervals, according to the demand, and the same with Turnips, Horn Carrots, Radishes, and Spinach, a row or small bed of each of which ought to be sown every fortnight. As soon as the plants are up, it will do them much good to give them a slight dressing of soot or wood ashes, which will stimulate them and ward off the fly. Beds of Onions, or indeed most garden crops, are benefited by a similar application, and all should be hoed between, whether weeds are showing or not, but care must be taken that only the surface is just stirred, or the young plants will get disturbed and checked in their growth.

Parsley and other Herbs are always in demand, and as the first-named and Thyme make good edgings, both may be dibbled in along the sides of paths, but Mint, Basil, and Sage should have a bed to themselves.

CAMELLIAS AT WALTON LEA, WARRINGTON.

The Camellias at this well-kept establishment have flowered this spring most profusely, and even yet the blossoms may be counted by hundreds, but they are not so lasting now as they were about a month ago. Then indeed they must have been magnificent. Even when I saw them less than three weeks ago there were over 8,000 flowers in splendid condition, and many buds not then open. It may appear late for these flowers, which we are so apt to associate with Christmas and New Year's decorations, but Mr. Kipps object is to get them as late as possible, and he has hitherto managed to secure this desirable end and to obtain most magnificent blooms as well.

The specimens are planted out in a house entirely devoted to Camellias. On the back bed of the house are eight plants, perfect in shape, being trained and tied in so that they are now true pyramids in form, 12 ft. high and about 5 ft. 6 ins. in diameter. This narrow base arises from the fact that being planted some years ago they have now grown until the sides touch and the tops are nearly up to the glass. On the front bed are ten plants each about 10 ft. high by 4 ft. 6 ins. in diameter, and each plant almost a counter part of its neighbour. Among them are plants of Candidissima, De La Reine, several specimens of Alba plena, also a couple of Lady Hume's Blush, Jubilee, Chandler's Elegans, Comtesse Lavinia Maggi, Jenny Lind, &c., and Commendatore Betti. This plant has been at Walton Lea for no less a period than thirteen years, and was obtained originally from Mr. Louis Van Houtte. Mr. Kipps finding that one of the large plants in the Camellia-house was not just to his liking, inarched it with this showy sort, the result being that though this operation was performed ten years ago, he has a plant now just as large as the finest of the specimens named, 12 ft. by 5 ft. 6 ins.; this has also been covered with blooms.

Perhaps the finest plant in the house is a double white, just a little the largest plant, but densely covered with blooms well set in splendid foliage. On the trellis work on the back and end walls are several good plants, among them being the showy species Reticulata, its semi-double flowers being most conspicuous; also a plant of Mathotiana. This latter variety succeeds admirably planted out, its large flowers of deep crimson colour causing it at once to be an object of interest and pleasure.

In a greenhouse devoted chiefly to soft-wooded plants is a large specimen of Clianthus Dampierii. This is planted out in the border under the stage, and it has grown well and flowers very freely; in fact so quickly does it spread and take up more room than can be spared, that the pruning knife is very freely used to keep it in reasonable bounds. Covered with its curious racemes of bright orange-scarlet flowers it is at once an object of interest, and a most singular one too.—*W. Swan, Fallowfield.*

The Date Palm in India.—We believe that it is mainly to the exertions of Dr. Bonavia, Etawah, that we are indebted for the introduction of the true species of Date Palm into this country, and we are glad to learn that its cultivation is likely to be attended with so much success in Oudh. In Bengal, unfortunately, there is no probability of its ever being induced to produce fruit: many attempts have been made to introduce it, and plants will grow vigorously for years, in fact until they are sufficiently matured to bloom—but no sooner is the infloresence produced than they invariably succumb.—*Indian Gardener.*

MR. THOMAS MOORE.

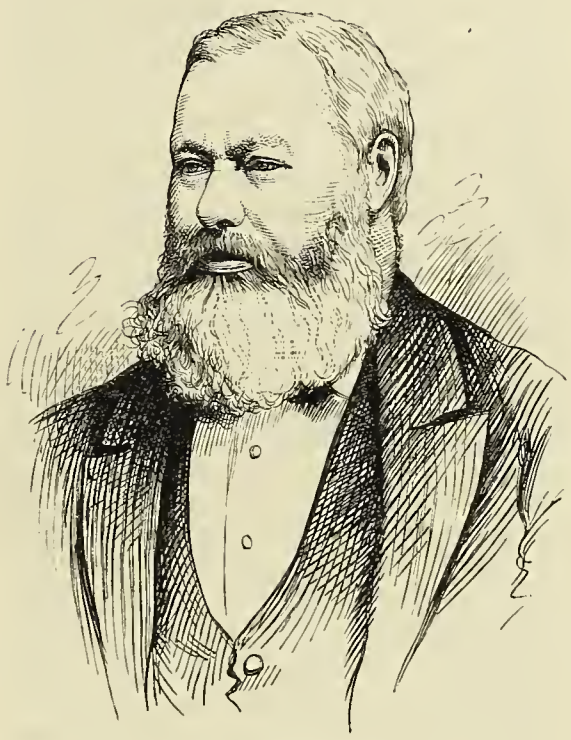
If in connection with the Royal Horticultural Society, or the Lindley Library, we had a gallery of portraits of eminent horticulturists, a prominent position on the line would by right have to be given to that of the gentleman whose counterfeit presentment we have to-day the great pleasure of presenting to our readers, Mr. Thomas Moore, for assuredly of all living horticulturists, none have a more legitimate claim to such a position of honour and distinction. For over forty years, in an extremely modest and unostentatious manner, Mr. Moore, by his contributions to horticultural literature, and in other no less useful ways, has devoted his time and energies to the diffusion of sound and valuable information on the principles and practice of gardening, and to the promotion of every movement having for its object the welfare of horticulture.

Mr. Moore was born on the 29th of May, 1821, at Stoke-next-Guildford, Surrey, and commenced his gardening career in a private establishment in the same county. After serving as a journeyman in one or two other gardens in Surrey, Mr. Moore went to the Royal Botanic Society's Garden at Regent's Park. In 1844 he brought out his first work on gardening, *The Cultivation of the Cucumber and Melon*, which was highly praised at the time as "substituting something like rational language fit for the consideration of rational beings, for the receipts which are only to be compared to those in our grandmother's kitchen-book." Four years later, on the late Mr. Robert Fortune leaving the Botanic Garden of the Society of Apothecaries at Chelsea, to go to China, Mr. Moore became curator of that establishment, an office which he still holds, and which his friends hope he may have health and strength to hold for a long time to come. From his youth Mr. Moore had a strong penchant for the study of Ferns, of which he subsequently became the recognized historian. In 1848 he published his *Handbook of British Ferns*, which became a popular work when the Fern-collecting craze was at its height nearly thirty years ago. *Ferns and Allied Plants* followed in 1851, and five years later was published *The Ferns of Great Britain and Ireland—Nature Printed*. In the following year, 1857, his *Index Filicum* and *Illustrations of Orchidaceous Plants* made their appearance; and in 1859-60, *Octavo Nature-printed Ferns*, in two volumes, was issued from the press. From Ferns, Mr. Moore about this time turned his attention to other subjects, and *The Field Botanist's Companion: British Isles*, was published in 1862, and *Elements of Botany* in 1865.

But while Mr. Moore had been busy at his books, his pen had also been busy in other directions; thus during 1850-2 he was joint editor of *The Gardeners' Magazine of Botany*, and for several years from 1861 he edited *The Floral Magazine*, now defunct. He next became editor and proprietor of *The Florist and Pomologist*, which ceased to exist at the end of last year. In 1866, he edited, and Messrs. Longmans published, *The Treasury of Botany*, a work in two volumes which every young gardener should strive to possess, and which we cannot better describe than as a dictionary containing "a short history of those genera of plants which are known to possess special interest on account of the medicinal qualities, or the commercial uses of their species, or by reason of their beauty or utility as garden plants." In 1873 a new edition was called for and issued in a revised form, and with the addition of a supplement. In 1878 came out a new edition, revised and extended by Mr. Moore, of that most popular of all gardening books—Thomson's *Gardeners' Assistant*,—and we next find our author contributing the article "Horticulture" to the *Encyclopædia Britannica*, which was subsequently recast, extended, and illustrated, and, with an introductory chapter on the principles of horticulture by Dr. Masters, was issued in a separate form as *The Epitome of Gardening*.

For a year or two previous to the death of Dr. Lindley, Mr. Moore assisted him in editing *The Gardeners' Chronicle*, and on the demise of "the Doctor" in 1865 he became co-editor of that journal with Dr. Masters—a position for which he was eminently qualified by reason of his possession of a vast store of horticultural lore, scientific, practical, and personal, and his unrivalled knowledge of plants. This position he occupied until the end of 1881, when the severance of his connection with *The Chronicle* was taken advantage of by his personal friends to present him with a piece of plate and a substantial pecuniary gift.

It will be remembered also by many that Mr. Moore carried out in the most successful manner the duties of Exhibition Secretary of the Great International Horticultural Exhibition held in 1866, and of which there does not seem to be any prospect of our seeing the like again. On the purchase of the Lindley Library with a portion of the surplus derived from "the International," Mr. Moore was appointed one of the Trustees, as he was also of the Memorial Fund which was raised a few years later to perpetuate the memory of the late Mr. James Veitch; he has also been secretary or treasurer or member of the committee of many other movements—a member of the Committee, for many years, of the Gardeners' Royal Benevolent Institution, a member for many years too of the Floral Committee, of which he was secretary from 1859 to 1865, and for several years Floral Director of the Chiswick Gardens, besides having been Examiner in Floriculture to the Royal Horticultural Society, as well as to the Society of Arts.



THOMAS MOORE, F.L.S.

ACHIMENES IN BASKETS.

I shall never forget the sensations of admiration and wonder with which I beheld for the first time the extraordinary baskets of Achimenes the late Mr. Thomas Speed used to grow at Chatsworth, and I have no doubt are still grown by his successor, Mr. Thomas. The large wire baskets were round, a good thick lining of Moss being placed next the wire-work, and then the baskets were filled up with a mixture forming a rich compost: then the plants started in heat were planted out. When they were far advanced enough, the baskets were hung up in the Victoria Regia house, and there formed masses of flowers of stupendous dimensions. As a matter of course they were kept well watered, and had every attention. The sorts grown in this way by Mr. Speed were Baumannii hirsuta, Karl Wolforth, Ambrose Verschaffelt, Longiflora, Longiflora major, Margaretta, Dazzle, Mauve Queen, Mauve Perfection, and Harry Williams, a capital selection, with flowers of varying sizes and of different and at the same time distinct colours. In many places baskets of smaller dimensions might be grown with comparative ease.—*Quo.*

A TITANIC FLOWER.

A wretched specimen of the Puya or Chaguale flowered at Kew last spring, and excited much attention, and I struggled to draw it in all the glare and discomfort of the Cactus-house, not venturing to ask that so precious a plant should run the risk of catching cold by being taken to my room there. Here (Chili) there are three kinds growing in quantities, each in its peculiar locality. The largest has a yellowish-green flower, and is seldom far from the seaside. Its proportions are those of a London gas-lamp, the flower-head even longer than the lamp, often over a yard long, and it is a most noble object when seen standing above its rosettes of Pine-like leaves, among the rocks and cliffs, with the sky and sea behind it of that deep blue and purple one only finds among volcanic rocks. The blue variety grows farther inland in the valleys and rocky clefts high up; whole hillsides are often covered with it, and I have seen twenty-five flower-stalks rising from one mass of leaves, which are silvery and most beautifully curved like some of the Bilbergias, its cousins. I shall never forget the first time I saw them growing when climbing in search of them near the Baths of Apoquindo; the clouds overtook me and hid everything for awhile, till I saw those tall flowers like ghosts close to me, then a snow-peak far beyond, and then I got into a new world of wonders, with blue sky overhead and a mass of cotton-wool clouds hiding all I had left below, and the strange Puya flowers for company and plenty of time to study them.

About sixty branches are arranged spirally round the central stem, each a foot long, and covered with buds wrapt in flesh-coloured bracts. These open in successive circles, beginning at the base; the three flower petals at first opening are of the purest turquoise-blue, then they become darker, a mixture of arsenic-green and Prussian-blue, the third day a greyer green, and then they curl themselves up into three carmine shavings, and a fresh circle of flowers takes their place outside, so that the longer the plant has been in bloom the larger its head becomes, and as the heads of the spikes or branchlets bloom last it loses its form and looks ragged and disreputable. Its stamens shine like gold in their polished metallic blue caps, and it is marvellously beautiful at first. The third kind is smaller, and its flowers thin and of a very dark blue, but its bright pink stalk is very effective when seen against the grey stones. The gum of the Puya is valuable as a medicine, and resembles gum arabic. Near the Puya the tall Cactus generally grows its pillars, often 6 ft. or 8 ft. high, crowned with white trumpet-flowers and buds, and ornamented with a parasite whose white and scarlet berries are eatable. I found that the flowers never faced the same side as the parasite; the former were as large as a German beer-glass, and their foot-stalk was full of sweet juice, most refreshing to suck on the dry hillside, and less stupefying than the usual contents of such glasses.—*Miss Marianne North in Pall Mall Gazette.*

FRUITS.

Fruit Culture under Glass.—Peaches: Consequent upon the bright sunny weather which we experienced last autumn, the trees in cool houses ripened their wood thoroughly, and this spring were sheets of large blossoms, which, owing to the beautiful sunshiny weather which prevailed when the trees were in flower, have set very thickly. The young fruit will, therefore, require to be severely thinned out forthwith, deferring, however, the final thinning until they have stoned.

The Disbudding of the young shoots, if not already done, should be completed, and any strong shoots that may be on the trees should have the points pinched out, to encourage an equal balance of growth on the individual trees. Should green or black fly have got on the trees during the partial withholding of the syringe and clean water when in flower, it will be necessary to fumigate the house with tobacco-paper a couple of evenings in succession, rather than fill the house too full at one time, syringing the trees thoroughly the following morning, and admitting air earlier and more liberally to the house than on the preceding days. See that the young shoots are tied in their proper position to the trellis in due time, and that in doing so overcrowding of the same be avoided.

Watering and Ventilating.—Give the trees copious supplies of clean water at the roots—liquid manure can be liberally supplied thereat after the fruits have stoned—and syringe them heavily early in the morning and again at closing time, from half-past three to four o'clock in the afternoon, according to aspect, &c., on bright days. The cool-house should be freely ventilated between the hours of putting on and taking off the air in the morning and afternoon.

Pine-apples.—Examine the soil in which Pine-apples are growing every week to ascertain their condition at the roots, and, should water be necessary, give sufficient tepid liquid manure to fruiting plants to thoroughly moisten the soil, and clean water only to those plants which have been recently potted, until the roots have pushed well into the soil, when weak liquid manure may be given. Damp the plunging material, walls, pathways, and the plants (slightly) overhead (but avoid letting water into the crowns), morning and afternoon at closing time—about a quarter to four o'clock, when the temperature in the fruiting-house may be run up to 95 degs. Shade the plants on bright days from half-past ten o'clock in the morning until three in the afternoon, giving plenty of air to all the houses during the interval from putting on the air in the morning until taking it off in the afternoon.—*H. W. Ward.*

Size of Vines for Planting.—At this season many who may be about to plant young Vines will choose those which are extra strong, and either cut back the canes to the approved lengths, or, when there is danger of "bleeding," rub off the buds downward till the desired length of cane is reached. This practice is sound enough, but when economy is an object (and the purchasing of Vines for extensive planting is attended with considerable expense) and future success is duly considered, we would not advise the planting of canes which have length and girth as their only qualification. First we should see how the wood is for ripeness. It should be firm like whalebone, and the pith scarcely visible. Then the roots should be carefully examined, and if they are hard and a mass of thread-like fibres, those are the canes we should decide on planting. Long naked roots, free of fibre, with soft pithy wood, are in every way objectionable. Two years ago we had a large quantity of new Vines for a range of new glass, planting supernumaries alternately; the latter, being half the price of permanent Vines, are now superior.—*C. H.*

Fruit Trees and "Snags."—The planting of fruit trees for the present season is, here in the north, drawing nearly to a close, and is seldom practised after the middle of April, except where the trees have been raised in a northern district and are not yet in very active growth. It is surprising to see year by year how the knowledge of manipulating young trees is decreasing. Whether it be that planters are showing more favour to "maiden" trees to begin with, or are becoming regardless of the quality of the trees which they purchase, I do not know; but it is certain that it is very difficult indeed to purchase fruit trees worth the planting, except they are had as "maidens," which are free from the mutilation of untutored knifemen. Nurseries in which well-prepared trees are found are comparatively few. Mis-shapen stock by irregular cutting is more the rule than the exception, and the worst feature of the whole is the abundance of snags left at pruning time. Shoots should be cut close above the buds, so that the bark may grow over the wounds, thus leaving nothing to die back which prepares the way for canker.—*M. T.*

FLOWERS.

Work in the Plant-houses.—Primula sinensis: There are few plants that are more universally popular than the Chinese Primrose. Both the single and double forms provide such useful material for the florist, that they are indispensable in any establishment where flowers are in demand during the winter. The double varieties are very useful, especially for cut purposes, yet they cannot compete with the single forms, as the latter can be more easily grown, and provide more variety, as well as being more brilliant in colour. Many new or improved varieties have been raised within the last few years. The greatest improvement has, perhaps, been made in the reds and purples. We have seen reds which might almost vie in colour with the scarlet Pelargoniums, while the purples are of that beautiful crimson-purple shade which is most valuable, especially under artificial light. Some advance has also been made towards obtaining a blue.

The Best Varieties.—It would be difficult to give a list of varieties that could be thoroughly relied upon, as being raised from seed all are liable to variations, and each colour is offered under different names by various seedsmen. The following may, however, help to guide those who are not already acquainted with the best varieties. Reds: Chiswick Red was the first great improvement in the bright reds that was offered. It was awarded a First-Class Certificate in the autumn of 1879, and since that time it has been improved and offered under various names, including Swanley Red (Cannell), Meteor (Little), Dr. Denny (Cannell), King's Scarlet (King), &c. Purples: Rubro-violacea; this originated at the same time as Chiswick Red, and was awarded the same honours; it has since been much improved. Purple Gem (Little), Swanley Purple (Cannell), King's Purple (King), are among the best forms that we have seen. Hayes's Purple and Ruby King (Sutton) are also good forms with fine large flowers, but not quite so deep in colour as the preceding. Whites: there has been no great improvement in these, unless we take exception to The Queen (Tompkins), which has flowers of immense size, and leaves intermediate between the fern leaf and the normal form. Blue: the nearest approach to blue is Messrs. Carter & Co.'s Holboru Gem, and Messrs. Cannell's Swanley Blue, which are very fine varieties. Many of the intermediate colours are very pretty, as are also the striped, mottled, and spotted varieties.

The Culture of Primulas.—To have good strong plants in flower early no time must now be lost in getting the seed sown. As the seed is slow in germinating and cannot penetrate the soil if covered too thickly, it requires some care, and we believe there are few things that have to be raised annually from seed that cause more trouble and disappointment than the Primulas, although, if properly managed, the seed will germinate almost as freely (though not quite so quickly) as Mustard or Cress. In the first place the pots or pans should be quite clean, and if new should be well soaked in water before being used; the compost should consist of loam, leaf-mould, or peat, and sand in equal portions, care being taken that it is quite sweet and free from worms or insects. In filling the pots the soil should only be shaken down, and not pressed. After the seed is sown a very slight sprinkle of soil may be shaken over it, but this should be sifted through a fine sieve, or, instead of covering the seed with soil it will be found a good plan to use sphagnum moss chopped up small and sprinkled over the surface. The pots should be placed in an intermediate temperature, and kept quite close and well shaded until the seed begins to germinate, and care must be taken that the pots do not get dry; if the seed once gets dry after it has begun to swell, fatal results are sure to follow. As soon as sufficiently advanced the seedlings should be pricked off, and in doing this they should be put in deep enough that the seed-leaves are only just above the surface of the soil. To get good plants it is essential that they should be potted on as they require it, and, if sown early and grown on in a cool position through the summer, they will make much better plants than if sown later and grown on in heat.

Double Primrose, Dr. Arthur Dumolin.—I read the article on Double Primroses by "E. J." in The Gardening World, April 18th, with much pleasure. Nothing can possibly give a greater charm to a garden in early spring than a good collection of these pretty early bloomers. A friend of mine whose garden space is very limited, and this well overhung by the shade of trees in summer, has made a speciality of these, and his little place now presents a most beautiful display. The sorts recommended by "E. J." I have grown for some years, and I can testify to the correctness of his observations, but there is one variety he does not seem to be acquainted with, and without which his list is incomplete, namely, Dr. Arthur Dumolin, a variety, I believe, of French origin, but one of the hardiest and strongest-growing of the race, bearing rich lilac plum-coloured flowers, in as rich profusion and larger than the old double white and lilac varieties. I put out two plants of this variety last autumn, and they are now one mass of bloom.—*J. Knight, Bilston.*

Bomarea Caldasiana.—This lovely species is figured in the March number of *The Illustration Horticole.* It is a native of the Andes of Quito, and succeeds well under greenhouse treatment; indeed it is said to be half-hardy. The flowers are borne in a drooping umbel, the outer segments scarlet, and the inner ones bright yellow, with numerous scarlet spots. The umbel is represented with sixteen flowers.

Anemones.—I notice that in a recent leader you extol to the skies these beautiful plants, but omit to mention where we can obtain the seeds. A mutual friend forwarded me a packet of seed last spring, accompanied by a brief treatise on their culture, which ran as follows:—"The site of the bed must be a sunny one, and the soil be taken out to the depth of 1 ft., when 6 ins. of good cow-dung must be put at the bottom. Refill the bed with the soil taken out. Then put one barrowful of charred refuse on the top. Let it stop for a few days, until the land gets perfectly settled down. Rake the surface fine and draw shallow drills at 1 ft. apart. The seeds must then be rubbed with sand in the same way as Carrot seed, and then, if the weather is dry, damp the drills, and sow the seed thinly, covering them up, and finishing off by nicely levelling the bed. Then be prepared to have two crops of weeds before the seeds vegetate." I admit that these flowers take a lot of pleasing, but, oh, Mr. Editor, we are amply repaid when they come into flower. They are now (April 24th) in full beauty. The colours range from the brightest of scarlets to the clearest of whites. I measured one flower to-day which was 4 ins. across. The petals of the darker varieties are pointed like Cactuses, while the light and parti-coloured ones are beautifully rounded and finely shaped. They most assuredly are the king of spring flowers in my opinion.—*R. Gilbert, Burghley.*

Chrysanthemums for Cutting Purposes.—Doubtless there are numbers of your readers who want cut-flowers in quantity during October, November, and the milder part of December. For this purpose there is nothing like the Chrysanthemum. Even those who grow for show purposes keep a quantity for cutting from for bouquets, church decoration, &c., as, of course, the scissors must not be used on the show-blooms. Now those who are blest with a south, east, or west wall cannot do better than put in a layer of

manure, remove all rubbish, weeds, &c., and plant rooted Chrysanthemums by the score or hundred, according to their space. Mr. Cannell's new single should be included, and the beauty of it is that as respects this flower town and country seem equally to suit it. Those who cannot afford to get new rooted cuttings from the nursery can get side shoots from the old stools in their neighbours' gardens free. Now is an excellent time.—*W. J. Murphy, Clonnel.*

Carpet Plants for Rose Beds.—There are numbers of hardy and half-hardy plants which form very pleasing carpets of green without injury to those plants for which they form a ground-work. It would have been easier to have given a reply to the query of your correspondent, "E. M. W.," p. 535, if it had been made clear as to the size of the Rose beds, and whether there would be occasion for treading on these carpets at pruning time. In the absence of such information, however, I will name a few of the most useful subjects, and which, at the same time, are quick growers.

First, then, we have Sedum hispanicum var. glaucum, than which we have no other plant which is so easily and readily multiplied. A few plants of it may be pulled into very small bits and dibbled over the surface 3 ins. or 4 ins. apart and the chances are that they will soon meet. It will thrive anywhere. Herniaria glabra is an excellent carpet plant, deep green in colour, and very hardy. Thymus lanuginosus forms a dense covering with its woolly leaves. Mentha Requieni is very neat and of a quick spreading habit, as also is the Gibraltar Mint, Mentha Pulegium gibraltaricum. The two last do not object to being trodden upon, and the last-named is certainly benefited by it. One point against it, however, is that it becomes patchy in bad winters, and sometimes, like the herb Penny Royal, is killed outright. The foregoing are all good, and their flowers in most cases being non-conspicuous they come and go and are hardly noticed.

Then we have Veronica repens, which is smothered in spring with white flowers, and Ionopsidium acaule, a pleasing plant in flower, and readily obtained from seeds. Leptinella scariosa is a neat plant lying flat on the ground, and a free grower. Any of the foregoing might be used provided a permanent carpet is required, but if it is desired to change it annually, so as to mulch the Roses, then your correspondent could not do better than sow thinly with Mignonette, or plant Violas, Myosotis, or similar plants; divers other things might be suggested, still, I think, sufficient has been said at present.—*E. Jenkins.*

Polyanthus Narciss, White Pearl.—Let a note be made of this fine pure white variety. It has a stout, well-formed perianth, and a cup that opens with a tint of delicate primrose, and then bleaches to white, or almost white. It is of a somewhat dwarf habit, and throws bold trusses. We have so many varieties that are white with gold and orange cups, that one that is almost white is decidedly acceptable. Queen of the Netherlands, Gloriosa, Her Majesty, Bazelman major, and Soliel d'Or, are fine sorts also. —*Quo.*

Epacris purpurascens.—In collections of these very showy plants it is not often that we now come across this fine old species, but Mr. Bullen has a fine bush of it in the Glasgow Botanic Garden, which has lately been bearing a grand display of its long spikes of white flowers. It is still one of the very best, and a plant in every way worthy of being widely cultivated.

Heteromeles arbutifolia.—This may be called an evergreen Hawthorn, and was known to the old botanists as Cratægus arbutifolia—the last name from the leaves resembling the Strawberry tree, or Arbutus Unedo of English gardens. It has also been called Photinia arbutifolia. The name now in use by botanists is Heteromeles arbutifolia. The native name of the California Indians is Tollon. On a journey from Mariposa to Calaveras the fragrance of the white flowers reminded the writer of the sweet Hawthorn hedges of the Old World.—*Gardeners' Monthly.*

VEGETABLES.

The Kitchen Gardener's Calendar.—Planting: Now that the long-looked for genial change in the weather has taken place, good breadths of Cauliflower, Cabbage, Brussels Sprouts, and Lettuces should be planted forthwith. Plants of Parsley resulting from seeds sown in a box and placed in heat, as recommended at p. 395, should also be transplanted in rows 15 ins. apart and about 7 ins. from plant to plant in the rows, and be shaded from sunshine with mats supported by sticks for a few days until the roots have taken to the soil, when, of course, it can be dispensed with.

Seed Sowing.—Make another good sowing of Peas of some of the most approved varieties for gathering from early in August. Broad and French Beans should also be sown to supplement the gatherings which previous sowings will yield in due time. Sowings of Spinach and Turnips should also be made, and previous sowings be thinned out to 9 ins. from plant to plant in the rows.

Forcing Department.—Cucumbers, like many other things, are easily grown by those who understand their culture and possess suitable accommodation for their production. They may also be creditably grown by those who possess the accommodation, but lack the experience, by their reading attentively and acting upon the instructions given from time to time in your columns. Where there is only one house or pit devoted to the growth of Cucumbers, the same plants can, where an adequate supply of hot-water pipes is provided for maintaining the needful temperature, be kept in a fruitful condition throughout the year by following a judicious course of treatment in the way of light cropping, and the removing at short intervals of old shoots and leaves to make way for young ones, which, by thinning and stopping, should never be allowed to impede the development of large healthy leaves and short-jointed consolidated wood.

In order to secure the latter, a free circulation of fresh air, during favourable weather, is, in addition to the shoots having sufficient light and room, absolutely necessary. And in order to maintain the supply of fruits after the plants have been producing fruit for a couple of months, a top-dressing of three parts light loam, and one of horse-droppings or short dung, should be laid on the roots, the old shoots removed and replaced with young growths, which treatment will have an invigorating influence upon the plants, which, by being kept well supplied with liquid manure at the roots, and the foliage well washed with clean water morning and afternoon at closing-time with the syringe, will bear as freely and as well as if they had not been previously cropped.

All the young fruit but one should be removed from the individual shoots as soon as they are set. The crop, however, should consist of fruits in various stages of growth, so as to prevent a blank from occurring in the supply, and as soon as the fruits have attained to table size—under rather than overgrown, and of a dark green colour—they should be cut, and not allowed to remain needlessly exhausting the plants, until a shade of yellow takes the place of the former colour, and consequently the fruit, instead of being crisp, becomes tough. When cut, the fruit should be stood on their ends in a vessel containing half-an-inch of clean water, in a cool room, until required for use. The above remarks are equally applicable to plants growing in frames.—*H. W. Ward.*

Stopping Scarlet Runner Beans.—I feel a disposition to join issue with Mr. H. W. Ward in his recommendations in The Gardening World, April 18th, with respect to stopping Scarlet Runner Beans. Certainly circumstances and conditions of localities vary, but my experience goes to prove that as heavy a crop can be obtained in this district with 5-ft. sticks as with 8-ft., and my topped Beans, with last year's dry summer, continued to bear much longer and finer in quality than those which were allowed to run their full height. Many tons of these beans are annually grown by market gardeners in the Vale of Evesham and at Lichfield, for the supply of the Midland markets, without any sticks at all: the rows are sown about 2 ft. 6 ins. apart, and kept topped back. The result must prove satisfactory, or the practice would not be so extensively carried out from, year to year and that, too, in districts where sticks are easily to be obtained.—*J. Knight, Bilston.*

I have learnt so much from the sound practical teaching of your excellent correspondent, Mr. Ward, that I feel somewhat loth to question the advice he gave last week as to growing Scarlet Runners on 8-ft. sticks, and not stopping the plants till they reach the top. Where there is plenty of room, where such sticks can be readily obtained at a low cost, and where time can be spared for gathering Beans with the aid of a step-ladder, no doubt Mr. Ward's system has advantages, or he would, I am sure, be the last to advocate it; but where all the conditions are the reverse of those stated, then I think the plan I have adopted for some years is the better one of the two. My garden ground is limited, and I can only afford space for two rows, the first of which will be sown in a week's time, and the second one at the end of May or in the first week of June. I sow the seeds in two rows in a wide drill, generally about 8 ins. or 9 ins. apart, and only use stakes 4 ft. high. As soon as the plants reach the top of the stakes, they are stopped at once, and the supply I get as a rule is something astonishing, to say nothing of the pleasure I derive from the beauty of the plants when in flower. From my second row I generally manage to pick Beans much later than my neighbours, by keeping a sharp look out for autumn frosts, and syringing the plants with cold water before the sun comes on the scene, to assist in the work of destruction by causing a too rapid thaw. This is a "wrinkle," and an old one, too, but may not be known to some of your readers.—*Schoolmaster.*

Potato Manures.—I am testing Jensen's fish manure for Potatos this year, but not in pure form. It is a mixture of fish and phosphate, and I think may prove in this combination a really good manure for the tubers. Hitherto having tested several well recommended Potato manures, I have found the very best in Hill's Concentrated; a very phosphatic compound, in which ammonia was not largely present, that has always proved more productive of tubers than of haulms, and in that respect has differed so materially from some other strong ammonial manures which have given strong dark-leaved tops and less root produce. I cannot now compare the relative cost of Hill's manure with Jensen's fish compound. There will be time enough for that when the results are seen for this year.

I have a trial extending over four kinds of Potatos, none very robust growers, and in soil that is rather poor than otherwise, and certainly free from any animal manure. With each sort of Potato I have one row of Hill's manure and one of Jensen's, the quantity being in each case equal, also the sets in the rows and general size or weight equal. Also I have with each sort one row without manure, just to see the actual value of the manures as found in the increase of produce. When lifted the produce in each case will be weighed separately, and the result in simple figures will be more eloquent than any words, of approval or otherwise, I or any one else may pen. The Potatos were planted in shallow drills as the ground was dug, and the dressing strewn in with the sets, in the proportion of a 48-sized flower-potful (not heaped) to a row 22 ft. in length, so that I do not think I can be charged with using the material in excess. For the production of Potatos only, I have a high opinion of any good artificial manure that is compounded chiefly of phosphates.—*A. D., Bedfont.*

The White Dutch Runner Bean.—Having grown this runner Bean for three years side by side with other varieties of Scarlet Runner, I am disposed to give it the preference. The seeds and blossoms are white, otherwise when growing no difference can be discerned in it from the other kinds. I find, however, that its blossoms set better than the others, and the crop is therefore heavier. Last year, when Carter's Champion and Painted Lady were dropping their blossoms from the drought, the White Dutch set in clusters, and I find my experience borne out by other of my friends who have grown it the last three years. —*J. Knight, Bilston.*

THE

Orchid Growers' Calendar.

The Work of the Month.—The present is a very busy season with the Orchid grower, for besides the potting of many of the yet unpotted Dendrobes and the placing of them and other growing plants into comfortable situations where their growths will come on vigorously, are the numerous other matters which the increasing power of the sun and the consequent need of shade and lessened necessity for artificial heat brings. From now until the frosts come there should be no artificial heat on the cold-house in which the Odontoglossums, Masdevallias, &c., are kept.

Insect Pests of all kinds are most prolific and troublesome at this season, and it is better to look well after them at once than to let them establish themselves. When they are routed in spring they never get so bad to deal with during the rest of the year. There are now several good insecticides, and some are in favour of one and some of another. Many speak very highly of Hughes' Aphicide as a means of applying the Fir-tree oil, which, when properly mixed according to the instructions, is a safe and certain destroyer of all plant pests, mealy-bug included. The temperatures for May should be:—

Warm-house: East Indian.—70 degs. to 75 degs. by day, 65 degs. at night.

Cattleya or Intermediate-house.—65 degs. to 70 degs. by day, 60 degs. at night.

Cool or Odontoglossum-house.—60 degs. to 65 degs. by day, 55 degs. at night.—*James O'Brien.*

ORCHID NOTES.

Shading Orchids.—As Mr. O'Brien, at p. 540, asks other correspondents to give their opinion as to what they find "the best, cheapest, and most durable" material for blinds for Orchid-houses, I venture to give mine. The Parisian blinds have been in use here for four years, and although more expensive at first than the ordinary shading material, they have the advantage of lasting much longer; in fact, they are almost imperishable. "They are made of thin wood laths, painted green, connected together with strong zinc chains." They break the direct rays of the sun, and yet there is a narrow space between each lath which admits sufficient light on the plants beneath. A cord running over a pulley rolls up each blind from the bottom. The air can circulate underneath as the blinds on our houses rest on the rafters, and cannot "sag" or touch the glass, as tiffany or other such like material does. I believe they are made to any size; ours are 4 ft. and 5 ft. wide. They are the best blinds that I ever used. Messrs. Richardson & Co., of Darlington, are the agents for them in this country. Anyone in doubt as to what to use should endeavour, where practicable, to call on gardeners where these blinds are in use, and judge for themselves.—*G. W. Cummins, The Grange, Wallington.*

Orchids at Kew.—On the 19th ultimo I visited Kew. I had read in the papers glowing accounts of the Orchids grown there, and, being a great admirer of this class, I anticipated both pleasure and information. In my ignorance, I expected to find special houses for Aërides, Cattleyas, Dendrobes, &c., but I saw nothing of the kind. I was directed to house No. 12. The Orchids occupy but a small part of it, most of the space being devoted to economic plants. I was greatly disappointed, or rather disgusted. Is there a country having such facilities as England to secure the pick of the fauna of both hemispheres? And here, in the Royal Gardens, we behold a show which would disgrace a third-rate nurseryman. Thousands and thousands of people journey to Kew, and there is a grand opportunity to educate the taste of the masses, but it is neglected. The gorgeous colours, the wonderful forms, where are they? Rubbish, rubbish is the name of what I saw.

Twenty-one genera (out of 334) were represented by one, and occasionally by two specimens. Excepting a good Dendrobium nobile and a fine Masdevallia Shuttleworthii, the rest was rubbish. Here is the complete list:—Ada aurantiaca; Bletia purpurea; Cattleya amethystina, citrina, Skinneri, Trianæ; Cypripedium barbatum, Boxalli, Bulleni, Haynaldianum, Roezlii, villosum, virens; Chysis bractescens; Cymbidium eburneum; Dendrobium fimbriatum oculatum, Freemani, nobile, Pierardi, thyrsiflorum, Wardianum; Epidendrum ellipticum, fragrans, nutans; Ipsea speciosa; Masdevallia Chelsoni, chimæra, gibberosa, ignea, octhoides, Shuttleworthii, triangularis, Veitchii; Maxillaria arachnoides; Odontoglossum bictoniense, cirrhosum, gloriosum, luteum purpureum, nebulosum, Oerstedi, Pescatorei, pulchellum, roseum, Rossii majus, Sanderianum, triumphans; Oncidium hetheranthum, and Phalænopsis; Ornithidium species; Phajus grandifolius, maculatus, Wallichii; Phalænopsis Parishi, Stuartiana; Thunia fragrans; Ponthieva maculata; Saccolabium gramineum; Stenorynchus speciosus; Vanda suavis. —*A. F. L.*

The New White Lælia anceps.—Inquiries having been made among Orchid growers as to the well-doing or otherwise of the many plants of this new Orchid which were sold at the sale-rooms a few weeks ago, it may interest those who have not yet succeeded in inducing the plants to make roots to know that in Messrs. John Laing & Co.'s steadily increasing collection at Forest Hill, all the pieces which were put in baskets with a moderate quantity of peat and sphagnum, and a small quantity of charcoal, are both rooting freely and breaking well, while those put on blocks, with and without sphagnum, are not doing so well. Those who put them in crocks only, have, we fear, lost time by so doing.

Oncidium sarcodes.—At Westfield, Wellingborough, the other day, I saw the above Orchid bearing a spike of sixty-five flowers, and Oncidium Cavendishianum with four spikes. In an adjoining house I noticed a fine plant of Oncidium incurvum showing six spikes. At this place may be seen Orchids associated with Pelargoniums, Cinerarias, and other half-hardy decorative or conservatory plants, which shows that anyone nowadays with small means can purchase Orchids and get a certain amount of pleasure out of them without going to the expense of heating or building a house expressly for them. At Westfield Dendrobiums, Cælogynes, and various other Orchids are placed in structures that appear to be better adapted for growing Asparagus in, as the only means of access is by lifting up a light. Mr. Hibbard, the gardener, who is worthy of a better charge, apologized for not being able to show me more. I saw enough, however, to convince me that Orchids, to give lasting pleasure, should be treated as such, and not as greenhouse plants.—*T. Simcoe.*

Cymbidium aloifolium.—This is a fine old Orchid and worthy of far wider cultivation. Its beautiful drooping spikes of flowers, which are cream-coloured, striped with dark crimson, hang over the side of the pot to a depth of 2 ft. or more, according to the strength of the bulb. Its cultivation is of the easiest. I pot mine in a mixture of loam, peat, and bone-dust, with sand to keep the whole porous. It is taken into a temperature of from 55 degs. to 65 degs., and during growth it is supplied with plenty of water. After growth is completed it does not require so much, just enough to keep the soil moist. In March it begins to push forth its spikes, which continue in perfection for three weeks or a month if kept in a dry atmosphere. I have a plant at the present time in an 8-in. pot carrying seven spikes, the largest having forty-two blooms on it. It is a native of the East Indies, and is sometimes grown under the name of Ærides Borassi.—*R. P. R., Liverpool.*

Orchids in Flower at Great West Hatch, Chigwell.—A correspondent informs us that there is a very good form of Cattleya Mendelii, with large flowers, now in bloom at this place; also specimens of C. Mossiæ, Lælia elegans and L. purpurata, Dendrobium Devonianum, D. thyrsiflorum, Odontoglossun Roezlii, a very dark variety, and O. Roezlii album, Phalænopsis grandiflora and P. amabilis, and Masdevallia Lindeni.

The Orchid Conference Banquet.—We are requested to state that the Orchid Conference Banquet will take place at The Albion, Aldersgate Street, on Tuesday, May 12th, at 6.30 p.m. Sir Trevor Lawrence, Bart., M.P., will take the chair, and gentlemen who propose to be present should send in their names at once to W. Lee, Esq., Downside, Leatherhead. Further particulars will be found on our front page.

Cyrtopodium punctatum.—This handsome terrestrial Brazilian species is now in bloom in many collections, and notably among other places at Syon House, Brentford, under the care of Mr. Woodbridge. The plant bears a strong spike of yellow blossoms, spotted with dull red or brown, and, even when not in bloom, it is a striking plant in a collection by reason of its long curved leaves.

NEW GARDENING PATENTS.

[*Compiled by Messrs. Lulman & Co., Patent Agents, 8, Essex Street, Strand, London, W.C.*]

4,903. Glazed Wall and Frame (J. Munro, New Barnet).—A vertical shelter wall is constructed of upright posts framed into a sill, and grooved to receive sheets of glass, which may be readily slid out at the top. Frames similarly constructed project at the ends at right angles to the main wall. The glass may be removed from the main wall and inserted in short grooved bars affixed to the top of the posts. Sashes are hooked on to wires strained between the posts at various heights, and are supported in an inclined position to serve as a roof. The glass being held in the grooves without putty, the sheets from the main wall may also be used in the roof frames.

2,764. Entrenching Tool (W. A. J. Blakeney).—A pick has a broad end formed with a shoulder, so that it can be used as a shovel and a wooden handle fitting into a socket. This handle is cased with metal at the end, so that it can be used as a chisel for tearing down bricks.

9,903. Portable Buildings (J. Farret, Châlons, France).—The framework of these is composed of wooden bars jointed together by iron shoes of various forms, to suit circumstances, covered with tarpaulin or any suitable waterproof material. The pieces may be joined also in such a manner as to form shelves or berths for various purposes.

6,039. Spade (E. B. Hoyle, Fowey, Cornwall).—The spade has a folding handle partly of steel, with a short wood portion with a cross handle. It is pivotted on a steel bar fixed in a recess at the top of the spade. A projection catches the back of the spade when the handle is up, a broad ring with a groove, in which a long stud on the handle works, slides down and holds the handle in position; another ring prevents the broad one from sliding too far up the handle when the spade is folded.

HORTICULTURAL SOCIETIES.

Royal Botanical Society of Manchester, *April 28th.*—The second Spring Show of this Society took place on the above date at the Town Hall, Albert Square, and in combination with it was also held the National Auricula Society's Northern Exhibition. The show on the whole was a most praiseworthy one, the most successful exhibitor being J. Broome, Esq., Didsbury. This gentleman's group filled the whole of the space in front of the large organ, and was well balanced, having large Azaleas, Palms, Yuccas, Anthuriums, &c. at the back, with choice plants of lesser size in front; whilst a green edge of Adiantums finished the group off in a very pleasant and effective manner. Amongst the Orchids in this collection were some good Dendrobiums, such as nobile, Devonianum, lituiflorum, thyrsiflorum, densiflorum, crassinode, and its pure white form, chrysotoxum, Pierardi and Wardianum, all well bloomed; three plants of Vanda Suavis Gotteschalkii, a fine form which was much admired; Cattleya citrina, Zygopetalum Gautierii, Arpophyllum spicatum; several specimens of Oncidium Marshallianum, Phalænopsis amabilis and Schilleriana, and several Odontoglossums. A well-bloomed Ataccia cristata was also conspicuous. The Society's Gold Medal was awarded to this group.

W. Brockbank, Esq., Didsbury, showed, amongst a large number of Narcissus blooms, some terrestrial Orchids such as Ophrys aranifera, O. tenthredinifera, Orchis succata, O. fusca, and O. coriophora. Messrs. James Dickson & Sons, Newton Nurseries, Chester, exhibited four boxes of cut flowers of Narcissi made up in bunches and well set up. These were certainly one of the chief attractions, there being no less than sixty varieties shown, and all carefully labelled. These included Bicolor, Empress, Bulbocodium, Emperor Maximus, Curtesii, moschatus, Telamonius plenus, Calathinus Incomparabilis alba, Dr. Aurantius, Macleai montana, odorus, Rugulosus, Biflorus, Poeticus angustifolius, Horsfieldii, Bicolor major, Bicolor Sulphureus, Barrii albidus, B. expansus, Leedsii, and Marginatus Burbidgei, Sir Watkin, Tazetta, Orientalis, &c., &c. A box of choice mixed Auriculas was also shown by this firm.

From the Society's garden came a nice group, including Doronicum plantagineum, well bloomed, a dozen plants of the white form of Primula japonica, also nice pans of Saxifraga Wallacei, Lychnis alpina, Arenaria balearica, Tulipa persica, and numerous Alpine Auriculas. From Messrs. G. & W. Yates, Market Place, and Heaton Norris, came three dozen Roses in 6-in. pots carrying from five to eight blooms. Here we noticed Alphonse Supert, Lady Mary Fitzwilliam, Dr. Andry, Madame Ferdinand Jamain, Queen of Queens, Miss Hassard, Souvenir d'Adolphe Thiers, &c. Mr. F. Perkins, of Leamington, exhibited Pelargonium Volunté Nationale alba, a very fine form; bouquets made of Narcissi, one in particular of N. poeticus and Mignonette was very pleasing; also King of the Purple Primrose, and Exile Polyanthus. Mr. J. Horley showed a group of miscellaneous spring flowering plants. Mr. T. Walkden, of Sale, Cheshire, sent a box of over thirty plants of Cheshire Favourite Polyanthus. S. Barlow, Esq, Middleton, had three pans of Narcissus bulbocodium, as well as a basket of Fancy Auriculas. Mr. J. Kay, of Timperley, showed a basket of Black Hamburgh Grapes well coloured. R. P. Gill, Esq., of Ashton-on-Mersey, sent a box containing five clumps of Mushrooms as taken from the bed, and which were well done. Mr. Upjohn, Worsley Gardens, had a dozen plants of La Grosse Sucre Strawberry, bearing a nice crop of ripe fruits. From Mr. J. Berrie, nurseryman, Whalley Range, came a group of Indian and Ghent Azaleas nicely bloomed. Amongst the exhibitors at the Auricula Show, we noticed that Mr. Pohlman, Mr. Taylor, Mr. H. Wilson, Mr. J. Buckley, Mr. C. Royds, Mr. S. Barlow, Mr. R. Gorton, Mr. E. Shepley, Mr. A. Potts, Mr. R. Lord, Mr. B. Simonite, Mr. W. Brockbank, Mr. G. Geggie, Mr. J. Beswick, Mr. T. Walkden, Mr. Hilton, Mr. T. Bateman, and Mr. W. Bolton were amongst the successful competitors. A numerous company attended the Show, the weather being very favourable.

ANSWERS TO CORRESPONDENTS.

NAMES OF PLANTS.—*Ireland.*—The Orchid is Phajus grandifolius, and the Fern, Pteris longifolia.—*J. Green.*—The Grape Hyacinth, Muscari botryoides, dark blue; Adonis vernalis, yellow; and Phlox amæna, rose-pink.

ANTS.—*L. B.*—The easiest remedy in your case will be to sprinkle a little fresh guano in their runs and about their nest, if you can find it.

BEDDING PLANTS.—*Sophie.*—The Calceolarias you may plant at once, but it is not safe to put out other soft-wooded things for at least a fortnight or three weeks. You should get them outside to harden off, but must protect them at night from frost.

AURICULAS.—*Novice.*—When they have done flowering is the proper time to pot them and to take off any offsets that may be ready. The compost should consist of good loam, leaf-soil, sharp sand, and a little charcoal if it can be obtained. Shake as much of the old soil as possible from the roots, cut back a portion of the main root if necessary, give plenty of drainage, and pot firmly. Keep them in a close frame for a few days, and then put them in their summer quarters on the north side of a wall or tall fence.

SPIRÆA CONFUSA.—*J. J.*—Certainly it is a very fine plant for forcing, and its long festoons of white flowers are most useful for making wreaths. It flowers on the previous year's growths, and therefore must not be pruned until it has done flowering.

COMMUNICATIONS RECEIVED.—J. C.—G. J. C.—C. H.—R. D.—W. L.—A. F. L.—R. G.—M. T.—J. McP.—A. H.—H. E.—W. G.—W. E. D.—E. D.

Trade Catalogue Received.

RYDER & SON, Sale, Manchester.—Specialities in Plants and Flowers.

LONDON SEED TRADE.

April 29th, 1885.

MESSRS. HURST & SON, of 152, Houndsditch and 39, Seed Market, Mark Lane, report an average demand for the season for all kinds of Agricultural Seeds without any change in values. Foreign Red Clover in plentiful supply, and some large parcels have changed hands during the past week for speculative purposes. The demand for Grasses of all kinds is still maintained. Mustard scarce, and fine qualities command high prices. Tares and Bird Seeds unchanged.

COVENT GARDEN MARKET.

April 30th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6- 6 0	Pine-apples, Eng., lb.	1 0- 2 0
— Nova Scotian, per barrel	15 0-21 0	—St. Michaels, each	3 0- 8 0
Grapes, New, per lb.	5 0- 8 0	Kent Filberts and Cobs, per 100 lb.	-
Grapes, Old, per lb.	5 0- 8 0	Strawberries, per lb.	3 0-10 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Asparagus, English, per bundle	10 0	Horse Radish, bundle	3 0- 5 0
Beans, French, per lb.	- 2 6	Lettuces, Cabbage, per dozen	2 0-
Beet, per dozen	2 0- 3 0	— Cos, each	0 6-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	-
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Marguerites, 12 bun.	4 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Narcissus, various, French, doz. bun.	3 0- 6 0
Azalea, 12 sprays	0 6- 1 0	Pelargoniums, per 12 sprays	0 9- 1 0
Bouvardias, per bun.	1 0- 1 6	—scarlet, per 12 sprays	0 4- 0 6
Camellias, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 6- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun.	-
— large, 12 blooms	-	Pyrethrum, 12 bun.	-
Cyclamen, doz. blooms	2 0- 4 0	Roses (coloured)	2 0- 6 0
Cineraria, per bunch	0 6- 1 0	Roses, indoors, p. doz.	1 0- 3 0
Epiphyllums, 12 blms.	-	Roses (French), per doz.	0 6- 0 9
Eucharis, per dozen	3 0- 6 0	Stephanotis, 12 spr.	2 6- 4 0
Gardenias, 12 blms.	2 0- 4 0	Tuberoses, per dozen	1 6- 2 0
Heliotropes, 12 sprays	0 6- 1 0	Tulips, per doz.	0 3- 0 5
Hyacinths, Roman, doz. sprays	0 6- 0 9	Violets, doz. bun.	0 4- 0 9
Lapageria, white, 12 blooms	2 0- 3 0	— French, per. bun.	-
Lapageria, red, 12 blms.	1 0- 2 0	— Parma, per. bun.	3 0- 4 0
Lily of the Valley, doz. sprays	0 9- 1 6	White Jasmine, bun.	0 6- 1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Ficus elastica, each	1 6- 7 0
Arum Lilies, per doz.	9 0-18 0	Foliage Plants, various, each	2 0-10 0
Azalea, per doz.	18 0-42 0	Genista, per dozen	9 0-15 0
Begonias, per dozen	4 0-12 0	Hyacinths, doz.	6 0- 9 0
Bouvardias, dozen	9 0-18 0	Hydrangea, per doz.	12 0-24 0
Cineraria, per dozen	6 0-12 0	Lilium, various, per doz.	-
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargonium, per doz.	9 0-21 0
Deutzia, per dozen	4 0 -9 0	Pelargoniums, scarlet per dozen	4 0- 6 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	-
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	-	Rhodanthe, per doz.	6 0-12 0
Evergreens, in var., per dozen	6 0-24 0	Spiræa, per dozen	12 0-18 0
Ferns, in var., dozen	4 0-18 0		

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JAMES LOOMES, F.R.H.S.,

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WHITTLESEA, NEAR PETERBOROUGH,

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***Coleus,** in great and beautiful variety	2	0
In pots, well established	5	0
Cyclamen Persicum Giganteum. From the best varieties ... 2*s.* and	3	6
In pots, well established ... 5*s.* to	12	0
Eucharis Amazonica, flowering bulbs, each 1*s.* 6*d.* &	2	6
***Fuchsias,** an immense collection. Single and Double Varieties ... from	2	6
Ditto, in 4-inch pots ... ,,	5	0
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18 Pyrethrums, Golden Feather.
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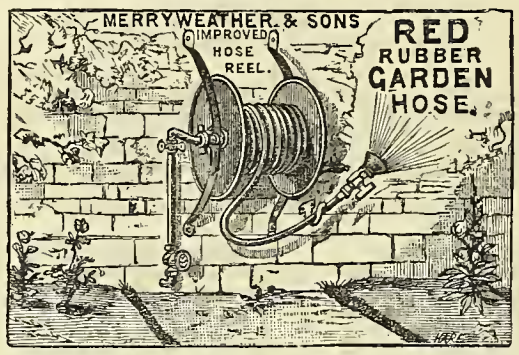

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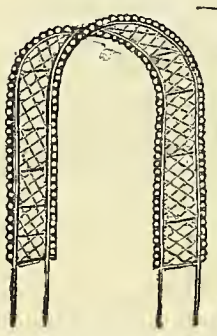

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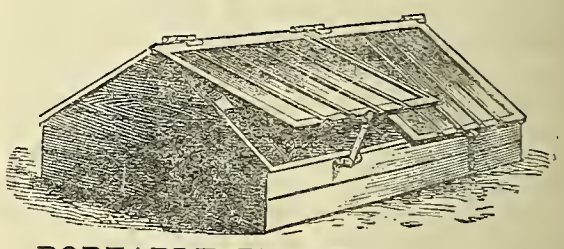

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6 ,,	5 ,,	...		3	15	0
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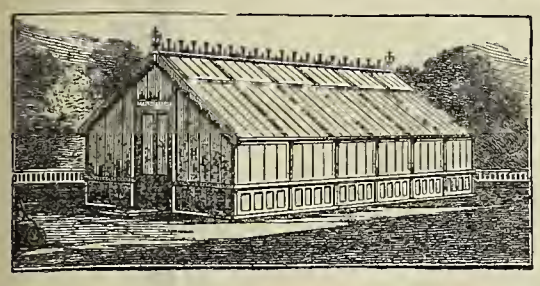

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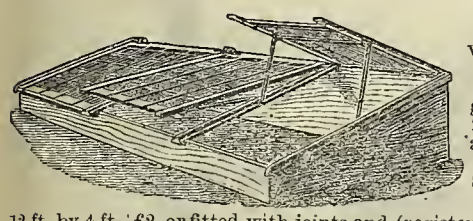

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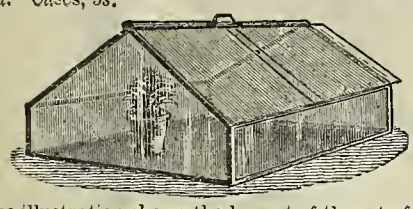

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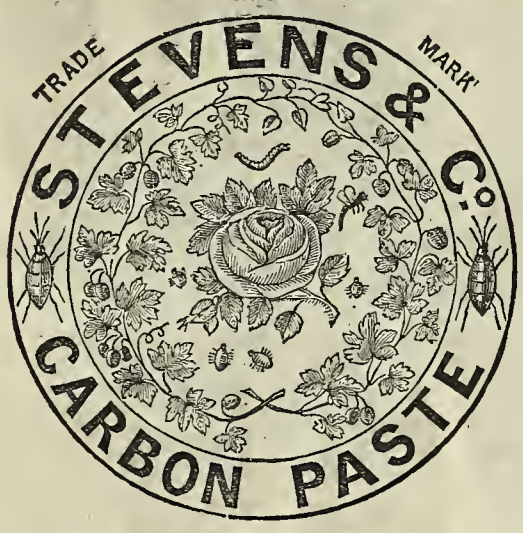

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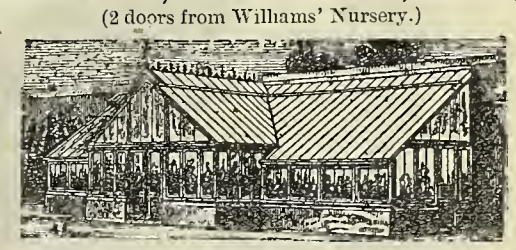

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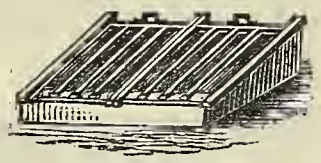

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TOBACCO PAPER, ditto (Spécialité) 8d. per lb., 28 lbs. 18s.
MUSHROOM SPAWN (finest Milltrack), 5s. per bushel.
SPHAGNUM MOSS, all selected, 2s. per bushel, 6s. per sack

COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1s. each; 10 sacks, 9s.; 15 sacks, 13s.; 20 sacks, 17s.; 30 sacks, 25s.; 40 sacks, 30s. Truck-load, loose, free on rail, 25s. Limited quantities of G special quality, granulated, in sacks only, 2s. each.

TERMS, STRICTLY CASH WITH ORDER.

(The Trade Supplied.)

CHUBB, ROUND & CO.,

West Ferry Road, Millwall, London, E.

SKIPPERS AND SHELLBACKS,

BY JAMES RUNCIMAN,

NOW APPEARING IN

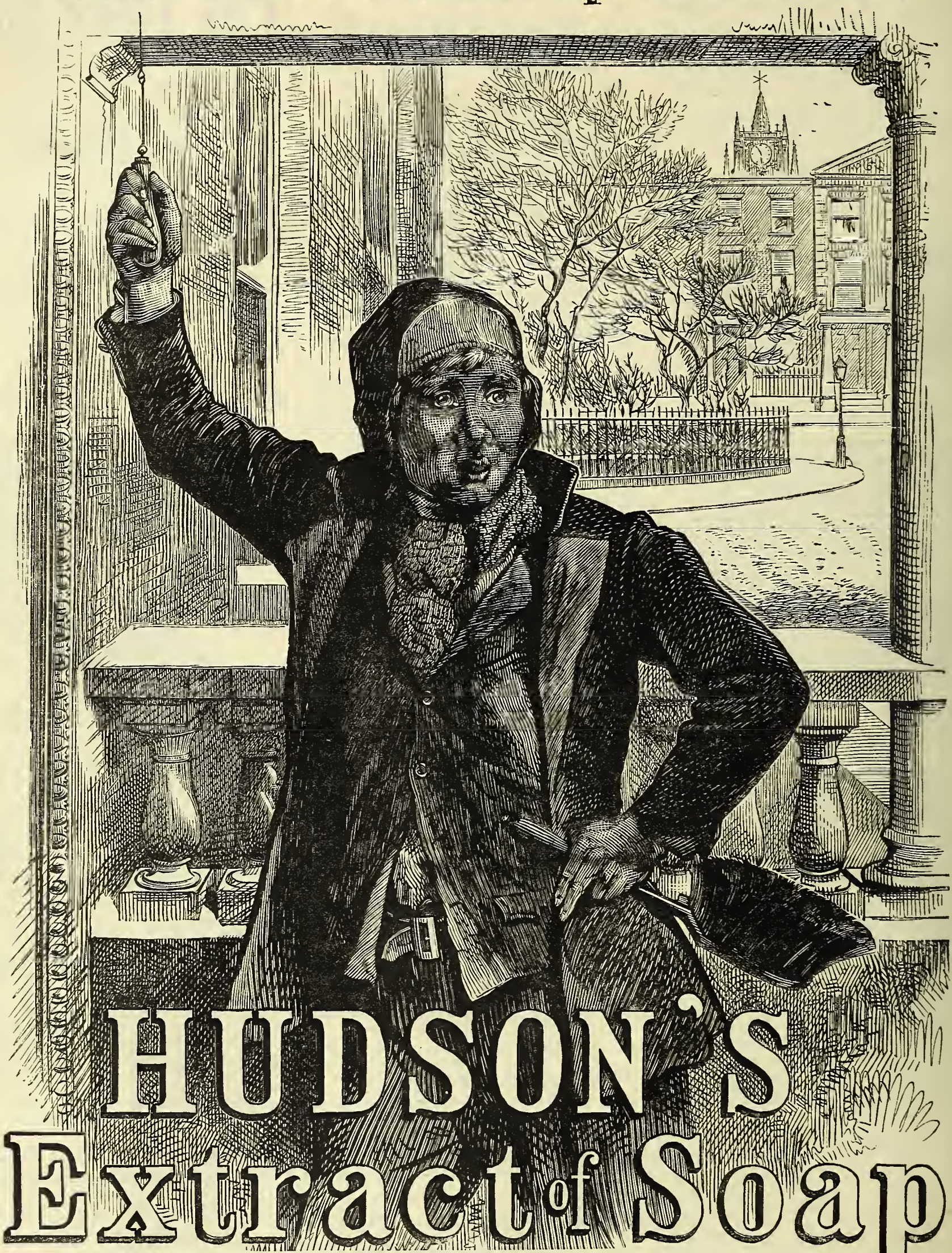
THE WEEKLY DISPATCH,

Sent post free: 3 months, 1s. 8d.; 6 months, 3s. 3d.; 12 months, 6s. 6d.; single copy, post free, 1½d.

JOHN P. FULLER,

19 & 20, Wine Office Court, Fleet Street, London, E.C.

Hudson's Extract of Soap
"Makes a clean sweep of all Dirt"



A pure Soluble Dry Soap. Lathers freely in Hot or Cold Water. For Spring and Autumn Cleaning.
☞ Excellent for all purposes where ordinary Soap is objectionable—such as Washing Dishes, Plates, Knives, Forks, Saucepans, &c., as it leaves no soapy trace behind. Packets, One Penny and upwards.

☞ Also useful in the Garden for Cleansing Plants from Aphides and all Parasites,

Testimonial:—Coton Hill Nursery, Shrewsbury, *June* 28, 1880. We find Hudson's Extract of Soap a very useful Winter Dressing for all kinds of Fruit Trees, both as a preventive and cure against American Blight and all kinds of Scale. We also use it for Camellias, Azaleas, Rhododendrons, and all Hard-wooded Plants.—We remain, yours truly, (Signed) JOHN JONES & CO.

Printed by G. Norman and Son, Hart Street, Covent Garden, and Published by Brian Wynne, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex Saturday, May 2nd, 1885.

THE GARDENING ILLUSTRATED WORLD

No. 36.—1885. SATURDAY, MAY 9TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

FLOWER SHOWS.

Royal Botanic and Horticultural Society of Manchester.

THE GRAND NATIONAL HORTICULTURAL EXHIBITION of 1885 will open at the Gardens, Old Trafford, Manchester, on FRIDAY, MAY 22nd, at 2 p.m. Entries close on the 15th inst. For further particulars apply to the undersigned,

BRUCE FINDLAY.

Royal Botanic Gardens, Manchester.

Wilts Royal Horticultural Society's Show, SALISBURY, AUGUST 20th, 1885.

DIVISION "A" (Open).—12 Stove and Greenhouse Flowering Plants, First Prize, £15. 12 variegated and fine foliage Stove and Greenhouse Plants, First Prize, £13.

Schedules on application to H. H. WILLIAMS, Hon. Secretary, The Nurseries, Salisbury.

Shepperton and District Flower Show.

Including all places within a radius of Six miles from Shepperton Church.

THE SECOND ANNUAL SHOW will be held on THURSDAY, 2nd JULY, in the grounds of SUNBURY COURT, SUNBURY, by kind permission of Lieut.-Col. W. H. Harfield.

EXHIBITION of Roses and other Flowers, Orchids, Foliage Plants, Fruit and Vegetables.

Special Classes open to all England. Third Prizes will be given where considered worthy.

The Band of Her Majesty's Royal Horse Guards (by kind permission of Colonel Milne Home, M.P.) will attend, conducted by Mr. Charles Godfrey.

Further particulars, Schedules of Prizes, and Entrance forms to be obtained from ARTHUR E. STEARNS, Hon. Sec., The Lodge, Upper Halliford, Walton-on-Thames.

"Dr. Paterson Testimonial Fund."

INTENDING SUBSCRIBERS will be so good as send their Subscriptions as early as possible to the Treasurer, Mr. JOHN GRAHAM, Bridge of Allan, or to Mr. R. P. M'CAGIE, Honorary Secretary, Bridge of Allan.

CLEMATIS, 12*s.* to 24*s.* per doz., strong plants in pots. List, containing descriptions of best singles and doubles of every shade from white to dark purple (some of the flowers of which become 10 ins. across), free.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

ROSES IN POTS, "New of 1885," 30*s.* and 36*s.* per doz. "Teas," Noisettes, &c., 18*s.*, 24*s.*, and 30*s.* per doz. Very strong H. Perpetuals for forcing, 24*s.* to 30*s.* per doz.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

NOW IS THE TIME TO TRANSPLANT HOLLIES and many other choice Evergreens. For prices of beautiful specimens at very low price, see "Special Offer of Surplus Stock."—RICHARD SMITH & CO., Worcester.

COCOS WEDDELLIANA, stove pots, 20*s.* per 100. PANDANUS UTILIS, stove pots, 8*s.* per 100. Very clean, healthy stuff.—Apply to J. VAN DER SWAELMEN, Lily Nursery, Ghent, Belgium.

"YE NARCISSUS OR DAFFODYL." An interesting history of the Daffodil, covering a period of the 300 years, with its poetry, and notes on hybridization, with many illustrations. Price one shilling, published by BARR & SON, 12 and 13, King Street, Covent Garden, W.C.

PURE WHITE GERANIUM, "NIPHETOS."—A hybrid nosegay, of a purer white than any we are at present acquainted with. It differs from all other white varieties in that it remains pure white to the very last, and never under any circumstances becomes tinted with pink, or any other colour. The trusses are of immense size, producing in nearly every case upwards of a hundred flower pips each. It is of a strong, robust, dwarf habit, free flowering, and whether for Winter or Summer flowering, or for cultivating indoors or out, will be found invaluable. Price 6*s.* per doz.—H. LEANEY, Upton Nursery, Forest Gate, Essex.

JOHN LAING & Co.

Laing's Prize Begonias

GOLD MEDAL Prize Plants. Now again in bloom, presenting an unrivalled floral display.

Visitors are cordially invited.

Frequent trains from the City and from the West End to Catford and Forest Hill Stations.

Begonia Growers, Forest Hill, S.E.

1885. **Scotch Florists' Flowers.** 1885.

R. B. LAIRD & SONS (successors to Downie & Laird), will have much pleasure in posting their new Catalogue of the above.

OUR COLLECTION has been well known for many years to be the largest and best in Scotland.

ROYAL WINTER GARDEN, EDINBURGH.

CHRYSANTHEMUMS.—Now is the time to plant. 12 varieties, 1*s.* 9*d.*; 24, 3*s.* 3*d.*, correctly named.

Early-flowering varieties, bloom out-doors from July till November, 6 for 1*s.* 3*d.*; 12, 2*s.*

SINGLE CHRYSANTHEMUMS.—Very free bloomers and most useful for cut bloom and decorative purposes, bloom well out-doors, and can be had in bloom from October till January; 6 for 1*s.* 6*d.*; 12, 2*s.* 6*d.* Catalogue, with directions as to cultivation, four stamps.—W. E. BOYCE, F.R.H.S., Yerbury Road, Holloway, London.

HERBACEOUS AND ALPINE PLANTS.—Catalogue of 50 pages, containing full information as to colour, height, situation, time of flowering, &c., free on application. A capital collection for Rocks, Stumps, and Borders, from 25*s.* per 100, or 4*s.* per doz. Most of the plants being in pots may be despatched at any time, or by Parcels Post when fit.—RICHARD SMITH & CO., Worcester.

6 CAMELLIAS or AZALEA INDICA, full of buds, 10*s.*, large healthy plants of either in 5½ pots, all different choice sorts and colours. Packing gratis, and extra plants for carriage.—E. VAN DER MEERSCH, Queen's Nursery, Selhurst, S.E.

120 Plants for 5s.

WILLIAM BADMAN offers his 5*s.* box of plants, containing 60 Geraniums of sorts, 10 Blue Lobelias, 10 Fuchsias, 10 Blue Ageratums, 10 Calceolaria, 10 Scarlet Tropæolums, 10 Sweet Heliotropes. All well rooted, and sure to give satisfaction. Half the above for 2*s.* 6*d.*; post-free 6*d.* and 9*d.* extra.—P.O.O. with order.—Cemetery Nursery, Gravesend.

HARDY AQUATICS.—Finest collection in the country, Herbaceous, Alpine, and old-fashioned border plants, from per doz. in 12 sorts, 4*s.*; from per 100 in 50 sorts, 30*s.* Catalogue on application to J. VANDER REES, Exotic Nursery, Tooting, S.W.

GERANIUMS.—A good assortment of Geraniums and other Bedding Plants, 12 doz. for 6*s.*, 6*d.* extra for postage.—WILLIAM POTTEN, Camden Nursery, Sissinghurst, Staplehurst.

CHRYSANTHEMUMS, well-rooted, good, 12 sorts, 1*s.* per doz. post free; to name, 1*s.* 6*d.* per doz.—T. GAYTON, Prospect Nursery, Hornsey, N.

WEEDS: HOW TO DESTROY THEM.—Use SMITH'S celebrated WEED KILLER, the cheapest and most effectual preparation ever invented. Testimonials and prices on application to MARK SMITH, Manufacturing Chemist, Louth, Lincolnshire.

Good and Cheap Insecticides.

TOBACCO PAPER and CLOTH (Roll).—Thoroughly reliable quality; low prices. Trade supplied. RICHARDSON & CO., Tobacco Works, Leith, N.B.

Notice.

COCOA-NUT FIBRE REFUSE.—Reduced price. The same as supplied to the Royal Horticultural Society of England. Truck-load, loose, of 2 tons, 20*s.*; Larger quantities contracted for. The same in sacks: ten, 8*s.*; twenty, 15*s.*; forty, 25*s.*, sacks included. Delivered free on to Rail. Cash with all orders. Established 1872.—J. STEVENS & CO., "Greyhound Yard," and 153, High St., Battersea, S.W.

The Best Hardy Plant Nursery.

PAUL AND SON, THE OLD NURSERIES, CHESHUNT.

ROSES, in all ways;
FRUIT-TREES for Orchards and Garden Walls;
GOOSEBERRIES, CURRANTS and STRAWBERRIES;
TREES; SHRUBS; EVERGREENS; CLIMBING PLANTS;
RHODODENDRONS and other AMERICAN PLANTS;
ALPINE, ROCK and HOT-HOUSE PLANTS;
BULBS and SEEDS.

NURSERIES AT CHESHUNT STATION, G.E.R.
" BROXBOURNE STATION, G.E.R.
" HIGH BEACH STATION, Chingford, G.E.R.

Carefully prepared, illustrated, and fully-priced descriptive Catalogue, post free.

JAMES BOYD & SONS, PAISLEY and LONDON, Horticultural Builders and Heating Engineers to Her Majesty the Queen, H.R.H. the Prince of Wales, H.R.H. the Duke of Connaught, H.R.H. the late Duke of Albany, H.M.'s Board of Works, London and Dublin, H.M.'s Colonial Department, the Royal Horticultural Society, the Royal Botanic Society, and the Royal Dublin Society. Gold Medal, Paris, 1878.—London Office. 48, Pall Mall, S.W. Illustrated Circulars post free. Complete Catalogue, 3*s.*

ROSES IN POTS, NEW and OLD.—12 splendid new varieties of 1885 for 36*s.*; 12 fine plants of Tea-scented (older varieties), coming into bloom, for 18*s.*; 6 new varieties and 6 older "Teas" for 27*s.* Cash to accompany all orders. Purchasers may select varieties. Descriptive lists on application to KEYNES, WILLIAMS & CO., The Nurseries, Salisbury.

ASPARAGUS.—This delicious Vegetable does not require half the expense often incurred; for directions see Seed List, free. Strong Roots, 2*s.* 6*d.* per 100; extra strong ditto, two years old, 3*s.* 6*d.* per 100; forcing, 12*s.* 6*d.* per 100.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

£1,000 OFFERED FOR PRIZES AT DUNDEE INTERNATIONAL EXHIBITION, 1884, where Dobbie's Prize Strains of Leeks, Turnips, Parsnips, Beet, Greens, Celery, Asters, French and African Marigolds, Cockscombs, &c., gained First Prizes respectively.

Catalogues, *free*, of Dobbie's Choice Pansies, Seeds and Plants, containing an Election of Pansies, the Culture thereof, with Remedies for the Prevention of the Pansy Disease, the True Secret of Growing Leeks and Onions for Competition, may now be had from DOBBIE & CO., Rothesay, N.B.

A GAY GARDEN for a Shilling.—Eighteen packets of showy flower seeds post free for 1*s.*, such as Stocks, Asters, Zinnias, Petunias, Single Dahlias, &c., by which a garden may be stocked with flowers summer and autumn. A box of "Heap's Food for Plants" will be enclosed with above for three stamps extra.—J. F. DACE, Florist, High Street, Leyton, Essex.

JOHN KENNARD'S Horticultural Soils, Sundries, and Berkshire Pottery Depôt. Catalogue of all Horticultural Sundries, &c., Post Free. Established 1854.—Swan Place, Old Kent Road, London, S.E.

PROTECT YOUR FRUIT FROM THE FROST AND BIRDS.—Good Netting, 18 square yds. for One Shilling, shrunk too much for fishing use, but just suitable for gardening purposes. This Netting will last much longer than new, it having been preserved for the *sea*, which thus prevents the *rain* from *rotting* it. Can be had any width. Carriage paid on all orders over 5*s.*—HENRY JOHN GASSON, Fish Merchant, Rye, Sussex.

GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 ozs. to the gallon of soft water, 4 to 16 ozs. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots Dry and Soft on wet ground. Boxes—6*d.* and 1*s.*, from the trade. Wholesale from PRICE'S PATENT CANDLE CO. (Limited), LONDON.

WHAT IS IT? A FACT, that all Spite, Prejudice, and Menace can be overcome by an outlay of twopence, and prove "HEAPS'S FOOD FOR PLANTS" the BEST, SAFEST, and most CONVENIENT to use of all artificial manures. "Heaps's Food for Plants," with directions for use, is printed on salmon-coloured paper on each 2*d.* box, with red air-tight ends. Be sure you get it, don't be persuaded to take any other. Sold everywhere; a sample free, 3*d.* One doz. will be sent, carriage paid for 2*s.* Trade terms on application. HEAPS & SON, Lordship Lane, London, S.E.

JOHN LAING & Co.

All Good Tubers just starting into Growth, free by Parcels Post. Catalogues Gratis.

OUR OWN UNRIVALLED VARIETIES.

Laing's Begonia Tubers.

Named Sorts, per dozen, Singles: A, 42*s.*; B, 36*s.*; C, 30*s.*; D, 24*s.*; E, 18*s.*; F, 12*s.* Named Sorts, per dozen, Doubles: R, 63*s.*; S, 48*s.*; T, 42*s.*

Unnamed Sorts, per dozen, Singles: G, 21*s.*; H, 18*s.*; J, 15*s.*; K, 12*s.*; L, 9*s.* For Bedding, per 100: M, 40*s.*; N, 30*s.*; O, 24*s.* Unnamed Sorts, per dozen, Doubles: W, 80*s.*; X, 24*s.*; Z, 18*s.*

Begonia Growers, Forest Hill, S.E.

SALES BY AUCTION.

ORCHID CONFERENCE WEEK.
Important to Exhibitors.

MESSRS. PROTHEROE & MORRIS beg to call the attention of intending exhibitors (who would prefer selling their plants by auction) to the special Sale of Orchids in flower at the Central Sale Rooms, 67 and 68, Cheapside, E.C., on THURSDAY next, May 14th, at half-past twelve o'clock precisely, the day following the Conference.

Messrs. Protheroe & Morris will be glad to receive an early intimation from gentlemen proposing to include their plants. A special supplement to the Catalogue will be issued for late entries.

MONDAY NEXT, MAY 11TH,
The day preceding the Orchid Conference.

MESSRS. PROTHEROE & MORRIS are instructed by Mr. F. SANDER to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on MONDAY next, May 11th, at half-past twelve o'clock precisely, a splendid importation of Epidendrum vitellinum majus, Odontoglossum Rossii majus and rubescens, in unusually large masses; Odontoglossum citrosmum album and roseum, O. Insleayii splendens and Leopardinum, O. nebulosum, O. Phalænopsis, O. Cervantesi, Lælia anceps, the large and dark flowering varieties, L. majalis, L. albida, Cattleya citrina, Lælia autumnalis atrorubens, and many other Orchids.

On view morning of Sale, and Catalogues had.

Carnations, Picotees, Plants, &c.
WEDNESDAY NEXT.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on WEDNESDAY next, May 13th, at half-past twelve o'clock precisely, 100 lots of choice named Carnations and Picotees from a celebrated collection, an assortment of Greenhouse Plants, many in flower, Azaleas, Geraniums, and other bedding plants, Ferns, Pinks, Cloves, a variety of Hardy Plants and Bulbs, 500 Lilium auratum from Japan, fine bulbs, and 400 Gold Fish.

On view morning of Sale, and Catalogues had.

Orchid Conference Week.
THURSDAY NEXT.
Special Sale of Orchids in Flower.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Auction Rooms, 67 and 68, Cheapside, E.C. (next door but one to Bennett's Clock), on THURSDAY next, May 14th (the day following the Conference), at half-past twelve o'clock precisely, a large and varied assortment of

ORCHIDS IN FLOWER,

comprising a large number of Odontoglossum Alexandræ and Pescatorei, including some very beautiful varieties; a grand lot of Cattleya Mossiæ and Cattleya Mendeli, including several fine examples and varieties; a specimen Masdevallia Lindenii with 40 spikes; Masdevallia Harryana with 10 spikes; Cattleya Sanderiana, superb specimen, with 3 flowering heads; several Lælia purpurata, fine examples, one with 10 flowering heads; specimen Lælia elegans, with 6 flowers on each spike, Disa grandiflora, with 10 growths; Cattleya nobilior; a considerable number of Dendrobium thyrsiflorum, D. Jamesianum, some fine examples of the lovely late-flowering Trenthum variety of Cœlogyne cristata, Cypripedium Druryi, Odontoglossum Rossi majus rubesceus, Odontoglossum vexillarium, &c.

On view morning of Sale, and Catalogues had.

N.B.—Messrs. Protheroe & Morris have received numerous other entries for the above sale, particulars of which did not arrive in time to be included in this advertisement, but they will appear in the Catalogue.

Orchid Conference Week.
FRIDAY NEXT.

MESSRS. PROTHEROE & MORRIS are instructed by Mr. F. Sander, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY next, May 15th, at half-past twelve o'clock precisely, grand importations of Orchids from Columbia, Mexico, and the East, all in fine order.

On view morning of Sale, and Catalogues had.

THURSDAY NEXT, SALE No. 6,909.
Orchids in Flower.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY next, May 14th (the day following the Orchid Conference at South Kensington), at half-past twelve o'clock precisely, A GRAND COLLECTION of ORCHIDS in FLOWER, including choice Masdevallias, Cattleyas, Lælias, Odontoglossums, Phalænopsis, Oncidiums, Cypripediums, &c., &c.

On view morning of Sale, and Catalogues had.

Special Offer of Orchids.

CHEAP ORCHIDS.—In consequence of having received large importations, I am able to dispose of my stock of plants received last year, now nice established plants, at very low prices; all are healthy, and those who prefer it can have this season's imported pieces. Growers of Orchids would do well to order at once, as many fine gems are contained in the numerous importations received, which are mostly unflowered. Established plants which have flowered and are flowering can also be had if required, but many growers prefer unflowered plants, because there are frequently valuable varieties which well repay the purchaser, shillings well invested being quickly converted into pounds.—Apply to W. GORDON, The Nurseries, Twickenham, Middlesex.

SINGLE DAHLIAS.

FORMOSA, FINEST NOVELTY OF THE SEASON, gained the only FIRST-CLASS CERTIFICATE from the Royal Horticultural Society during the season, 2*s.* 6*d.* each, post free.

Fifty other Choice Varieties of SINGLES, 6*s.* doz.
DOUBLES, SHOW and FANCIES, 4*s.* and 6*s.* doz.
DOUBLES, POMPON or BOUQUET, 6*s.* doz.
CATALOGUE FREE.

J. CHEAL & SONS,
LOWFIELD NURSERIES,
CRAWLEY, SUSSEX.

PANSIES
FOR
EXHIBITION.

MY Pansies for the present season are now ready for sending out. The plants are remarkably strong and healthy, and, devoting as I do considerable time and care to the improvement of these flowers, my customers may rely upon receiving none **but the best.** It is my aim now, considering the numberless varieties put into commerce, not to offer a COLLECTION of Plants, but a **Selection** of the really first-rate and most highly deserving in their respective classes, and such as are worthy of a place in every collection.

Catalogues free on application.

JOHN DOWNIE,
Beechhill Nurseries, Murrayfield,
EDINBURGH.

CUTBUSH'S
MILLTRACK MUSHROOM SPAWN.

IF ONCE USED no other will be willingly taken. Testimonials of high merit received every day.—"THE GARDENS, SANDRINGHAM.—I have tried all other Mushroom Spawn advertised, but none to be compared with yours, which I have used for the last *twenty years* without once failing a quick and good crop. — CHAS. PENNY, Gardener to H.R.H. The Prince of Wales." — Price Six Shillings per bushel, One Shilling extra per bushel (for packing), One Shilling per Cake free by Parcels Post.

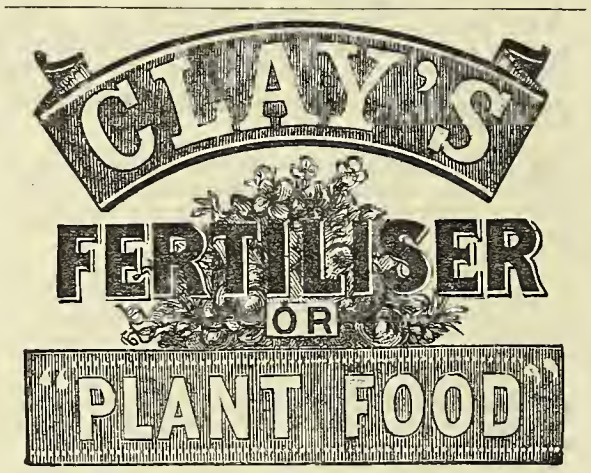
HIGHGATE NURSERIES, LONDON, N.

ORCHIDS.

THOUSANDS of clean, healthy, well-grown Orchids at reasonable prices. Priced list on application.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.

N.B.—An inspection respectfully invited.



Sold in Packets, 6d. and 1s each, and in
Sealed Bags only.

7 lb. 2/6; 14 lb. 4/6; 28 lb. 7/6; 56lb. 12/6; 1 cwt. 20/-

CLAY & LEVESLEY,
TEMPLE MILL LANE, STRATFORD, LONDON, E.

A SAMPLE BAG will be sent Carriage Paid on receipt of P. O. O.

CLAPTON NURSERY, LONDON, E.
BUSH HILL PARK NURSERY, ENFIELD, N.

At the above-named Nurseries are cultivated in unusually large quantities, Azaleas, Bouvardias, Camellias, Climbing Plants, Cyclamen, Epacris, Ericas, Ferns, Ficus, Flowering and Decorative Plants in variety, Fruit Trees, Gardenias, Genistas, Grape Vines, Greenhouse Plants in variety, Palms, Pelargoniums, Rhododendrons, Roses, Shrubs, Stove Plants in variety, &c.

ORCHIDS A SPECIALTY.—The Stock at the Clapton Nursery is of such magnitude that, without seeing it, it is not easy to form an adequate conception of its unprecedented extent.

The glass structures cover an area of upwards of **236,000** superficial feet.

HUGH LOW & CO.
cordially invite Gentlemen interested in Horticulture to inspect the Nurseries.

SUPERB PETUNIAS.

MY PETUNIAS (single), are superior to all others. For size of bloom, substance, richness of colour, and freedom of flowering they are unequalled. Equally suitable for pot culture or for bedding; grow in any soil, town or country. 5,000 splendid plants now ready at 1*s.* 4*d.* per doz., free in strong box; or 2*s.* per doz. for extra large plants. Numberless testimonials. Sixth year of distribution. **DOUBLE PETUNIAS,** finest varieties to name, 3*s.* 6*d.* and 5*s.* per doz., safe and free by Parcels Post; 6 plants for 2*s.*

ALSO

	s.	*d.*
FUCHSIAS, 250 finest varieties, 12 fine named, in 6 sorts	2	0
12 distinct kinds	2	6
12 grand exhibition varieties	3	6
COLEUS, 12 good kinds	2	0
12 very fine new varieties	3	0
6 splendid novelties	4	6
CHRYSANTHEMUMS, 6 pairs best sorts	2	0
12 distinct	2	6
12 pairs fine varieties	3	6
WHITE MARGUERITES, splendid bushy plants per doz.	3	3
BLUE MARGUERITES (Agathæa), 6 plants for 1*s.* 6*d.* per doz.	2	6

For above and many others see Illustrated Catalogue, three stamps; lists of seedlings and cuttings free.

B. C. RAVENSCROFT,
GRANVILLE NURSERY, LEWISHAM.

FERNS A SPECIALITY.

HUNDREDS OF THOUSANDS OF
FERNS AND SELAGINELLAS.
The Largest Stock in the Trade.

CATALOGUES ON APPLICATION.

W. & J. BIRKENHEAD,
FERN NURSERY,
SALE, near MANCHESTER.

NEW CATALOGUE for 1885

Beautiful Flowers for Indoors, selected from an immense Stock. Our Glasshouses cover nearly 2 acres.

Wm. Clibran & Son's New List
(90 Pages Double Column)

Of the *newest* and *finest* varieties of all classes of Plants for Greenhouses, Stoves, &c., may now be had for two stamps. It includes only the best varieties of their respective classes. Every season new sorts are added. Comparisons of the varieties when in bloom carefully made, and the inferior kinds discarded. Intending purchasers may rely when selections are ordered as under on being supplied with varieties of merit only.

The following cheap Collections of finest named kinds consist entirely of our selection. Purchasers may select from the Lists at Prices as per CATALOGUE, which please see before ordering elsewhere.

12 Abutilons, 12 sorts, 3*s.*
12 Achimenes, 12 sorts, 2*s.* 6*d.*
12 Begonias, Tuberous, 12 sorts, 6*s.*
12 ,, Ornamental, 12 sorts, 4*s.*
6 ,, Evergreens, 6 sorts, 2*s.*
12 Bouvardias, 12 sorts, 4*s.*
12 Caladiums, 12 sorts, 6*s.*
12 Camellias, 12 sorts, 24*s.*
12 Chrysanthemums of any or all classes, Large Flowered, Pompon, Anemone, or Japanese, 2*s.* 6*d.*
50 ,, ,, 10*s.*
100 ,, ,, 18*s.*
12 Coleus, 12 sorts, 3*s.*
12 Ferns, 12 sorts, 9*s.*
12 Fuchsias, 12 sorts, 3*s.*
25 ,, 25 sorts, 5*s.* 6*d.*
50 ,, 50 sorts, 12. 6*d.*
100 ,, 18*s.*
12 Geraniums of any kind or all classes, Zonals for pots, or beds, Ivy-leaf, Doubles &c., 3*s.*
50 ,, all classes, a lovely selection, 12*s.* 6*d.*
12 Gloxinias, 12 sorts, 6*s.*
12 Greenhouse Plants, 12 sorts, 9*s.*
12 Heliotrope, 12 sorts, 2*s.* 6*d.*
12 Lautanas, 12 sorts, 2*s.* 6*d.*
12 Liliums, 6 sorts, 12*s.*
12 Palms, 6 sorts, 18*s.*
12 Pelargoniums, Show French, Fancy, &c., 9*s.*
12 Roses, 15*s.*
12 Salvias, 2*s.* 6*d.*
12 Stove Plants, Flowering 9*s.*
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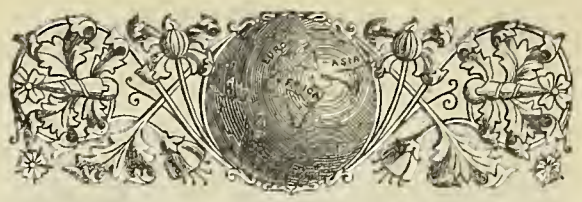


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MAY 9TH, 1885.

GARDENER EXHIBITORS.—With the opening of the Flower Show Season there habitually crops up reference to the not uninteresting question as to the relative value of gardeners who exhibit at shows and those who do not. It is true that the great bulk of gardeners are either exhibitors or desire to be. They find in shows a stimulus to their work that, if not essential, yet is beneficial. They are brought into contact not only with other gardeners, and hence learn to comprehend the value of other men's knowledge as compared with their own, but they also see other growers' produce, and realize how far they themselves are lacking in cultural ability or otherwise. Every good gardener desires to place himself culturally in a better position if possible, but the greatest stimulus to exertion in that direction certainly is found in competitions, because the credit of beating is, after all, so great an honour that none can resist the desire to possess it.

The stay-at-home gardener who never exhibits may claim the virtue that by so refraining he never does anything shady, but we fear he may also be regarded as claiming a virtue which is more contingent upon the quality of his produce than upon his inherent honesty. He would show gladly enough if he could do so with any prospect of success, but he has not been stimulated to work to that end, hence his products are best left at home. There are not a few admirable gardeners who are absolutely interdicted from showing by their employers. Of course, all such employers have a right to do as they like with their own, but in the end they not only harm themselves but their gardeners too.

We are not now discussing the question whether competitions and exhibitions are essential to the progress and welfare of horticulture. Something on that head may be said on both sides, but the preponderating argument, without doubt, would be in the affirmative. What we want to demonstrate, if need be, though it seems hardly necessary, both to certain employers who are jealous of their gardeners becoming exhibitors, and to certain gardeners themselves, is that competitions and flower shows have become established horticultural institutions, and as such are now interwoven so closely with our gardening life and work that they cannot in any way be wisely ignored. The public look to these as tests of gardening liberality and knowledge, and if they fail to find certain members or patrons of the gardening fraternity in the fray, their natural inference is that they are either lacking public spirit or professional knowledge.

In showing, it is not given to all to win, because some have greater knowledge than others, or greater facilities, or more advantages than others. But it is not the less very often the case that the man who does not always win is a cultivator of the most meritorious order, because he nearly wins, perhaps, from his fellow competitors, though his appliances are few. All the greater honour to him for such efforts ; they inevitably meet with a fitting reward later. Others who are always in the background have, perhaps, in them too much of the Micawber spirit ; they are rather waiting for luck to turn up than striving to secure it. Happily these are very few indeed.

But what we chiefly wish to say on this matter of exhibiting is that it is not only our experience, but that of most having experience, that the better the exhibitor, or rather the better the produce any exhibitor shows, the better all-round gardener is he, and the more earnest are his efforts to discharge his garden duties. It is a delusion to imagine that such a man studiously neglects some part of his duties that he may devote all the more time to those few from which he derives his chief exhibition subjects. We have found everywhere that good gardens, good gardeners, and good exhibitors are joined. Exhibiting creates an interest of its own in gardening that is valuable in so far that it counteracts that tendency on the part of gardeners to become isolated and, perhaps, selfish. We find gardens divided, as a rule, by considerable distances. Gardeners are thus necessarily thrown very much to themselves, and they are apt in that enforced isolation to regard their products as perfect, a species of egotism which exhibiting in competition soon knocks out of them.

Then in myriads of matters an isolated gardener is apt to become dull and his perceptive faculties blunted. He is not only in danger of becoming egotistical, but also priggish or dictatorial, and entirely fails to keep himself abreast of horticultural progress. The exhibiting gardener, on the other hand, always goes about with his eyes open. He believes in good things when he sees them, whether new or old, and secures them for his employer's benefit quite as much as for his own. His better class cultivation, as seen in his efforts to obtain good exhibits, permeates all his garden work and practice, hence his crops are the better all round. Nay, even the education picked up in the show tent and the little inspirations he feels in decorative efforts re-act upon him for good in every way, so that the better exhibitor is emphatically the better gardener.

THE SEASON.—The weather prophets have a grudge against the season. They have been defrauded, to some extent, out of the customary Blackthorn winter, and are angry to find that their prognostications are at fault. Happily, the world at large, and especially the whole army of gardeners and fruit growers, can afford to rejoice that weather prophecies have gone wrong. The Blackthorn has bloomed most profusely, and, as a rule, the cold which accompanies it should have been of the keenest. So far from that being the case, the weather was of the mildest. With the Blackthorn came in the Plum, and both have bloomed marvellously, both have shed their bloom, and both, thanks to a glorious time, have set wondrous crops full of promise. It may be that after all, in one sense, the prophets were right, for we had some unpleasant frosts and much cold, trying wind ere the Blackthorn bloom expanded. The weather might have been a little too early, or the bloom a little too late, but in any case we are the gainers, and shall be pleased enough if the traditional Blackthorn winter will henceforth always display the same precocity.

It is a fact that the birds have proved more injurious to the fruit crop than has the weather so far. In some gardens these pests have done much injury to buds and Gooseberry bloom, in others they have refrained from harm altogether. In any case, the promise yet is truly magnificent, and such as to arouse feelings of intense thankfulness that the barren fruit years seem now to have been arrested, and that bounteous ones are

in prospect. It is an instructive fact that whilst the Ash, as a rule, is patient in opening its buds in most seasons, this year it is bursting into growth with the Oak, so that the old weather couplet which refers to these trees is this year deprived of its meaning. If this circumstance has any bearing on the season, it may be taken favourably, for all things seem to have combined to render the present spring one of the most promising on record.

Ornamental Cherry-trees.—With the fruiting varieties of Cherry it is not now our intention to concern ourselves, our object in this note being simply to call attention to a few choice species and varieties of Cerasus which deserve to be widely cultivated for flowering in spring. Cerasus Mahaleh first demands notice. This is a species much used for stocks; it is very early to flower, coming in with the Daffodils, and presenting to view a mass of bloom and forming an excellent companion to the Almond. The flowers are fragrant, and the tree has an elegant habit of growth. Just now, C. vulgaris flore-pleno, the white double-blossomed Cherry, is an object of great beauty. Generally the Cherries have pendent flowers, and especially is this the case with this double form; in the case of a large-sized specimen the flowers hang downward in thick clusters, and are objects of great attractiveness. Waterer's double Cherry is less double than the one just noticed, but the flowers are produced in threes and in great clusters. It is a very fine decorative variety, and both double forms should find a place among choice-flowering shrubs. C. semperflorens is well named; it is remarkable for its long flowering season, from May onwards. It forms a small round-headed tree, and is very ornamental as a single specimen; it is usually grafted or budded on the common Cherry. The latter is now a very conspicuous object in shrubberies, and flowering with great freedom.

TACSONIA INSIGNIS.

Anyone desirous of adding to their stock of roof climbers, either for the greenhouse or the conservatory, will find in Tacsonia insignis a first-rate plant for the purpose. It is of a strong-growing habit, but not so free by any means as the older T. Van Volxemi, and instead of the three lobed leaves as in the latter variety the leaves are ovate lanceolate and rather rough in appearance. It would look well on the same roof with any other member of the family that I have seen, the flowers being of a very deep rose colour, and about 8 ins. in diameter, and when the plant gets well established the flowers are freely produced.

In order to bring this, and indeed all members of the family into free flowering in a small state, the roots require to be kept within bounds. If intended to remain permanently, nothing is better than planting them out in a border, bricking up a corner for their reception, and thus preventing the roots from roaming at pleasure. For soil, a compost consisting of fibrous loam and peat, with sand added, will be all that is necessary, as any extra stimulant required can afterwards be supplied in the way of manure-water. I, of course, presume that the border would be drained, as nothing succeeds with stagnant water about its roots.

If, however, the plants are only wanted for a time until more slow-growing things shall have covered the roof, this Tacsonia may be grown in pots, as also may any of the other varieties. One great advantage connected with the Tacsonias, more especially to amateurs, is their freedom from insects. Scale—both the common brown and the small flat scale which plant growers dislike so much—will sometimes obtain a footing, but otherwise I have not seen any insect attack them excepting in very neglected places, and then more as a last resource than for any liking to the plants themselves.—*E. Dumper, The Gardens, Summerville, Limerick.*

Gardening Miscellany.

On Tuesday next, the usual committee meetings will be held in the Conservatory, at South Kensington, when it is anticipated that there will be an extensive and most interesting display of Orchids. In the evening, at 6.30, the Orchid Conference Dinner will take place at the Albion, Aldersgate Street, under the presidency of Sir Trevor Lawrence, Bart., M.P. The Orchid Conference will commence at 10.30 a.m. on Wednesday, the proceedings being opened by some introductory remarks by the President, after which a communication from Prof. Reichenbach, and papers by Mr. Harry Veitch and Mr. James O'Brien will be read.

Mr. B. S. Williams will open a special exhibition of Orchids and stove and greenhouse flowering and fine foliaged plants, at his Victoria and Paradise Nursery, Upper Holloway, on Monday next. Mr. Williams proposes to keep the exhibition open daily, Sundays excepted, until June 30th, and we doubt not the resources of his establishment will prove quite equal to the occasion. During the period named a visit to the nursery will, we are sure, be well repaid.

We are requested to ask intending subscribers to the Dr. Paterson Testimonial Fund to be so good as to send their subscriptions as soon as possible to the Treasurer, Mr. John Graham, Bridge of Allan.

On Sunday last, Prof. Rodigas, of the Zoological Gardens at Ghent, was presented by his friends, colleagues, and former pupils at the School of Horticulture, with his portrait, a very satisfactory likeness by M. Léon Herbo, and an album containing the photographs of the subscribers.

Mr. Robert Bowie, who for many years was gardener, and lately steward, on the estate at Chillingham Castle, Northumberland, has been granted a pension by the Earl of Tankerville.

Mr. Charles Grant, lately foreman at Benham Park, Newbury, has been engaged as gardener to G. A. Fuller, Esq., The Rookery, Dorking.

A portrait of the late Mr. Charles Darwin, by Mr. Boehm, R.A., has been placed on the principal staircase of the Natural History Museum at South Kensington, and will shortly be unveiled by the Prince of Wales. Mr. Darwin is represented seated, and the size is somewhat larger than life.

Mr. Wilson's favourite old garden cat, "Fat Tommy," so well known to all visitors to Heatherbank, has, we are sorry to hear, come to an untimely end, having been so badly bitten by a dog that he had to be killed. "Fat Tommy's" residence was a tub laid on its side, from which a strand of wire was strained across a quarter of the garden. To this wire Tommy was fastened, and "sentry go" was his duty for several years.

At the annual *conversazione* of the Royal Society, held at Burlington House, on Wednesday evening, Mr. W. T. T. Thistleton Dyer, Kew, exhibited some flowering specimens of Himalayan Rhododendrons and fruiting Coffee branches, with illustrations of different forms of leaves in the same species of plants.

Mr. J. G. Baker, F.R.S., Royal Herbarium, Kew, will deliver a course of twelve lectures on Botany on Saturdays in May, June, and July, at 3 p.m., in the garden of the Apothecaries' Company at Chelsea. The lectures are open not only to medical students, but to other gentlemen, on application for tickets to be had of the Beadle, Apothecaries' Hall, Blackfriars, E.C.

The prospects of the fruit crop in Kent are exceedingly promising. The Cherry orchards present a grand appearance, the trees being one mass of blossom. The buds upon the Apple trees are fast expanding into pink and crimson flowers, which, like those on the Cherry trees, look strong and healthy. It is stated that it is ten years since there was a really prolific Cherry season.

From Messrs. Deane & Co., 46, King William Street, London Bridge, E.C., we have received an illustrated Catalogue of Garden Furniture, which may be consulted with advantage by all who are in want of either or any of the innumerable articles, useful or ornamental, without which no garden establishment can be said to be thoroughly equipped. There is scarcely an article used in the garden, from a span-roofed greenhouse and boiler to an indelible pencil, that does not find a place in this comprehensive catalogue.

AMERICAN EXHIBITION, LONDON, 1886.

Botanical Department.—Exhibitions of ordinary American flowering-shrubs, such as Rhododendrons, Azaleas, Kalmias, &c., are no novelties in this country, but a garden comprised solely of American trees, shrubs, and hardy plants, which it is proposed to include among the attractions of the American Exhibition to be held in London next year, is a novelty which should prove attractive to the million, and singularly interesting to the gardening portion of the community. We understand that to thoroughly carry out the novel idea it has been decided that the whole of the exhibition grounds shall contain no plants except those of North America. The intention of the promoters of the exhibition is to make a representative gathering of the United States flora, taken in latitudinal and longitudinal directions. The former will represent the characteristic vegetation of each State taken seriatim from New York to California, the latter from the Canadian frontier to Texas and Florida. The Orange and Citron groves of Florida and other Southern States, together with representations of their Cotton, Maize, and Tobacco fields will be made. The North American flora is of peculiar richness; indeed, no country possesses such a wealth of beautiful hardy trees, shrubs, and herbaceous plants, so that it will be of the greatest value to have the resources of the country thus prominently brought under notice.

From the opening day in May till the close of the exhibition in October, it is hoped that the grounds will not only prove interesting and instructive to visitors, but attractive also on account of the peculiar nature of the American plants to flower in continuous succession. Besides the ordinary American flowering-shrubs, such as Rhododendrons, &c., with which we are as familiar as the Americans themselves, and which some of our nurserymen have so greatly improved, it is hoped that this exhibition will comprise large numbers of trees, shrubs, and plants which are comparatively little known in this country. The wealth of the herbaceous plant flora will be a special feature, and it is intended to import direct from the States representative collections of wild trees and plants, particularly of the most attractive kinds.

GARDEN ANEMONES.

Mr. R. Gilbert, I notice, seems to blame the Editor because he has not intimated where seed of a good strain of Anemones can be obtained. Well, I presume the Editor would reply that advertisers should do that through the proper columns, and not through him, lest he be accused of favouritism. There are plenty of good seed strains about, but unhappily these lovely Anemones are not half enough grown. And no wonder, if everybody were to run away with the notion that they needed all the high-class cultivation and astonishing care usually assumed. In some of our market-gardens about here Anemones are largely grown, but the strain is almost entirely a scarlet one, and not of the finest quality. The seed is sown broadcast in beds 4 ft. in width beneath the orchard trees, and the ground is simply manured well, dug, and well fined down with a wooden rake before sowing.

Now I have been privileged for several weeks past to look out of my cottage windows upon a bed of Anemones of the most brilliant colouring and beauty, Not one nobleman or gentleman whose gardens cost him thousands annually has the same privilege, and they are to be pitied. The huge Poppy-like flowers of crimson, scarlet, pink, rose, purple, blue, white, also flaked flowers, and myriads of others, including some superb doubles (for the strain always produces some doubles from seed), make such a glorious show as to extort the warmest admiration from all who see them. Seen too under our bright sunshine, I have very vividly been reminded how essential light is to enable us fully to perceive the rare colours in all flowers, but in these rich-hued blues, scarlets, and crimsons especially, for the flowers shown from time to time at South Kensington and other London shows, have though wondrously fine and varied, always been wanting in life. That life only the clear daylight and brilliant sunshine can give to flowers.

Mr. Gilbert somewhat sarcastically favours your readers with the instructions which he received with

respect to the culture of Anemones. Evidently he thinks such elaborate procedure as is there set forth is all nonsense, and I heartily agree with him. It is absurd to suppose that any flowers need 6 ins. of cow-manure and other gross and costly stimulants. Thousands who would like to grow not only Anemones but other beautiful flowers are repelled from cultivating them when they read of such elaborate cultural recipes, because they at once feel that they are not able to comply with the instructions. They are specially harmful in the case of the Anemone, which delights in good common garden soil, and would, in the stiff land of Burghley Gardens, need little else but a moderate dressing of leaf-soil, of which there is no lack there. In very light soils a little admixture of clay would do no harm, but having grown on both stiff land and light porous land, I can but say that in both cases I have found the Anemones to be equally beautiful.

I do not adopt the system of sowing seed in drills, because it is much the most troublesome and wasteful. In the first place, an ordinary packet of seed, well rubbed up with dry sand and sown in a shallow box in fine sandy soil, will give enough plants to fill a rod of ground, making a grand bed. Seed sown in drills would take six times as much. Again, by sowing under glass, the ground is not required for two months later than if the seed be sown at once in it. That enables a previous crop of some kind to be taken off. Then, if the seed be sown as advised, and the box placed in a frame or greenhouse, the seed germinates safely and freely, so that in two months from sowing time, or perhaps less, the plants may be dibbled out in rows 12 ins. apart, and 6 ins. from each other in the rows. I find the second year that the space thus afforded is now too much, and that the plants, having ample space, not only make more robust growth, but give larger flowers. The trouble of thinning is avoided, and the bed may be kept clean very easily by using a hoe.—*A. Dean, Bedfont.*

VEGETATION OF KILIMANJARO.

Mr. Johnston, the African traveller, in a description of the vegetation at Kilimanjaro which he observed in his second ascent, contributed to *The Daily Telegraph*, says:—"Starting at nine, I walked upwards, with few stoppages, until half-past one. At first we crossed grassy undulating hillocks, the road being fairly easy. Then we entered a heathy tract, scorched and burnt with recent bush fires, but higher up, where the blaze had not reached, the vegetation was fairly abundant and green. Small pink Irises studded the ground in numbers; an occasional Gladiolus of a vivid crimson gleamed brightly out from the tufted grass. About 12,600 ft. we struck a pretty little stream, flowing S.S.W., and lower down carving its way through a tremendous ravine, the sides of which were clothed with thick vegetation and gaily lit up with the brilliant red-leaf shoots of the Protea (Protea abyssinica) shrub. At the place where we crossed the stream the banks were shelving, and above the little ford the water fell in pretty cascades through a rift in the higher ridge of rock. About this spot the surrounding scenery had lost much of its accustomed asperity.

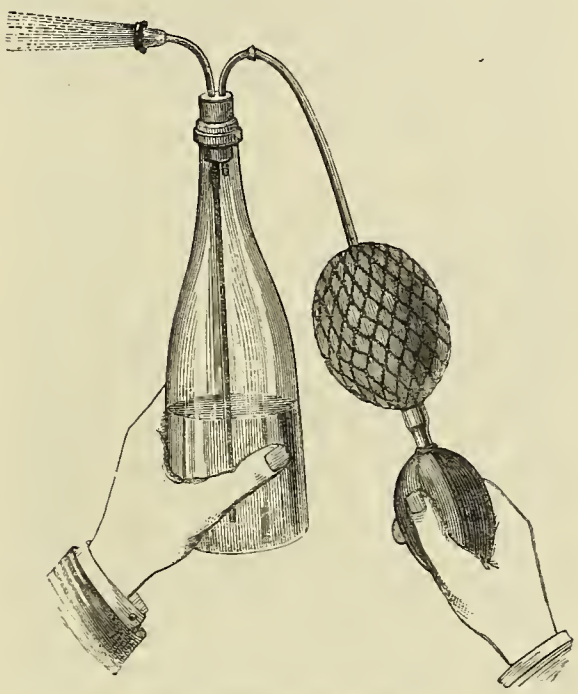
"On the further side of the stream was a patch of level greensward, somewhat spoilt by the buffaloes who came thither to drink and sport, and who had rucked up and befouled much of this little natural lawn. Strange sessile Thistles grew here, nearly 5 ft. in circumference, belonging, I believe, to the genus Carduus, also an extraordinary Lobelia (Lobelia Deckeni) 3 ft. to 4 ft. in height, with a Teazle-like crown of silvery-green bracts and bright blue blossoms.

"Other remarkable plants were the lovely Cynoglossum amplifolium, with rich ultramarine flowers, and an extraordinary arborescent plant, since named Senecio Johnstoni, looking somewhat like a Banana in the distance, but in reality consisting of a tall, black, smooth trunk, 20 ft. to 30 ft. in height, and surmounted by a huge crown of broad leaves interspersed or headed up with bunches of yellow blossom. This strange plant grew abundantly in the streamlet's bed, and its trunk was so superficially rooted and so rotten that, in spite of its height and girth, I could pull it down with one hand."

INSECTICIDES.

Until within the last few years the only insecticide of any repute among gardeners, besides tobacco-water, was that most excellent article known as Gishurst Compound, which, it will be remembered, was the invention of an enthusiastic amateur, G. F. Wilson, Esq., F.R.S., and which stills holds its own. Now we have a dozen or more preparations sold either in a liquid or solid form, all of which are of value if used in a proper manner as assistants to the gardener in his constant and unrelenting war with insect pests. Our acquaintance with insecticides is a somewhat extensive one, most of the compounds now in use, and many that are forgotten, having been more or less experimented with, though by this we should not like it to be inferred by any cynical reader that we keep a supply of insects on order for the speedy trial of all and every death-dealing compound that may be sent to us.

The last that has passed through our hands is Stevens & Co.'s Amortiser, a non-poisonous liquid, which in the case of green-fly on Roses and Carnations in pots, we have proved to be a perfect remedy. Mixed with soft water at the rate of half a pint of the Amortiser to one gallon of water, it forms a "sky-blue" milk-like wash, which when applied through a fine spray nozzle is certain death to the fly without being injurious to the delicate foliage. The odour of the



BRAY'S INSECTICIDE SPRAY.

liquid is rather agreeable than otherwise, so that in the case of those amateurs, ladies and gentlemen, who have small greenhouses attached to dwellings, it can be used not only with safety and effect as regards the destruction of insects, but without the annoyance inseparable from the use of those which have an unpleasant odour.

We have also been trying with the Amortiser a new spray distributor invented by Mr. W. R. Bray, and which proved so effective for the special work for which it was designed, and seems to be such a useful thing for an amateur, and especially for a lady amateur, to wash single plants with, or to dew others in hot weather, that we have had it engraved, the better to display its construction. With the exception of the brass nozzle, and the portion fixed in the cork, the whole consists of flexible india-rubber tubing and two air-vessels, one a globe and the other oval-shaped, and both also made of india-rubber. The bottle having been filled with liquid, water or insecticide as the case may be, the operator takes hold of the bottle with the left hand, and with the right pressing on the lower ball presses the air into the chamber above, which in turn drives the liquid, in the form of a fine spray, for a distance of 3 ft. and more, and as the spray can be sent in any direction the operator wishes, it will be seen at once what a really handy contrivance it is. It can also, it should be added, be used with any sized bottle that the cork will fit tight, so that should the bottle get broken another one can easily be substituted. Messrs. Stevens & Co., 67, High Street, Borough, are introducing the novelty.

GLOXINIA MACULATA.

Here is another plant that is not nearly enough recognized in these days either for its value or beauty. Mr. Cannell is doing something to bring it forth from the comparative obscurity into which it has fallen, but especial thanks are due to Mr. Charles Green, formerly of Pendell Court, Bletchingley, Surrey, who, about the year 1878, exhibited at one of the meetings of the Royal Horticultural Society extremely handsome and attractive specimens of it.

Now although this plant was introduced to English gardens as long ago as the year 1739, it is still by no means common, and, it must be admitted, not so much grown as it deserves to be. The flowers are of a most delightful tint of colour, bluish-lavender, and they are borne in the form of a rigid terminal inflorescence, exceeding 20 ins. in height when seen on well-grown specimens, and it bears this inflorescence most majestically. I am quite within the truth when I say that it is a grand old plant when properly grown, and it can be successfully managed in the following manner:—In early spring, after the tubers have had their proper season of rest, they should have all the old soil carefully shaken from them, then be potted singly in pots just large enough to take them, pots that are well-drained, using a compost made up of good turfy loam and peat; then placed in a warm house or pit as in the case of ordinary Gloxinias; and as required the plants should be shifted. What is known as 24-sized pots is a good one in which to flower this Gloxinia.

During the season of growth a liberal supply of water is necessary, and, treated in this manner, there is no reason why fine branched specimens should not be produced, some 4 ft. in height, with from forty to fifty flowers, and extra large, erect, cordate leaves, twice the size of those of G. speciosa. The plant has a smooth, spotted stem, which gives it a very attractive appearance. In shape the flowers are similar to those of Martynia, and this is, perhaps, why it was placed in this genus by Linnæus. It is somewhat strange he should have done this, since, while Gloxina has solid tubers, Martynia has fibrous roots. G. maculata has tubers, or rather underground imbricated buds, similar to the genus Tydea or Achimenes. Now, who will take this fine plant in hand, and make a reputation by reason of successfully cultivating it? Any gardener desirous of creating a sensation at a local show has now presented to his notice the means by which he can do so, and the opportunity for writing his name large in the annals of local horticulture.—*Quo.*

A MOUNTAIN PICTURE IN CHILI.

After wandering about the lower lands we climbed to the top of one of the hills and came suddenly on a most wonderful view, with seven snow cones of the Cordillera piercing their way through the long line of mist which hid the connecting mountains from sight, and glittering against the greenish-blue sky; each one looked perfectly separate and gigantic, though the highest was only 10,000 ft. above the sea. Under the mist were hills of Oak and Beech forest, and nearer those of the Araucaria domes, while the foreground consisted of noble old specimens of the same tree grouped round a huge grey boulder covered with moss and enriched with sprays of scarlet Embothrium. No subject could be finer if it could only be painted. But that "if" is the plague of my life, and every year has proved more and more that it cannot be. We saw a guanaco feeding quietly under the old trees, and it looked strange enough to be in character with them, and made me wonder how long such a Noah's ark kind of beast would be allowed to remain in such a civilized land as Chili, where nothing indigenous is valued. On the other side of the Cordilleras it is still so abundant that it is used as a beast of burden, though so weak that ten of them cannot carry the load of a donkey.—*Marianne North.*

SMITH'S WEED-KILLER.

I can fully endorse all that your correspondent "W. B. G." says, at p. 550, in favour of "Smith's Weed-Killer," which is the most effectual and economical preparation for the destruction of weeds of every description that I am acquainted with, and therefore, like "W. B. G.," I am glad to see it noticed in your columns. For the information of your readers

perhaps you will kindly permit me to say that the Weed-Killer is sold in iron drums and casks containing four, eight, sixteen, and forty gallons each, ranging in price from 7*s.* 6*d.* to £3, and that one pint of the Weed-Killer well mixed with three gallons of water, and applied to weed and moss-infested walks when the ground is tolerably dry, is a sufficient quantity to allow of the poison reaching the roots of the weeds; care being taken not to allow it to come in contact with living edging of any description, otherwise death, as in the case of the weeds, would follow within ten days of its application.

In order to guard against anything so deplorable as this happening in the application of such a valuable preparation, as much as obviating the necessity of measuring the water during the process of mixing and distributing the Weed-Killer, I have had made a watering can which holds three gallons and one pint, and which has an oblong rose, especially made for the purpose, and this, like the pint measure, I have, by way of guarding against misadventure, labelled "poison." By substituting an oblong for an ordinary circular rose the weed-killing liquid can be applied almost close to the edging without injuring it. To destroy Plaintains and Dandelions, we fill a small bottle or blacking jar with the unadulterated Weed-Killer, and place it in such a position in a small box as not to get upset in being removed, and into this a piece of thick wire, about 15 ins. long, pointed at one end and bent a couple of inches at the other to make a handle, is dipped prior to thrusting it in the centre of each plant 6 ins. or 9 ins. in a perpendicular direction. In the case of strong roots a second drop of the Weed-Killer may be dropped into the hole after the skewer is withdrawn as a *coup de grace.*

In conclusion, it may be a guide to your readers in estimating the quantity required to say that four gallons of the Weed-Killer when mixed will cover an area of about fifty square yards of gravel.—*H. W. Ward, Longford Castle Gardens, Salisbury.*

DOUBLE PYRETHRUMS.

Taken collectively these double-flowered Pyrethrums not only constitute one of the most valuable groups of plants among hardy perennials, but as general decorative plants it is impossible to over estimate their value. They grow, as a rule, to the height of about 2 ft., but there are a few which in very wet seasons attain the maximum height of 2 ft. 6 ins. This in itself is a strong recommendation in favour of their extended cultivation, though this is only a minor point as compared with their decorative value in the garden or in a cut state. The flower-spikes rise from amidst compact cushions of elegant fern-like foliage, and are crowned with large, handsome flowers, the colours of which vary from deep and rich crimson and carmine to rose, flesh, pale and sulphur-yellow, and from these to flowers of snowy whiteness.

For table or vase decoration few flowers can compare with these for producing pleasing and striking effects or for durability when severed from the plant, which alone renders them at once invaluable and indispensable. For beautifying the herbaceous or shrubbery border, or for grouping in beds by themselves they are unequalled, and they are also hardy in the extreme. They commence flowering during the month of May, and from this time till the autumnal frosts make their appearance they may be had in perfection. Being among the easiest plants to cultivate there should be no reason why so meritorious a group of plants should not receive the attention and appreciation of all who have a garden, large or small.

Their blooms individually bear some resemblance to Asters, and they are not unlike some few of the Chinese section of Chrysanthemums. In a cut state they are often mistaken for Asters, indeed, it is by no means uncommon to hear them spoken of as such at our London exhibitions, with the remark, "How very early they are." The grand collections of these flowers which are brought together at most of the leading exhibitions by Mr. Ware, Messrs. Kelway, and others will suffice to give some idea of the numbers that are grown by those nurserymen, who, having recognized their inestimable value, make their cultivation a leading feature.

There is no month in the whole year better suited for planting these and many other hardy plants than the present, or as early in May as possible. Select a showery day for planting them, or, failing this, give a good watering after the operation is complete. They thrive in almost any ordinary light, sandy, or even stony soils, but they do not like cold retentive soils; n fact they soon dwindle and die if planted in them. Before planting the soil should receive a good dressing of well-rotted manure and be dug deeply. Obtain, if possible, established plants in pots, which may be had from various nurserymen and at moderate prices, taking care to loosen the ball of earth if it be at all hard, so as to allow the fresh roots to obtain a hold of the soil as quickly as possible. The plants should be planted not nearer than 20 ins. apart each way, so as to allow plenty of room for developing their pleasing tufts of leaves. During the season the frequent use of the Dutch hoe or small fork will be found highly beneficial to them, indeed, frequent stirring of the surface is most helpful to all or nearly all newly-planted subjects.

The plants which are put out now will produce excellent blooms during September and October, especially if the season be favourable. These plants must not be disturbed till the following spring, when a portion of the stock may be lifted and a new batch planted out as recommended above. This will have the effect of extending their flowering period, as those that were left undisturbed will commence flowering in May and continue for weeks in perfection, and the newly-planted ones will flower during the late summer and early autumn months. With a view to assist those who would prefer a choice selection of these charming plants, I will conclude my remarks by citing some of the best.

Select Varieties.—The leading whites are to be found in Boule de Neige, Candidum plenum, and Princess de Metternich, all of which have beautifully formed flowers. Among other grand white-flowered kinds are Mont Blanc and Virginale. Among crimsons are Galopin, Fulgens plenissimum, Imbricatum plenum, Prince Teck, Progress, Marquis of Bute, and Captain Nares. Glorie de Stalle has rich glowing purple-carmine flowers, and Versallies Defiance is also of a carmine shade. Ceres, Lady Blanche, Déesse, and Carneum plenum have flesh-coloured flowers. Imperatrice Charlotte has whitish flowers shaded flesh, and of immense size. The rose-coloured forms are plentiful, Peau Rouge, Glorie d'Italia, Floribundum plenum, and Roseum plenum being among the best. Panorama has sulphur, and Solfaterre creamy-yellow flowers. In Vance we have cream with a tinge of flesh, and Voi Lactee has white flowers suffused with pink, the flowers being of great size and very double. Beyond these there are numerous and varying shades, which to give in detail now would occupy far too much space; the names given above, however, include some of the very best varieties extant, and are certain to give satisfaction.—*E. Jenkins.*

POLYANTHUSES.

In spite of the fact that a National Society for the Promotion of the Culture of Polyanthuses has been for several years in existence, and still farther, spite of the ancient nature of the Gold-laced Polyanthus as a florists' flower, there seems still to be a singular amount of ignorance existing as to what are the points which go to make up a perfect flower, such as the florist can regard with entire satisfaction. Probably this ignorance arises chiefly from the fact that the Gold-laced Polyanthus offers so little that is attractive in a decorative sense, and therefore does not ordinarily appeal to the tastes of gardeners generally as so many other hardy spring flowers do.

To fully understand and appreciate the beauties of a perfectly marked flower of this florists' section of the Primrose family it is necessary to become a fancier or connoisseur, or, perhaps more literally, a genuine florist. Ordinary mortals find pleasure and enjoyment in the contemplation of masses of flowers which have not the remotest claim to form, refinement, perfection, or any ideal which art has created. The Gold-laced Polyanthus is purely an art-created flower, and represents the outcome of generations of labour, yet does it also seem to have reached its bounds in all that relates to essentials in marking and colour. We cannot get beyond a Cheshire Favourite or an Exile, do what we will, and if we do but compare the progeny of these choice kinds, even if that or any other progeny number tens of thousands, still we find nothing excelling, nothing more perfect, indeed, few, if any, that equal.

True, there are plenty of larger flowers, plenty that have broader and therefore more striking lacing, plenty more robust, and so on, and to the uninitiated much more attractive flowers; but the fact remains that from the pure fancier's point of view, judged indeed by those canons which florists religiously regard as laws more immutable than even were those of the Medes and Persians, the old kinds remain unexcelled. With such poor encouragement what wonder, then, if raisers regard the production of seedlings, in the expectation of obtaining something new and exceptionally good, as a kind of forlorn hope which it is best to leave unstimulated.

Gold-laced Varieties.

What are the chief points in the formation of a perfect Gold-laced Polyanthus? Only the other day an amateur grower assumed that he had something wonderfully good because he found a flower with a creamy-white lacing. Whether a race that had good white lacing and white or cream centres would find favour with florists is by no means certain, but they would give an acceptable break in any case. The lacing of any good flower must be yellow, and yellow only; a bright clear hue, very distinctly and evenly defined, not in the form of a broad belting, but rather narrow. Then in each case the lacing should be both on the outer edge as well as in the centre of each petal, cut clean through to the centre of the flower, and that centre should also be of a clear yellow or lemon hue, and perfectly round.

It is one of the most exacting requirements of the florist that any high-class gold-laced flower should not only have centre and lacing of the same clear shade of yellow, but also that this centre should keep its colour to the last, and not die off cloudy or showing a buff tint. Any flowers that present that feature, however good they may be in other respects, are ruthlessly condemned. The ground of the flower should be dense and clearly defined. As a rule, the ground colours are red, or perhaps more properly called chestnut, and black; the latter always pre dominating so largely that reds are as scarce as blacks are plentiful. It is hardly probable that we shall ever get any other ground hue into the Polyanthus, as the breed adheres so closely to these two mentioned. It is absolutely imperative that the ground, let it be what it may, must be dense, solid, and well-defined. Any really first-class red grounds would be hailed with delight by the fanciers.

There still remains the interesting point in a flower as to the nature of the eye. Ordinary observers laugh when they find florists so determined upon the merits of the thrum over the pin-eye. It is true that in ordinary border flowers, or in those employed to create effect in massing, the form of the eye is of little consequence. Gold-laced Polyanthuses, however, are admired, not for their mass effects, but for their individual merits; hence, the higher the order of merit in the flower, the greater its value. If, therefore, anyone having a flower in which the lacing, ground, and centre may be perfect, and which yet has a pin-eye, and one that is equally perfect and has a good thrum-eye, they will have no difficulty in perceiving that the latter feature gives a central finish to the flower which is wholly wanting in the other. It is not a matter of taste or fancy, it is one of real artistic merit; hence the insistance with which florists adhere to the thrum as an essential.

We thus find the elements of any good Gold-laced Polyanthus flower to be, ground black or red, dense, and well defined. Lacing clear yellow, narrow, well defined, and cutting right through to the centre, both on the edges and centres of the petals, which should be regularly lobed, so as to make a fairly circular flower, and not an angular one. The centre should, like the lacing, be of a clear yellow, that does not cloud or darken, and should be quite round, and the eye should have a thrum filling, and not a pin or projecting pistil, as is so common in flowers. Allied to these features in the flowers, the plant should be fairly robust, and the flower stems stout, erect, and even in height. Amateur raisers should study these points, and ascertain how near their seedling flowers may approach to perfection or otherwise.

Fancy or Border Varieties.

When we come to the section named, for the sake of distinction, Fancy or Border Polyanthuses, we find, as far as exhibition flowers are concerned, absolutely no rules or points whatever to guide exhibitors or judges, and awards will of necessity be made according to tastes, and not otherwise. The fact is, the Fancy Polyanthus enjoys an almost illimitable range in the matter of colour and of markings, and hence it is pretty certain that at present those heads of bloom which may give the greatest pleasure or satisfaction will gain the prizes irrespective of form or quality. But those who have given attention to these flowers find that they show obvious merits as they also do defects. And whilst, in the matter of habit, a good plant has stout flower-stems and heads of bloom evenly and fully produced, a bad plant has the bloom irregularly produced, the flower-stems weak, and no effective head whatever. Therefore growers of these for exhibition should select plants having good habit and breed for that feature.

Then there is too much variety in character of flower yet to enable the Fancy section to claim permanent qualities; we want good selfs, well fixed in colour, and less of the flaked and parti-coloured flowers, for these are too bizarre to be effective either in masses or as pot plants. Really good selfs should be pure white, cream, yellow, orange, red, rose, crimson, purple, violet, maroon, and other rich hues, all pure and dense. We have much room open for the production of really good dark selfs, but whites, yellows, and similar light shades are pretty plentiful.

Then the individual pips or blooms should be rounded, flat, and well defined, having a clear, well-marked yellow centre, with always a perfect thrum-eye. The clearer or purer the centre, the brighter and more effective will be the bloom always. Even in the whites a lemon or pale yellow centre is always more pleasing than is an orange or buff centre. There is no reason to suppose that ever hard and fast rules will tie up the Fancy or Border Polyanthus on the show-table as the Gold-laced Polyanthus is, but some few points thus put forth, and adhered to as far as possible, cannot fail to have a useful effect in the future of one of our most beautiful of spring flowers.

ASPARAGUS PLANTING.

Gardeners who have found it necessary to make annual plantations of this vegetable to replace that which is taken up for forcing, have long ago discovered that it is a mistake to plant too early, and they prefer to wait till the young plants have made a few inches of growth. The first bed I planted many years ago was a failure, though I waited till the shoots were visible. The weather, however, which was fine and promising, changed in a day or two, and snow fell, which was followed by cold and wet; consequently, the roots were starved, and produced weakly shoots, and some none at all. On our stock for planting (which show before the older roots) some of the "grass" was visible on April 25th, but we shall not be tempted to plant for quite another week, and not then, if the weather is unfavourable. Rather than plant when cold, drying winds are prevalent, I would wait till the "grass" is a foot long. It has occurred some seasons that, after waiting even for it to reach that stage, we have been forced to plant before the coveted genial rainy day. In those instances, we have selected the early part of the day, and one is told off to plant, the other to lift, and a third to convey them and place them at proper distances. The ground receives a sprinkling of warm water, and each plant receives sufficient to settle the soil round the roots, as well as a mulching with short litter. In this way, scarcely one of the plants fail to grow.

Failures occur most frequently amongst those who have to depend upon their plants coming from a distance. In this instance, the plants are dug up regardless of weather, and laid on the surface of the soil, where they remain for the best part of the day, and are ultimately collected and thrown in a heap of two or three cartloads; and I have witnessed the manager of one nursery in particular allow them to remain so for several days, sometimes covered and sometimes not; the latter was, of the two, perhaps the best, as it lessened the chances of fermentation, which must be inevitable when they were packed together on a warm day.

I only once received plants from a nursery, and I had them forwarded two or three weeks before there was any likelihood of growth. After they arrived they were placed thickly on 3 ins. or 4 ins. of partially decayed leaf-soil, and well covered over with the same material, as well as with 3 ins. or 4 ins. of short litter. As I anticipated, the plants sent up shoots long before the established plants, and I guarded against this as much as possible by placing them in a shady position. To account for this advanced growth we have only to consider the altered circumstances in which the plants are placed when on the surface of the ground. There is more warmth below them, and their top is nearer the source of heat, and to introduce them back into the cold soil in a forward state of growth would be to court failure.

Late planted Asparagus does not succeed because it has already made several inches of growth, but because the ground is so much warmer at the time than when the roots are dormant. Much may be done to increase its temperature if it is turned over three or four times on warm days to the depth of 6 ins. After trying different methods of planting, we prefer to plant two-year old plants on narrow ridges formed by drawing two drills 6 ins. deep on either side of the line and 2 ins. apart at the top but widening towards the base so as to appear wedge-shaped. The roots are spread on both sides of the ridge, and the soil that was drawn away to form it is used to cover them. More is thrown over the surface from the alley in order to cover the crowns 3 ins. deep, but before this is placed on the roots are watered with luke-warm-water, and the mulching of short litter or the contents of an old Mushroom bed avoids any further watering in our wet district.

For one-year old plants we cut a trench as if we were preparing for laying Box edging, and the roots are carefully spread out and afterwards treated in every respect as stated for two-year old plants. I have seen in the South one-year old plants nearly as large as what were considered well-grown two-year old plants in the North, so on the whole the latter age is preferable with many unless there is plenty of spare ground.

In those gardens and localities where the Asparagus dies off or does not succeed so as to form large "stools," it is useless to plant at such great distances apart as are frequently recommended by writers who are located in favourable districts; therefore the rows may be 1 ft. apart and the plants 18 ins. distant in the row.

When the "grass" is about 2 ft. high, we place some twiggy Pea sticks on each side, and if necessary we run a string in any direction that may seem likely to demand it, so as to prevent it being broken off by the wind.—*North, May 4th.*

NOTES FROM IRELAND.

Concerning Auriculas.—I should have been very pleased had I been able to get away to London to see the recent exhibition of the Southern Section of the Auricula Society, detailed in The Gardening World. Failing this, I fancy I have had the next most enjoyable treat—a box of blooms from Messrs. Cannell's large collection, at the well-known "Home for Flowers" at Swanley. When I tell you that among the hundred blooms transmitted me, a short time since, were included Acme, Alexander Meiklejohn, and George Lightbody, a plant of each of which usually costs half-a-sovereign—seed from which must be extremely valuable—you will not be surprised at my commencing these notes by asking your permission to handsomely acknowledge my obligations. I am aware that for some years Mr. Cannell has grown and fostered the whole Primula family, and of how much he has done for it; so it strikes me, at a time when most of your florist readers are admiring their collections at home, or their neighbours at the shows, I cannot do better than send you a few notes with the view of still further popularizing these attractive flowers and inducing others to add their experience.

Edged Auriculas.—These are the aristocracy of the family,—much more difficult to propagate, grow, and bloom, than the subsequent sections. At one time, now some years since, hearing of their well-known hardiness against cold, I proposed in *The Garden* to grow them wholly out-of-doors, and, to prevent their becoming splashed with rain, or soiled, to circle them round with green moss, &c. The well-known champion grower and writer thereon, the Rev. F. D. Horner, then of Kirkby Malzard, poked some fun at the poetic but impracticable idea; but I persevered, only to learn that he was quite right and I quite wrong. Edged Auriculas, and even Alpines, out-of-doors—as you will see from some I will clip off the trusses and enclose—are liable by heavy or persistent rains to have their colours entirely washed away. I have a very hardy green-edged variety, plum body colour, but pin-eyed, that I planted out, not setting much value on it, named some forty years ago, I am told, Warriss' Union. It lives and seeds and thrives without any care, but a heavy shower of rain leaves it defaced and unrecognizable. With me, the green-edged few I have I find difficult to retain, except General Neill, which produces offsets pretty freely, but no seed until this year. I have crossed it this year with Havelock. In some cases crossing produces extra fertilization, much more so than when their own pollen is used. This process in the case of thrum-eyed flowers is not easy, except by cutting away the stamens that form the thrum, or the whole pip, which encircles the throat.

Notwithstanding his pale throat, about which there was some discussion in your contemporaries lately, I much like Mr. Turner's Colonel Champneys. It is a vigorous grower, produces large trusses and pips, and at once arrests attention. Passing by such well-known and universally admired flowers as George Lightbody and Lancashire Hero, with neither of which I have been as successful as I could wish, my favourite is Competitor. I am at present comparing it before me with Robert Trail, Peveril of the Peak, Chapman's Sophia, and that really beautiful flower, Kay's A. Meiklejohn. I must name one other very striking and effective flower in this section that I am surprised not to see oftener referred to — Ashton's Prince of Wales. Coming to white edges, though I may again be running against the opinion of more experienced judgments, I prefer Acme, raised, I believe, by Read, still scarce, and not so easy to propagate by seed or offsets, which explains the scarcity. A fine flower, too, that I have now grown for some years, and that is easily grown and cared, is White Rival, another of Trail's numerous progeny. The only other I will refer to is by the same raiser, Beauty, to my mind well deserving the name. I believe Mr. Horner's fine varieties are not yet in commerce; nor, so far as I know, but a few of Mr. Douglas's; in any case they would most likely be beyond my means to purchase.

Self Auriculas.—These can be successfully grown out-of-doors, but I would recommend some protection during flowering. Heavy rain washes away the farina from the paste and the colouring matter from the body colour. The way I manage to grow them, not having a special Auricula-house, is to plant them in an elevated long box, more than 12 ft. long, and elevated on a stand some 3 ft. 6 ins. high, and only protected overhead during the flowering period. Here they have plenty of air and shade from extreme heat during mid-day—very desirable for all Auriculas. Black Prince I like very much, though many prefer Spalding's Blackbird. Newer and much larger is Campbell's Lord of Lorne, dark crimson and flat. Almost as black as any is Joseph. I have one I am not sure of the name of, with the foliage perfectly white with meal.

Shaded Alpines.—At last I come to my sweet-scented friends, large, broad, and flat, as a rule, and with their rich deep colours, growing gradually lighter towards the edge. These are very effective and telling, and perhaps in commending them I may be allowed to mention Mr. Dean's distinct Laced Auriculas. One of the finest I know of the shaded section is one I had from Mr. Cannell—I cannot say if he is the raiser—called Beatrice, deep dark lilac-purple, a great gem. I enclose a number of seedlings, also of my own, for your opinion, wholly grown in the open-air. [Many of them pretty border flowers, but somewhat spoilt by the rain.—*Ed.*]

These are so easily grown, so fragrant, and brilliant in colour, that the wonder is any are without them. You can judge of some seedlings forwarded as to how they do with me without any care to speak of. I must, however, say the choicer kinds really deserve every care and attention. Any time from this forward that rooted offsets can be secured of any of the sections named, I take them off and pot, with the view of having them well established before winter. At the same time, as in the case of all the florist flowers, everyone should grow some from seed. —*W. J. Murphy, Clonmel.*

The Amateurs' Garden.

THE GREENHOUSE.

Watering and Ventilating.—No sooner is the risk of damping over, than atmospheric dryness has to be guarded against, as it tells seriously on plants and flowers, especially the latter, the aridity of the air causing them to set and fall off long before they otherwise would. This being so, the under parts of the stage, the walls or pathways, should be sprinkled with water once or twice during hot sunny days, which will cause a genial vapour to rise that will be very refreshing to the bloom and foliage, which instead of being distressed, will stand out bold to the last. To assist the plants in maintaining their beauty, not only must they have the house freely ventilated during the day, but a little air should also be left on at night and gradually increased as the morning wears on, according to the state of the weather.

Shading.—If sunny, shading will be necessary, but the thing is to do with as little as possible, and only to have it on when the solar rays are strong, as light is life to plants, and the more they have of it the healthier and sturdier will they be. These remarks apply more particularly to all of a soft-wooded character, which need all the light they can have to keep them short-jointed and build them up with good solid stems that will send out plenty of bloom.

Balsams.—These are amateurs' plants *par excellence*, and almost indispensable for summer decoration, and if seed be sown now, the plants will soon be in flower and make a fine show. The best way to raise and grow them is to sow the seed in light rich soil in a pot or pan and stand it in a Melon or Cucumber frame, and as soon as the seedlings appear, the pots should be raised near the glass to keep the young plants from drawing. This they soon do if at all thick, and the thing is to pot them singly directly they are large enough to handle, at which time they should be dropped a little lower in the soil and gradually sunk at each shifting after, so as to bring the bottom branches well down and have the plants dwarf and well furnished below. To bring them and keep them in this condition, they must have a light position and proper room around them, with a temperature not lower than 60 degs., and if they can be plunged in bottom-heat in a pit or frame, the place will just suit them.

Impatiens Sultani.—This is a comparatively new kind of Balsam that every one should grow, as it flowers freely in the smallest of pots and is very bright and brilliant in colour. This Impatiens may be propagated either by seeds or cuttings, and requires the same kind of treatment as the well-known Balsam, light and sun being essential to keep it short-jointed and cause it to produce fine heads of bloom. If struck from cuttings, they should not be kept close, but stood along the front of a warm frame where they can have shade, as being of a succulent nature, they will not flag, but root in a week or ten days, and should then be potted and stood up close to the glass.

Celosias.—Next to Balsams, Celosias are perhaps the most useful, C. pyramidalis plumosa being the best, and if a good strain of this be obtained, the inflorescence will be found to be very bright and beautiful and to make a grand show. The way to raise plants is to sow seed in light rich soil in gentle heat, after which the plants may be grown in any pit or frame where they can be shut up early in the afternoon, when they should have a syringing to keep them free from red-spider.

Torenia Fournieri is another valuable plant for the decoration of the greenhouse, the flowers of which are a lovely blue with a yellow throat, and it is a most profuse bloomer, the habit of the plant being very dwarf and bushy, branching out freely from the base to the top. To get this Torenia up quickly, seed should be sown in a hotbed, and the young seedlings grown on under the same favourable conditions, or in a warm frame, till the blossoms appear, when the plants will stand in a low temperature and keep gay till the autumn.

Schizanthus papilionaceus, S. retusus, and S. Grahami, are all remarkably showy annuals, the flowers of the first-named being like butterflies with outstretched wings, so curious is the form and so gay are the colours and markings. As these Schizanthuses are half-hardy, they may be stood outdoors, which is the best place to grow them, as they keep more dwarf, and may be brought into the house when they begin to show bloom. The habit of the plants being spare, it is a good plan to pot three in a 7-in. pot, as then they get together and form a fine mass.

The Cardinal Flower, Lobelia cardinalis, also makes a capital pot plant, as it sends up bold spikes of rich scarlet blooms resembling those of the Salvia and the foliage looks very striking, as it is of a deep purple hue like that of the Beet.

BEDS AND BORDERS.

Roses. — The chief things requiring attention now will be the Roses, which are suffering from "worm i' the bud," and not only is that vile insect, at work, but, as is only too common at this season of the year, green-fly is rife, and both must be put down if flowers are to escape uninjured, and open. The only way of dealing with the first-named is to give them a loving squeeze between the thumb and finger, which pressure will burst their distended sides without bruising the leaves, if the grip is not too great, while they are tender. As to the aphis, an effectual and safe destroyer is found in tobacco-water, the most economical plan of applying which is to dip the shoots in it, but as these are hardly long enough to bring down at present, they must be syringed with the liquor or dusted with tobacco-powder, which latter should be put on when the foliage is moist with dew, as then it adheres and kills the fly, after which it should be washed off at once by syringing heavily with clear water so as to make the foliage quite clean. In cases where there are many plants to go over, a good, cheap, and effectual insecticide may be made by boiling soft soap and quassia chips in water, in the proportion of 2 ozs. of soap and ½-lb. of quassia to the gallon, which infusion is safe and harmless to the young tender shoots, but fatal to the aphis it touches. [See another note on the same subject at p. 565.]

Mulching.—The importance of mulching has been insisted on again and again, and it is unnecessary therefore to do more now than advise covering the ground at once with half-rotten dung, horse droppings, or other material, and as soon as that is done, then a good soaking of liquid manure should follow. This will enrich the soil, feed the roots, stimulate the plants, and enable them to send up very fine blooms.

Gladiolus in Rose Beds.—Beds that have dwarf Roses in them, or standards with tall stems, may be made fine and gay during autumn by planting Gladiolus among the plants, as the Gladiolus push up their stately heads among the Roses and make a magnificent show. All that is necessary in planting is just to push aside the mulching and make holes large enough to pop in the corms, which should have a little sand dropped over them and then be covered with soil.

Hyacinths, Tulips, Crocuses, and other Bulbous Plants.—It is a common practice with many to hurry the foliage of these off to make a clearance of the borders ready for the summer bedders, the doing of which sadly weakens the bulbs, as they all stand in need of their leaves till they die away naturally. Instead then of cutting or pulling them off, they should be tied up, if in the way, and left, and if this is done, instead of deteriorating, they will get stronger from year to year and increase at the root.

THE FRUIT GARDEN.

Fruit-trees and Insects.—As the trees are all so full of blossom and the weather is so favourable, a crop of all kinds of fruit seems an absolute certainty now, but Peach and Nectarine trees will need close watching to keep them free from aphis, which is always more or less troublesome at this time of year. Tobacco-dust, tobacco-water, or Nicotine Soap, are the great remedies, and either one or other of these should be applied as occasion requires, and the necessary disbudding done, which is a simple operation that anyone can carry out, as all shoots may be rubbed out except the best placed one at the bottom and the other at the top, unless the branch they are on is long, when another may be left in the middle, or more if the wall has bare places that ought to be filled. Apricots that have set thickly will require thinning, and the young shoots should be stopped at once by pinching them back to three or four leaves and so keep their spurs short and close to the wall.

Strawberries.—If not already done, as previously advised, these should be mulched down, the importance of which, and of doing it early, cannot well be over-rated, especially where the plants are on light soil, as every rain, when the ground is so covered, tells by being kept in to nourish and feed the roots, under which favourable conditions fine fruit is produced.

The Vinery.—With the lovely weather we are getting, young fresh planted Vines will be making rapid progress, and to have the canes stout and short-jointed, air should be put on in the morning as soon as the glass rises to 60 degs. and increased as soon as it reaches 75 degs., so as to keep the temperature at that point, or between it and 80 degs, till three o'clock in the afternoon, when the house may be closed, to shut in the solar heat and keep it warm for the night. As it is necessary to maintain a moist atmosphere at all times, the floors, pathways, and other available surface should be damped down several times during the day by sprinkling them with water, and when very sunny it is a good plan to syringe the Vines after shutting up, which will ward off red-spider and refreshen the foliage.

Vines in Bearing will require precisely the same treatment as that touched on above, except the syringing, which is sure to disfigure the berries, as water, however clear it may be, always leaves some stain or deposit. As the young shoots break out easily at their present early stage, they should not be tied down till they become more hard and woody, when they may be bent and brought to the wires with safety. The distance at which they should be stopped depends on how far the Vines are apart, but, as a rule, one or two joints above the bunch may be stated as the right thing, and below, every lateral should be taken quite out, and the others stopped at the first leaf, and kept at that all through the season.

THE VEGETABLE GARDEN.

General Work.—Every advantage should now be taken of the weather to run the hoe through growing crops and between rows of seedlings, when it is dry, as though no weeds may be apparent, a gentle stirring of the surface does a vast amount of good by aerating the soil and rendering it sweet and fit for the roots. With the ground stirred and clean, Potatos should be earthed-up by drawing the pulverized mould regularly along each side of the rows, but not in such a manner as to make too sharp a ridge at the top, as by doing that the rain would be thrown off away from the roots.

Asparagus.—This is a vegetable that everyone likes, and yet few think of making a bed or planting it, owing to the erroneous notion most people have that it requires no end of preparation and takes a long time to come in, which are great mistakes, as with a well manured, deeply dug piece of land and a few good plants to plant it with, Asparagus may be cut at the end of two years. The best time to plant is as soon as the tops of the plants are well on the move, which is now, but as they are tender in this state, and will not bear carriage well, they must be obtained near home, and put out at once by cutting treuches 2 ft. apart, in which the roots can be spread, and then covered and watered to settle the soil well about them.

Plantations may also be had from sowing seed and letting the plants stand after thinning them out to the proper distance, and as the ground between the rows may be used for growing other low crops, it is a good plan to start in that way, although it takes longer for the beds to come into bearing.

Violet Lady Hume Campbell.—As grown by Mr. J. Gough, at Harefield Grove, this Violet is not only distinct from Devoniensis in regard to the colour of the flowers, but is in every respect a much better grower. It came into the possession of Mr. G. J. Brush, of High Grove Gardens, having been sent from Italy; and finding it to be quite distinct from Devoniensis, was named by him Lady Hume Campbell, and distributed by Mr. C. Turner. At Harefield Grove, *The Gardeners' Chronicle* says, the two are growing in the same frame, and the manifest difference both in the colour of the flowers and vigour of growth and habit can be at once seen.

CATTLEYAS OF THE LABIATA SECTION.

This title may be given to a large selection of our handsomest Cattleyas, and one of the most useful and manageable groups of Orchid. In point of beauty it needs not an Orchidist to discern their merits, as in that particular they will compare favourably with any class of plants. Next, as to their easy culture. Anyone who possesses a house, conservatory, or glass structure of any description, which he is prepared to arrange as to ventilation, &c., for their accommodation, and one in which he can make sure that the temperature will not get below 50 degs. or 55 degs. at night in winter, and 58 degs. or 60 degs. by day, can, if he gives his mind to it, grow this section of Cattleyas with such success that he will in all probability be surprised himself at the result.

As a precaution, however, the varieties of C. gigas and C. Dowiana should be added last, and not until the success of the others are ensured, for they are supposed to require more heat than the rest. The matter is, however, by no means proven, as this division has not made good progress even in many good hands, and the secret of their sulkiness is more likely to be found in their getting too much heat than too little. In the hands of beginners particularly, as many of the Cattleyas as possible should be basketed and suspended or placed near the glass on the stage, and in all cases I am sure that the varieties of C. gigas and C. Dowiana have a much better chance of success when grown in baskets than in pots.

In potting them the pots should be crocked rather more than three parts of the way up, and where a good sample of peat or Fern-fibre alone can be obtained, nothing better can be found for potting them in. Where good peat cannot be obtained, the sandy soil should be taken from it, leaving the fibre for use, which should have a little sphagnum mixed with it; and it will be well in using it to remember that when good peat cannot be obtained, the less of the inferior kind that is used the better.

The following is an enumeration of the varieties, a great many of which the amateur with a very slender purse, may obtain. On the other hand, that which we illustrate—C. labiata brilliantissima—and a few other rarities, gold cannot buy, but that only adds zest to the care of the small amateur's fresh-imported nurslings by the expectation they give of rivals for the unpurchasable novelties appearing among them.

CATTLEYA LABIATA BRILLIANTISSIMA.

C. labiata, the old typical form, dates as far back as 1818, and since that time, and especially in recent times, many a fruitless search in the Brazils has been made for it; it is consequently not easily to be acquired. It flowers in autumn with large rosy-petalled blooms with crimson lip.

C. labiata Warnerii is much more plentiful, like the old labiata in the general appearance of its flowers, but being very variable in its tinting and summer flowering. It was imported from Rio, and named after Robert Warner, Esq., of Broomfield, Chelmsford.

C. LABIATA PESCATOREI is one of the rarest of the old importation. It has upright bright green pseudo-bulbs and curious trowel-like leaves. Its flowers are of fine form, sepals and petals light rose, lip dark crimson, with paler margin. Mr. B. S. Williams has a very fine plant of it.

C. LABIATA BRILLIANTISSIMA (see illustration, p. 569), the only plant of which in cultivation is in the famous collection of William Lee, Esq., of Downside, Leatherhead, where it was beautifully in bloom last September, surpasses all the rest in beauty, substance, and, it is supposed, duration of its flowers. The sepals are clear rose, the petals are of the same colour, but with a crimson feather extending up the middle of each, which gives the whole flower a very showy and distinct appearance. But the handsomely crimped and fringed labellum, with its shining dark velvety-crimson colouring, is the chief attraction, the blending of the colours, crimson, rose, and white, and the soft effect of the pale yellow in the throat, constituting it a very attractive object. Not content with the display of all this loveliness it emits a most grateful odour. Mr. Lee must be congratulated on the possession of such a beauty, and the plant on its good fortune in getting into such skilful hands.

C. MOSSIÆ is one of our oldest and best friends; it is the amateur's plant *par excellence*, as it is wondrously showy, easy to cultivate, and cheap to buy. Moreover, it is fragrant, and if fifty plants of it are obtained no two will be exactly alike.

C. MOSSIÆ WAGNERII.—Sepals and petals pure white; lip orange.

C. MOSSIÆ REINECKIANA has pure white flowers, the labellum being veined with crimson and the throat tinged with yellow.

C. SPECIOSISSIMA is very variable, beautiful, and generally cheap, because it is said not to bloom freely; grown on blocks or in shallow baskets, and in the full light near the glass of the roof, I have never had any trouble in growing it well and getting it to flower. When growing and rooting it wants an abundance of water, and when grown with but little stuff about it, it should be dipped every morning.

C. GIGAS.—This and its varieties are among our showiest Cattleyas. The flowers are very large, sepals and petals clear rose; lip broad and flat at the lower half, bright crimson, edged with lilac and beautifully fringed. I should recommend amateurs to grow all the varieties of this in baskets, treating it much like C. Dowiana or C. aurea, as given in THE GARDENING WORLD, with an illustration, p. 296, January 10th.

C. GIGAS BURFORDIENSIS is one of the grandest of the gigas varieties. It flowered in Sir Trevor Lawrence's noted collection. It has purplish-rose flowers, with intense amethyst lip.

C. GIGAS IMPERIALIS is a local variety discovered by Mr. Roezl. Some of the forms which have flowered out of it have labellums much resembling those of C. Dowiana. In particular, may be mentioned that which Mr. Geo. Hardy flowered at Pickering Lodge, Timperley, and which was like C. Dowiana in the lip, but C. gigas in the petals.

C. DOWIANA is a great beauty, with yellow sepals and petals, and dark velvety-crimson lip veined with yellow. It comes from Costa Rica.

C. DOWIANA AUREA appears to be a New Grenada form of the preceding; we gave a good illustration of it, with cultural note, at p. 296.

C. MENDELII being now in flower, all have it well before them, and know it to be a grand plant. It is also very easy to grow, and not expensive. The sepals and petals vary from white to rose, and the lips from rosy-lilac to crimson.

C. TRIANÆ, a host in itself, is well-known for its free habit of growth and for the certainty with which its flowers in the dull months of the year may be counted on. Like C. Mossiæ it is cheap, and as there is endless variety in it, some of the forms being even pure white, the amateur cannot well get too many.

C. PERCIVALIANA is one of our neatest Cattleyas, and a good acquisition. Its flowers are small compared with C. Mossiæ, but the richness of the dark crimson or maroon labellum, and its delicate frilling in a good variety, makes it a very handsome and desirable plant.

C. GASKELLIANA.—This is of the true labiata form, a handsome thing, and delightfully fragrant. There is great variety among the different specimens, but to my mind, all the forms are beautiful, although some charge them with paleness. It, like many of the other good large-flowered Cattleya introductions of recent times, was imported by Messrs. F. Sander & Co., of St. Albans.—*James O'Brien.*

CANARINA CAMPANULA.

YOUR correspondent "R. D.," p. 551, inquires if this old-fashioned plant has gone out of cultivation, to which I answer No, not quite; though its occurrence in gardens is by no means so general as the merits of the plant deserve. I know of two places where it is grown, and I doubt not there are many more, though perhaps rather widely distributed. It has no doubt fallen into neglect, and your correspondent has done well in directing attention to so interesting a subject, and which by the way is so easily grown. The Messrs. E. G. Henderson & Son, of Maida Vale, used to grow it, and I doubt not may still have it. Latimer Clark, Esq., of Sydenham Hill, was an admirer of this plant some years ago (indeed old-fashioned plants were his favourites); he grew it well too, and visitors used to admire it, though I never remember an instance of a stranger recognizing it, a circumstance which illustrates its sparse distribution. Flowering so early in the year, and the general appearance of the plant being so widely distinct from any other in flower at the same time, are qualities which should recommend it to those lovers of plants who can command the use of an ordinary greenhouse. To cultivate it well and successfully, the instructions given at p. 551 will prove a good guide. I find it mentioned in some continental lists among miscellaneous bulbous plants, and if my memory serves me rightly, I believe I saw the plant in the Cambridge Botanic Garden last year. There is another species of African origin, C. zanguebar, on which coast it is found, hence its specific name; it requires an intermediate temperature.—*E. Jenkins.*

FRUITS.

Fruit Culture under Glass.—VINERIES: The next few weeks will be the busiest time in the whole year in this department. The Vines will require to be looked over twice a week in the way of pinching the lateral and sub-lateral growths, and Grape thinning (respecting which see p. 522) from sunrise till pretty well sunset will be the order of the day until every bunch has been properly thinned, commencing the operation as soon as the berries are set, and sticking to it until the last bunch is finished. The skilful and anxious Grape-grower will not allow any superfluous bunches or berries to remain on his Vines one day longer than he is absolutely obliged to do. As soon as the thinning process is completed, we strew a little of Beeson's Manure over the border, following it immediately with a mulching of horse-droppings 2 ins. thick and a good soaking of tepid (clear) water and (after the first couple of waterings) liquid manure at intervals of ten days or a fortnight, until the berries commence colouring, when the applications are less frequent and consist of clear water only.

VENTILATION.—Grapes in the early house (in which we cut our first bunch on the 24th ult.) should be ventilated freely throughout the day during favourable weather, leaving the sashes open a few inches top and bottom at night. Open the ventilators a little in the morning when the thermometer registers 75 degs. to 80 degs. in houses in which the Vines are swelling their bunches, and at 70 degs. to 75 degs. in later houses, and afterwards increase or decrease the quantity of air given according to the rise and fall of the temperature in the individual houses until closing time, which should range from a quarter past three to four o'clock in the afternoon on bright sunny days during the next few weeks. The top and bottom ventilators of vineries of modern erection, and which we will assume are nearly, if not quite, air-tight, should, however, be opened a little late in the evening, and closed first thing in the morning, except houses in which the Grapes are beginning to colour or are coming into flower, which should, as already stated, have more or less air on day and night.

ATMOSPHERIC MOISTURE.—A somewhat dry atmosphere should be maintained in houses in which the Grapes are ripe and ripening, and a like atmosphere should be observed in houses in which they are in flower, but in the case of Grapes which are set and swelling the conditions should be the reverse, the pathways, walls, and surface of the border should be damped over morning and afternoon at closing time, when the temperature may be run up to 90 degs. with sunheat.—*H. W. Ward, Longford Castle.*

Profitable Fruit Culture.—At a late meeting of the Herefordshire Chamber of Agriculture, Mr. Watkins, of the Pomona Farm, Withington, contributed a paper on this subject, in which he stated that it had been asserted that fruit-growing did not pay, but he maintained that it could be made profitable, and instanced an orchard which had yielded a profit of £15 per acre. Fruit had not decreased in value in the same ratio as other farm produce. In Herefordshire they had a soil highly suitable to the growth of Apples, and it was to the interests of the landlords and tenants to develop those capabilities. If they were growing for market they must have both quality and size. He did not recommend the planting of one sort of Apple, unless a person intended to grow extensively, and was prepared to bear an occasional failure of crop; nor the planting of too many sorts, but the growing of several good varieties. No land paid so well for good attention as orcharding. He advised great attention to the feeding of the soil, but condemned the practice of over-pruning. The only pruning required to an old orchard, if it had been well attended to when young, was to cut down the dead and cross boughs, and to thin out small wood, to let the sun into the centre of the tree. There was no reason why the quality of English fruit should not be as good, if not superior, to the American and Canadian fruit, which secured higher prices than the English, as it was better harvested. Apples should be placed, and not dropped, into a basket. The way to make fruit-growing profitable was to plant sorts of good quality, heavy croppers, and good size, and to take care of them when planted, and to harvest them well.

FLOWERS.

Work in the Plant-houses.—Among the soft-wooded greenhouse plants there will be plenty of work just at this season of the year, when they are making rapid growth; and if not given plenty of pot room as they require it, and space to grow in, it will be useless to expect to have good plants that will keep up a succession of flowers. In potting on Tuberous Begonias, any plants that are throwing up a number of shoots should be thinned out and the young shoots will make good cuttings, besides benefiting the plants by being removed. To keep the plants dwarf and sturdy, they should be placed in a light, airy position, and only have a slight shading during the middle of the day. The watering must also be carefully attended to, as over watering is equally as damaging as allowing the plants to become too dry.

PELARGONIUMS that are coming on for succession will require tying out, and to have more space allotted to them. If some of the free-flowering early varieties are selected and cut back just below the flowering shoots, they will make useful plants for flowering in the autumn, if potted on and grown out-of-doors through the summer. To keep Cyclamens clean and healthy through the summer, they should be grown on a moist bottom, and must be examined from time to time to see that they are free from green-fly or thrips, and, on the first appearance of either, be carefully fumigated until the pests are thoroughly eradicated. In watering, soot-water may be used freely, which will promote growth and help to keep off insects.

AZALEAS that are making their growth will require frequent syringing, and as this will sometimes keep the surface of the soil moist when they are dry beneath, they should be examined carefully, and when water is given they should have a thorough soaking. Where the plants are throwing out vigorous shoots it is a good plan to stop them; this will help to keep the plants in shape, and if done early enough will give several trusses of flower where there would otherwise only be one.

Camellias.—These are also greatly benefited by the frequent use of the syringe during the time they are making their growth, and a little liquid manure occasionally will be beneficial; soot and cow-dung makes a good manure for the purpose, or guano may be used, but in either case it should be made some time before it is required, so that it may have time to settle down before being used.

East Lothian Stocks from February onwards.—If there is one flower more than another which gives me pleasure, that flower is a double white Stock in early spring. I grow these beauties somewhat largely, both for out-door and house decoration in pots. The latter are grown from cuttings, which we put in at intervals of once a fortnight from the middle of August through September. We select short-jointed wood, and place one cutting in the centre of a 60-sized pot filled with sandy loam and leaf soil. They are then placed under handlights at the back of a north wall, where they soon strike root. The earliest batches we shift into 48-sized pots, and stand them in a cool house near the glass, where they soon make progress. The late batches in sixties flower in the same pot. I have for some weeks past had one of these small plants in my sitting-room, and it is the admiration of all who see it.—*R. Gilbert, Burghley Park Gardens, Stamford.*

Tacsonia Van Volxemii.—This is one of the very best creepers for covering the roofs of large cool houses, as it is a strong grower, and delights in having plenty of room to extend itself, and to show off its true character. The young shoots should be thinly trained, and simply fastened to wires on the sash bars at intervals, and the points of the shoots bearing flowers allowed to droop at various lengths over the whole surface of the roof. Treated in this way it has a charmingly natural and striking appearance, and the rich majenta-coloured flowers are shown off to better advantage than by any other mode of training that I have seen. In order to keep it from growing unduly strong, and to induce it to flower abundantly, it should be planted in a rather narrow, well-drained border, and receive an abundance of water at all times. If it is allowed to get too dry at the roots, the effect will soon be visible, as the flowers will not open properly.—*H. Dunkin.*

Yucca filamentosa variegata.—At the last meeting of the Maidstone Gardeners' Mutual Improvement Society, Mr. Bashford, gardener to John Corlett, Esq., Sutton, near Maidstone, exhibited what has been described to us as a remarkably perfect specimen of this handsome plant. The specimen which is believed to be some seventeen or eighteen years old, is about 4 ft. high, clothed with leaves to the base, and with such leaves as are very seldom seen. The plant, moreover, is throwing up a spike of flowers, which is not a common occurrence, and we hope when it is in bloom Mr. Bashford will let us see it at South Kensington.

Primrose Dr. Arthur Dumolin.—I have to thank Mr. Knight (p. 554) for calling my attention to this charming variety, which, however, is known to me, but I have not seen it of late, and had for the time forgotten it. There are yet several other good free-flowering kinds of continental origin, the names of which do not occur to me now, and which are possessed of good vigorous constitutions and free-flowering qualities also. I may, however, refer to these on some future day.—*E. J.*

A New White Passion-flower.—Messrs. Lucombe, Pince & Co., of Exeter, have favoured us with some blooms of their new hardy white Passiflora, Constance Elliott, which is now being put into commerce. It is a seedling from the common blue Passion-flower (P. cœrulea), which ornaments the fronts of so many houses in the southern suburbs of London, has the same handsome dark green foliage, and flowers of the same size, but ivory white, and agreeably fragrant. The two sorts would form an agreeable contrast if planted together, but whether the new one sets its fruit as freely as the old has yet to be proved.

VEGETABLES.

The Kitchen Gardener's Calendar.—Tomato Planting: Preparations should now be made for getting the earliest batch of plants planted out. The first step to be taken in this direction is to get the necessary number of holes opened between the fruit trees on a south or west wall, or wooden fence, and to put into each hole half a barrow-load of compost, consisting of three parts of good loam and one of well decomposed stable-manure. The plants, which should be well established in 8-in. pots, and be thoroughly moist at the roots before being turned out of the pots, as well as having been previously hardened off in cold pits, should then be planted, one in each hole. Press the soil firmly about the roots with the hands, and nail the plants to the wall, leaving room in doing so for the development of the shoots. This done, a Spruce, Laurel, Yew, or Beech bough should be stuck firmly in the ground in front of each plant, for protection from frosts (should we unfortunately have any after this date) and cutting winds.

General Work.—The haulms of early sowings of Peas now in flower should have the points pinched out to hasten the podding process. The same remarks apply also to Broad Beans. Asparagus should be looked over daily, and the shoots be cut as they become fit for use, taking care in doing so not to injure with the knife the crowns of the plants nor the shoots below the surface. The "grass" should then be washed, sized, tied up in bundles, and stood on end in saucers containing half an inch of water in a cool room until required for use. If not already done, plant a sufficient number of Beetroot at the foot of a south wall for seed, and for the same purpose put sticks, one to each of the best formed heads of Cabbage, as a means of indicating their intended use.

Advantage should be taken of showery weather to thin out spring-sown Onions to 2 ins. or 3 ins. in the rows, and at the same time to make good any blanks that may have occurred in the rows by transplanting the thinnings the same depth in the ground as they were before, and, if necessary, extend the crop in the same way. Sow Mustard and Cress in boxes or under handlights out-of-doors, and shade with a board or mat until the seeds have made half an inch of growth. Where Parsnips are much sought after a sowing made now will come in well for late use.—*H. W. Ward, Longford Castle.*

Stopping Scarlet Runner Beans.—I am afraid that your correspondents, Mr. J. Knight and "Schoolmaster," have misunderstood my remarks on this subject at p. 523; and if they will be good enough to again refer to the note in question, they will see that I there say "if long Bean-sticks, say from 12 ft. to 20 ft. long, can be as easily procured as the 8 ft. long ones, which are generally used for supports for the haulm, plant one row now (April 18th) from 30 yds. to 60 yds. long," and a second row two months later. Also, further down in the same note, your correspondents will see that, instead of advocating the stopping of the Runners at any height whatever, I advise that they be allowed to grow "uninterruptedly," when they will produce Beans till cut away by frost.

I may here remark that more of our Bean-sticks are over than under 20 ft. long; that the two rows of Runner Beans, 64 yds. long each, and 8 ft. asunder, are greatly admired by gardeners and amateurs alike, when in flower, as being a capital example of the ornamental and useful combined; and that in consequence of the rows running east and west, and the first row having been sown north of and a couple of months earlier (about April 20th) than the second, protects the latter effectively from being injured by autumn frosts, by which time, moreover, the supply on the first row is exhausted. Hence it is that we frequently secure daily gatherings of Runner Beans of excellent quality up to the middle or 20th of November. When apprehending sharp frosts, we gather all the pods that are fit for use and spread them on a shelf in a cool room, and sometimes we have sufficient to serve over three weeks or a month.

I am sure that the same quantity of Runner Beans cannot be obtained from three times the space of ground indicated above on the short-stick, or no-stick-at-all system, which latter is the one generally practised by market-growers with Peas as well as with Runner Beans, as in their case it is not so much a question of being able to procure the long sticks, or short ones for that matter, as it is one not only of their first cost but also of that incurred in the labour of staking the rows of Peas and Beans, and the time spent in conveying the sticks to and fro and storing them away for use another year. Therefore, the fact of market-gardeners not adopting this system—a system which you know, Mr. Editor, I have often advocated in *The Gardeners' Chronicle*—cannot in any way be accepted as affording evidence against its being practised in private gardens in preference to any other method of procedure.

In conclusion, I may be allowed to say that by no other mode of culture can such satisfactory results be secured from treble the number of Beans sown, nor the latter be multiplied to such an extent. And to point out for the benefit of those of your readers who, like "Schoolmaster," have a taste—as every one ought to have—for the ornamental as well as the profitable combined, that by planting a single row of Scarlet Runner Beans about 6 ins. apart in the row, on either side of one of the garden walks (the more central it is the better will be the effect), putting long sticks as supports to the haulms on each side, and bringing the tops together and securing them to a series of Bean-sticks fixed longitudinally about 7 ft. over the centre of the walk, so as to form an arch, a delightfully shady and ornamental arbour will be the result. Of course the roots should in every case be kept well mulched and supplied with water in the absence of rain in order to obtain the best possible results.—*H. W. Ward, Longford Castle.*

Celery Culture.—When anyone can have this excellent vegetable fit for use from the end of July till the following April its culture surely deserves more attention than it generally receives, more especially its treatment in the trenches after being planted out. By treating it according to the nature of the soil much can be done to prolong its season for use. Mr. David Murray, gardener at Culzean Castle, Maybole, Ayrshire, states in an agricultural paper that the soil at that place is very heavy, and for a supply in the spring months he sows the seed in April and grows it in the usual way till ready for planting out. His plan with regard to the trenches is not to make them very deep and 3 ft. wide, which allows sufficient space for planting three rows in the trench. After being a month or six weeks planted, or according to the progress that the plants have made, they receive a slight earthing-up about 2 ins. deep with the natural soil. They receive no other attention except watering in dry weather and tying the plants with matting to prevent the wind breaking their outer leaves, until the month of October, when all the new-fallen Beech-leaves are saved, and, when dry, are packed in the trench to blanch the Celery instead of using the soil; but before doing so a wall of soil is made about the height of the plants on each side of the trench to keep the leaves in their place, and to prevent them being blown about they are covered with sawdust. By adopting the above plan Mr. Murray has at present fine fresh Celery quite different from that obtained by the old practice, namely, surrounding the plants with heavy, wet soil. The advantage gained by using the leaves when lifting the Celery in frosty weather will easily be seen.

Migration of Aphides.—Aphides migrate in countless numbers at times, and it does not appear to be understood what are the causes of these emigrations, which take place only among the winged females. It has been gathered that stint of food is perhaps a first cause, for experiments have shown that immediately the food becomes too sickly and exhausted by the constant and irritating attacks of the wingless forms, or too dry from other causes, that winged females are developed, and so migration becomes possible. These great migrations occur chiefly in spring and autumn, and the weather is most favourable when hazy and warm. At such times one hears the countryfolk say, "The blight is in the air," which is surely the case, though the "blight" does not come from the air, as so many of them think.—*Field.*

THE

Orchid Growers' Calendar.

Orchids at Kew.—I have been reading a paragraph in the last issue of your paper by "A. F. L." on the above subject; and as it contains several remarkable statements, I must ask you to allow me to reply to the same through your columns. Your correspondent informs us that he "visited Kew," anticipating "both pleasure and information. In my ignorance, I expected to find special houses for Aërides, Cattleyas, Dendrobes, &c." Instead of which, "we behold a show which would disgrace a third-rate nurseryman. I was greatly disappointed, or rather disgusted."

"A. F. L." informs us that "the Orchids occupy but a small part of No. 12, most of the space being devoted to economic plants." Now it so happens that No. 12 is altogether devoted to economic plants, and No. 14 to Orchids; the two houses being identical in size, also in being separated into a warm and a cool division. As to quality—"Rubbish, rubbish is the name of what I saw. The gorgeous colours, the wonderful forms, where are they?" It is not necessary to answer this question. I simply ask your readers to peruse the list of sixty-one species given by "A.F.L." No further answer is necessary. "A.F.L." tells us that "twenty-one genera (out of 334) were represented by one, and occasionally by two specimens. Here is the complete list." Then follows a list of sixty-one species belonging to these twenty-one genera. A perusal of this list shows Odontoglossum to be represented by thirteen species, Masdevallia by eight, Dendrobium and Cypripedium each by seven, and Cattleya by four. How does this tally with the statement that the "genera were represented by one, and occasionally by two specimens"? But I have not done yet. After reading "A. F. L.'s" letter I went to the Orchid-house to compare notes, with the following result:—To Odontoglossum must be added three additional species, to Masdevallia four, to Dendrobium six, and to Cattleya one. These are *in flower*, which, doubtless, "A. F. L." meant, though he does not say so. At the foot I append a list (in flower) in addition to your correspondent's "complete list." This shows fourteen additional genera and thirty-seven additional species, or thirty-five instead of twenty-one genera, and ninety-eight instead of sixty-one species now in flower.

Lastly, "A. F. L." remarks, "Thousands and thousands of people journey to Kew, and there is a grand opportunity to educate the taste of the masses, but it is neglected." Whether the chief object of the Kew collections is the education of the taste of the masses is perhaps an open question. I should rather consider the object to be to present the best general idea of the earth's vegetation as a whole. Be this as it may, the Orchids are the subject under discussion, and we will see how far the statements of "A. F. L." are borne out by facts.

In 1882, a complete list of the Kew Orchids was made, and the number was found to be 929 species, and a number of varieties in addition. At the present time, this number is exceeded, and it is estimated that over 1,000 are in cultivation. Now, as to the genera, I am unable to give the exact number, but I can state from personal observation that it exceeds 130, even in the sense of the new *Genera Plantarum*. This is equivalent to about 150 genera, as understood in gardens, for in this work a considerable number of garden genera are treated as synonyms. I should add that three small houses are devoted to the cultivation of Orchids in addition to No. 14 (which are not open to the public in the ordinary sense), and these of course contain a considerable number of the plants above-mentioned. ["A. F. L." could, of course, only deal with what he saw as one of the public.—*Ed.*] In conclusion, I may say this letter is not written officially; my sole reason for writing it, is that I think the misleading statements of "A. F. L." should not be allowed to go forth to the world as unchallenged facts.

Additional list (additional genera in italics):—Bletia hyacinthina; Cattleya Mossiæ; *Cœlia* Bauerianа; *Coryanthes* maculata; Dendrobium chrysotoxum, Dalhousieanum, Dayanum, densiflorum, Farmeri, Jamesianum; Epidendrum bicornutum, costatum, evectum; *Eria* excavata; *Lælia* cinnabarina; Masdevallia Benedictii (forty-four flowers), Lindenii, octhodes, xanthina; Maxillaria luteo-alba, variabilis; *Mesospinidium* roseum; *Miltonia* radiata; Odontoglossum crispum, macnlatnm, sceptrum; Oncidium aureum, insculptum; *Panisea* uniflora; *Pleurothallis* velatipes; *Polystachya* pubescens; *Restrepia* elegans; *Sauroglossum* elatum; *Sobralia* sessilis; *Stelis* muscifera; Thunia alba; *Zygopetalum* Gautieri.—*R. A. Rolfe, Herbarium, Kew.*

——— Your correspondent "A. F. L.," who talks so freely about everything in the Orchid-house at Kew being "rubbish," has evidently only one idea of merit in a flower or plant, the very vulgar one of size. For my part, I never go into the Orchid-house at Kew without finding some interesting plant in flower, which either is not to be found elsewhere, or is very rarely seen, such as the curious Cirrhopetalum picturatum, which is now in flower there, a plant which is the more interesting from its relationship to the still more remarkable species, Cirrhopetalum Thouarsii, and C. ornatissimum. By-the-bye, if any of your readers should happen to have a plant to spare of C. Thouarsii, and would exchange it for one of C. ornatissimum, I should be glad to make the exchange.—*C. W. Strickland, Hildenley, Malton.*

The Cultivation of Phalænopsis.—It has occurred to me that there is a secret in growing Phalænopsis which is not generally known, or, at least, not acted upon. I have seen several collections of Orchids, and it is a remarkable fact, as it seems to me, that where only a few are grown they are usually found suspended above other plants, sometimes in the plant stove and occasionally in the East Indian-house. But in gardens where they can be counted by hundreds a house is set apart for them exclusively, and in some such places I have seen them hanging up from the roof, and in others standing on inverted pots on the stages. I have always noticed the finest plants in the former case.

Naturally Phalænopsis grow with foliage of trees, &c., about them, and although they may get but little manure from birds or animals, they must derive benefit from the moisture and natural gases given off by the plants or foliage beneath them. If growers who have failed to do them well would hang their plants up at a short distance above the stage, and convert the stage into a bed of undergrowth, first by putting a quantity of good soil on and then planting any trailing plants that will stand the drip, I believe they would succeed.

Since adopting this plan ourselves, we have not had occasion to syringe or water the stage but once since it was formed, as the plants underneath get sufficient water from the drip of the Phalænopsis. When there was only the bare stage, it required damping two or three times daily, but now the atmosphere is more even, and we effect, besides, a saving in labour, which is an important item to those who have not too much assistance. I fancy if Mr. Philbrick, Q.C., were to give orders to take up all the plants that are growing under his Phalænopsis the results would not be so satisfactory as at present. In several places I could mention, where they are growing above other plants, the success is equally as good, although not so numerous. Some men give the Phalænopsis all the attention and skill they can bestow on them, and yet cannot bring them to perfection, while others wonder why theirs grow and flower freely with scarcely any attention. Do we imitate Nature enough?—*G. W. Cummins, The Grange, Wallington.*

Cattleya citrina.—This grand Orchid, which is now in flower, or fast approaching thereto, is and deserves to be a general favourite. Its peculiar style of growth always attracts attention, differing as it does from most Orchids in growing downwards, instead of in the usual way, except when in pans, which in a measure interferes with the natural habit of the plant, though it does not prevent the flowers from assuming their naturally drooping habit. Whether grown on blocks or in pans the cool-house is perhaps the best place that can be found for them; failing which, anyone who has a greenhouse may succeed with it, providing the temperature in winter does not fall too low. I have seen it thus grown, and in far better health than when it used to be in the same house as the other members of the same family. While growing, and until the flower buds are getting prominent, I keep it in the cool-house, but then remove it to the Mexican-house, which causes the flowers to come larger, and also brings out more clear and distinct the white edging of the lip. During the time the flowers are in perfection the plants are removed to the conservatory, where the delicious perfume is much appreciated.—*E. Dumper, The Gardens, Summerville, Limerick.*

Cool Orchid-house.—I am desirous of constructing a cool Orchid-house, and have a position against a north wall (8 ft. high), which I think is just the spot for it, but I am in a difficulty as to the exact pitch of the lean-to roof. I have to be from home from 10 a.m. till 5 p.m., and not keeping a gardener, I am anxious to know what angle will give me the maximum amount of light with the minimum amount of risk from injury by bright sunshine, my object being to avoid the use of blinds, which I cannot be at home to pull up or down as required. I shall be grateful for any hint from a practical Orchid-grower of experience.—*City Man.*

Dendrobium Devonianum.—I send you some fine blooms of this showy Dendrobe. All the blooms on the plant are produced three, four, and five together in each spray. Is this usual? All our other plants have only two and three flowers at a joint.—*John Laing, Forest Hill, S.E.* [The species does not usually flower so freely as your plant is doing.—*Ed.*]

FLORICULTURE.

The Cineraria.—My first acquaintance with the improved forms of the Cineraria—the varieties that displayed signs of the patient, careful work of the florist—dates back some thirty-five years. I remember Madame Sontag and Lady Hume Campbell, two varieties raised and distributed by Messrs. E. G. Henderson & Son, then of the Wellington Road Nurseries, now of Maida Vale. It was then that increasing beauty in the tints and combinations of colours, and excellency in form, began to be made manifest: from that time forward the work of improvement has been rapid and striking. About 1853 some very fine varieties were raised, showing a marked improvement. They were Bousies' Lady Mary Labouchere and Optima, Ivery's Mrs. Truelove, and Turner's Sir Charles Napier, which were all good indeed. There were also Henderson's Formosa, a dark violet self; Kate Kearney, pure white self; and Prince Arthur, a scarlet-crimson self; Sutton's Lady Camoys, white, edged with blue; Ivery's Orlando, white, with bluish-purple margin; and Sievewright's Scottish Chieftain, white, with a deep violet edge. Two years or so after we had Lidgard's Brilliant, a variety that created quite a sensation, because of its fine form, dark disc, broad zone of pure white, and narrow edging of the brightest blue.

At this time Mr. Turner, of Slough, and others, were foremost in raising new varieties, and they increased with amazing rapidity, though all, more or less, showing signs of a decided improvement, both in size, substance, and colouring. If any one will turn to the coloured illustrations of Cinerarias given a quarter of a century ago, they will find that the dark disc in the centre of the flower was a *sine qua non*, and regarded by all raisers as indispensable to a first-class flower. Now-a-days, this finds no favour among those who make many of the awards to new flowers; and the florists' standard of that time is repudiated in many of its particulars in these days.

It is worthy of note that Mr. Henry Cannell re-introduced to the public, a few years ago, Cineraria cruenta. This species was, in common with one or two others, the progenitors of the fine florists' varieties of the past forty or fifty years. C. cruenta is a common-looking blue or purple star-flower, about the size or a little larger than the common Daisy. We are thus able to see what a great work has been accomplished; and to-day, the newest forms of Cinerarias present to view flowers of enormous size,

great substance, and extremely rich in colour. Our principal raiser is Mr. James, formerly gardener to the late W. F. Watson, Esq., of Redlees, Isleworth, and now of Farnham Royal, Slough. For many years he has been a raiser of Cinerarias, and the bulk of the most substantial work of improvement made during the last twenty years is clearly due to him.

Formerly the types of improved Cinerarias were somewhat tall in growth, and so it happened when specimens were grown for exhibition purposes that they had to be tied out into shape, so as to keep the plants dwarf. Some continental raiser obtained a race of dwarf, compact-growing Cinerarias; these were improved by English raisers, and it was with the best of these that Mr. James went to work, crossing them and the very best also of the English-raised varieties. This was the commencement of a strain of remarkable individuality of character; of dwarf, yet vigorous growth, and flowers of surpassing size and colour, form and substance. With increased size has come certain manifestations of coarseness, but evidence is forthcoming that high quality will in a season or two reward Mr. James's painstaking labour. He is a true florist; and is now working for the higher qualities so ardently contended for by florists of a quarter of a century ago. But as a market and decorative strain, that in the hands of Mr. James cannot be surpassed.

The Culture of the Cineraria is now so well understood that it appears almost unnecessary to devote much space to it. Mr. James sows his seed in the ordinary way, pricks off his seedlings into store pots, and when large enough pots them singly into small pots, and grows on into size, blooming them in 32-sized and 34-sized pots. He resides close to one of the famous Buckinghamshire woods, round which the purest atmosphere circulates; there is an abundance of good loam and leaf-mould, and from the Dropmore Woods he can obtain from the charcoal burners a quantity of charcoal dust which he mixes with his Cineraria soil, and on which they thrive, for the plants put forth leaves of the most vigorous character. He has another advantage—he lives by the side of a country road that is mended with yellow gravel, not granite; and he can collect from its sides plenty of turves that grow between the sides of the road and the hedgerows. These he collects and lays aside until decomposed, and then they form a potting material of the best character. The pots are well drained, and the plants are well looked after; they are kept watered, plenty of air is given at the proper time, and they are fumigated when necessary.

It is well known that Mr. James is a successful exhibitor of specimen Cinerarias. He manages these different to the method usually observed. Time was when the old plan of putting three plants of a variety into a pot in order to make a fine specimen was followed, and I have known instances where, for want of due care, two plants of one, and one of another variety made up the specimen, and so it was rendered useless for exhibition purposes. Mr. James makes one-year old plants into fine specimens by placing them in a cold frame when they have done blooming, looking after them during the winter, repotting them in spring, and then, when they throw up young growths, reducing them to about three main shoots. Carefully tended, these plants grow into very fine specimens, and by April and May make a rare display on the exhibition stage. I have always thought we lost a great deal when specimen Cinerarias declined at our early exhibitions, but there may be a glorious resurrection in store for them at no distant date.

I have lately had an opportunity of looking over Mr. James's fine collection at Farnham Royal. I was too early to see the main body of the yearling flowers at their best, but I saw enough to demonstrate that the advance is continuous, striking, and valuable. There were enough of them in flower, however, to enable me to say something positive about them; and they justify the awards of certificates made to Mr. James's strain in the past.

Self Flowers are in the majority; or rather, flowers having combinations of colours of the self character. Shades of magenta are numerous and very striking, especially those of mauve tints; shades of maroon flushed with purple; bright, deep, and pale crimsons—ruby, red, and almost vermilion; rich purples and purple-blue; magenta with distinct edgings of purple at the sides and tips of the florets. Mr. James is adding the dark disc to many of the flowers having white grounds and margins of different shades of crimson, &c. The dark disc was an important point of quality with the old florists, and they were right. In the case of Mr. James's strain, the white ground, which is all that can be desired in the matter of purity, needs broadening; it is now overpowered by the unduly wide margins, and Mr. James is working for the attainment of this. A true florist himself, and one well acquainted with the properties of flowers, he readily seizes upon these defects, and in course of time will eradicate them.

A Striped Section of Flowers, both in the cases of the self and margined character, is a proximate attainment. Beautiful crimson-magenta flowers are seen to be distinctly striped with purple, and the same can be observed in those of other colours. A white-ground flower, broadly margined with magenta-crimson, had this last distinctly flaked with white. The tricolor type is rapidly developing; the different zones of colour are more distinctly set forth, a few showing new and novel colouring. Really, there appears to lie before Mr. James possibilities of indefinite development.

There are to be seen at Woodside some 1500 Cinerarias, mainly in 32-sized pots. It may be thought that Mr. James is able to obtain large supplies of seed. Like many another florist, he has to pay the penalty of improvement by reduced supplies. Many of the finer varieties yield seed of a very limited character, to an extent that is surprising. But that is no reason why the work of improvement should cease. "Never hasting, never resting," it goes on slowly and surely; the gain of to-day prophetic of something even better to be reached a year or two hence.—*R. D.*

Obituary.

Mr. G. Phippen.—Many a horticulturist in Bucks and Berks, as well as in other of the southern counties, will learn with regret of the death of Mr. George Phippen, of the Victoria Nurseries, Reading, on May 1st, at the age of forty-nine. Of somewhat delicate constitution, he was during the winter attacked by illness, and after intense and protracted suffering died on the above date, deeply lamented by a large circle of friends and fellow-townsmen.

He was a native of the district, for he was born at Horton, Bucks, and near to Windsor, in March, 1836. He appeared to be a gardener by instinct. On leaving school he took a great interest in gardening, and at the early age of eighteen became head gardener to C. J. Andrews, Esq., of Reading. He threw himself into the prosecution of his work with spirit and activity, and soon made a name as a successful exhibitor at the shows of the Reading Horticultural Society, beating some gardeners of note. He married at the age of twenty-one, and a few years later started in business for himself at Reading, eventually working up, by steady and untiring effort, a good connection as a nurseryman, seedsman, and florist. When Mr. Robinson left the service of Richard Benyon, Esq., of Englefield House, Mr. Phippen took him as a partner, and a commodious seed-shop was opened in one of the principal thoroughfares in Reading. The partnership was of short duration, and Mr. Phippen continued business on his own account. At the Victoria Nurseries, in the Oxford Road, he put up a quantity of glass, and, in addition to a general business, made a distinct mark as a floral decorator, both himself and his daughters exhibiting floral decorations with much success at the Reading shows, up to the last exhibition in August, 1884, and also at the Chrysanthemum exhibition in November last.

Under the Corporation of Reading, Mr. Phippen had the management of the Public Gardens in the Forbury, and did his work with great satisfaction; his spring and summer displays were in the highest degree satisfactory.

For twenty years he had been the trusted Superintendent of the Spring and Summer Exhibitions of the Reading Horticultural Society, discharging his functions with tact and courtesy, and his loss will be regretted by the great body of exhibitors and the officials of the Society. He was twice married, and leaves a family of three children by his first wife. The business will be continued by his only son and successor.

THE INVENTIONS EXHIBITION.

Horticulturists visiting the "Inventories" on Tuesday and Wednesday next will note many improvements in the grounds, not the least pleasant being the removal of a number of structures which could well be spared in order to increase the area available for promenading in the open air. Horticulture is also better represented than at either of the preceding exhibitions, and gardening visitors of an inquiring turn of mind will find more to interest them of a character pertaining to their calling than they have been able to find before. Among the exhibitors of hardy ornamental trees and shrubs we noted on the opening day the names of Mr. A. Waterer, Mr. Maurice Young, Messrs. Paul & Son, Cheshunt, Messrs. W. Cutbush & Son, Messrs. W. Fromow & Sons, and Mr. Turner, Slough, whose collection of trained Ivies in pots is one of the features of the show. Mr. T. S. Ware has a fine display of hardy plants, and Messrs. Paul & Son, Cheshunt, contribute a nice assortment of rock plants. The same firm has also established a Rose tent in the Central Avenue, opposite the telegraph office, which should prove an attractive feature. Messrs. W. Paul & Son, of Waltham Cross, have also a fine show of Roses, &c., in one of Messrs. Foster & Pearson's greenhouses, and on the opening day Messrs. H. Lane & Son, Berkhampstead, had a fine show of pot Roses in the old Council Room. In the South Court will be found a host of exhibits pertaining to the garden, and many of them novelties of a useful character. We hope shortly to be able to give a more detailed report.

ANSWERS TO CORRESPONDENTS.

Names of Plants.—*J. McP.*—1. Next week. 2. Cœlogyne ocellata. 3. Selaginella caulescens. 4. Anemone blanda. 5. Sedum japonicum probably.—*W. S.*—Both varieties of Oncidium Schillerianum.—*R. H. F.*—Libonia Penrhosiana.

Roses Dying.—*Paul de Knock* states that last November he planted two dozen Standard Roses, eighteen of which are doing well, while the other six are withering away, and seem to all appearance dead, yet all received the same treatment and the soil is of an uniform quality. Can anyone suggest the cause of this?

Books.—*Juvenus.*—Dr. Master's *Botany for Beginners* (Bradbury, Agnew & Co.) will suit you best.—*Scotus.*—Sutherland's *Handy Book of Herbaceous and Alpine Plants* (Blackwood & Sons).

Dahlias.—*C. S.*—The double varieties of the florist have been obtained from D. variabilis, and the single ones now so popular mostly from D. coccinea.

Communications Received.—J. L.—J. S.—W. T. F.—E. J.—A. F. L.—D. B. K.—Viccars Collyer & Co.—T. W.—W. S.—H. & S.—W. R. & Co.—J. C.—B. S. W.—W. R. B.—T. W.

Trade Catalogues Received.

James Veitch & Sons, 544, King's Road, Chelsea, S.W.—Catalogue of Plants, including Novelties for 1885.—Select List of Soft-wooded and Bedding Plants, &c.

NOTICES TO CORRESPONDENTS.

The Editor *begs to inform his readers that special attention will be paid in the columns of* The Gardening World *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's bona fides. No notice whatever will be taken of anonymous letters.

LONDON SEED TRADE.

May 7th, 1885.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small demand for Clovers and other Agricultural Seeds, the sowing season being now practically over. The low values of Red and White Clover, however, have induced some speculation for holding over, which has given a firm tone to the market and an upward tendancy. Trefoil steady. Mustard and Rape dearer. Italian and perennial Rye Grass command higher prices, as holders, particularly those with stocks of heavy seed, anticipate a considerable advance in value, and are therefore careless about making sales at present. Natural Grasses for permanent pasture are still in demand. Sanfoin and Lucerne also inquired for. Bird Seeds move slowly and no change in value.

COVENT GARDEN MARKET.

May 7th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6- 6 0	Pine-apples, Eng., lb.	1 0- 2 0
— Nova Scotian, per barrel	15 0-21 0	—St. Michaels, each	3 0- 8 0
Grapes, New, per lb.	4 0- 7 0	Kent Filberts and Cobs, per 100 lb.	-
Melons, each	4 0- 5 0	Strawberries, per lb.	3 0- 6 0
Peaches, per doz.	21 0-		

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Asparagus, English, per bundle	8 0	Horse Radish, bundle	3 0- 5 0
Beans, French, per lb.	- 2 6	Lettuces, Cabbage, per dozen	2 0-
Beet, per dozen	2 0- 3 0	— Cos, each	0 6-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per striko	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	-
		Turnips, per bunch	0 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Marguerites, 12 bun.	3 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Narcissus, various, doz. bun.	2 0- 6 0
Azalea, 12 sprays	0 6- 1 0	Pelargoniums, per 12 sprays	0 9- 1 0
Bouvvardias, per bun.	1 0- 1 6	—scarlet, per 12 sprays	0 4- 0 6
Camellias, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 6- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun.	-
— large, 12 blooms	-	Pyrethrum, 12 bun.	-
Cyclamen, doz. blooms	2 0- 4 0	Roses (coloured)	2 0- 6 0
Cineraria, per bunch	0 6- 1 0	Roses, indoors, p. doz.	1 0- 3 0
Epiphyllums, 12 blms.	-	Roses (French), per doz.	0 6- 0 9
Encharis, per dozen	3 0- 6 0	Stephanotis, 12 spr.	2 6- 4 0
Gardenias, 12 blms.	1 0- 4 0	Tuberoses, per dozen	1 0- 1 6
Heliotropes, 12 sprays	0 6- 1 0	Tulips, per doz.	0 3- 0 5
Hyacinths, Roman, doz. sprays	-	Violets, doz. bun.	0 4- 0 9
Lapageria, white, 12 blooms	2 0- 3 0	— French, per. bun.	-
Lapageria, red, 12 blms.	1 0- 2 0	— Parma, per. bun.	3 0- 4 0
Lily of the Valley, doz. sprays	0 9- 1 6	White Jasmine, bun.	0 6- 1 0
— French, per bunch	1 0- 3 0		

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Foliage Plants, various, each	2 0-10 0
Arum Lilies, per doz.	9 0-18 0	Genista, per dozen	9 0-15 0
Azalea, per doz.	18 0-42 0	Heaths or Erica, var., per doz.	12 0-42 0
Begonias, per dozen	4 0-12 0	Hyacinths, doz.	6 0- 9 0
Bouvardias, dozen	9 0-18 0	Hydrangea, per doz.	12 0-24 0
Calceolarias, per doz.	6 0- 9 0	Lilium, various, per doz.	-
Cineraria, per dozen	6 0-12 0	Lobelias, per doz.	4 0- 6 0
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargonium, per doz.	9 0-21 0
Deutzia, per dozen	-	Pelargoniums, scarlet per dozen	3 0- 9 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	6 0- 9 0
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	-	Rhodanthe, per doz.	6 0-12 0
Evergreens, in var., per dozen	6 0-24 0	Spiræa, per dozen	12 0-18 0
Ferns, in var., dozen	4 0-18 0	Tropæolums, per doz.	4 0- 6 0
Ficus elastica, each	1 6- 7 0		
Fuchsias, per doz.	6 0-12 0		

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SHE, The Enthusiast—

Oh! tell me why my flowers droop,
Why leaves and blossoms fade,
Although the Florist sent them home
In gorgeous bloom arrayed.
I 'tend to them with constant care,
And water them each day,
They have sunshine and purest air,
And yet they fade away!

TRADE MARK.

HE, The Philosopher—

Fair Maid, your plants shall bloom again,
But first I'll tell the cause;
They pine for want of nourishment—
Rich Chemical Manures.
You foolishly but water gave,
The Florist he was wiser;
He gave them food as well as drink—
Use TOBIN'S FERTILIZER.

TOBIN'S MAGIC FERTILIZER

Is a highly concentrated Chemical Manure, and a small teaspoonful sprinkled over the surface of the soil ACTS LIKE MAGIC, changing weak and straggling stems into sturdy and vigorous growth and wealth of blossom. It is equally invaluable for Rose Culture, the Hot House, Conservatory, Window or Kitchen Garden.

Sample 3*d.*, 6*d.*, and 1*s.* *size, sent free for* 3*d. extra; 1d. size, 2d. extra.*

TOBIN'S MAGIC FERTILIZER

Is sold by Grocers, Oilmen, Seedsmen, Florists, Corn Chandlers, and Ironmongers all over the Kingdom, at following prices:—

Per Packet.	s. d.	In bags.	s. d.
Sufficient for 12 Plants	1	10 lbs.	2 6
,, 36 ,,	3	28 ,,	6 0
,, 72 ,,	6	50 ,,	10 0
,, 150 ,,	1 0	1 cwt.	18 0

ADDRESS—TOBIN'S CHEMICAL MANURE CO.,

19, Aldersgate Street, London, E.C.; Works, Wood Green, London, N.

AGENTS WANTED. TRADE SUPPLIED. LIBERAL TERMS.

Most attractive Show Cards (samples free on application). Selling in Thousands all over the country.

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The stock at the Clapton Nursery is of such magnitude that, without seeing it, it is not easy to form an adequate conception of its unprecedented extent.

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Very cordially and respectfully solicit an inspection by all lovers of this interesting and beautiful class of plants, whether purchasers or not.

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A large stock of DENDROBIUMS and other Orchids, 30*s.*, 36*s.*, and 42*s.* per doz. Full particulars on application.

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(JOHN COWAN), LIM.,

THE VINEYARD AND NURSERIES, GARSTON, LIVERPOOL.

WHAT IS IT?

WHY, A FACT, THAT

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Is destined to become a lasting boon to the

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All using it are delighted.

Sold everywhere, boxes 2*d.* each. Try it.

Manufacturers, HEAPS & SON,

LORDSHIP LANE, LONDON, S.E.

List of Wholesale Agents will appear in this paper on May 30th, 1885. AGENTS WANTED.

CHOICE IRISH FERNS FOR SALE,

Indigenous to the Barren Mountains of Ireland.

800 SPECIES and VARIETIES, botanically named, at moderate prices; three Maiden-hair ferns, and one of each of lady fern (Moulin), Black Maiden-hair Spleenwort, evergreen, Asplenium marinum, Blechnum spicant, Ceterach crenatum, Lastrea aemula (like parsley), and the beautiful Lastrea thelypteris, Cystopteris frigilis, hard shield fern, with thorns; Royal fern, and the very rare Polypodium semilacerum, Scolopendrium cristatum, and marginatum ferns, all large and well rooted; the 14 rare and assorted species and varieties, 4*s.* 6*d.*, post free, or 10*s.* per 100. The beautiful Mountain Avens, Yellow Rock Rose, trailing Arbutus, Pinguicula, Lady's Mantle, Crowberry, Crane's bill, Orchis mascula, Thalictrum majus and minor, like Maiden-hair Fern; Hypericum pulchrum, Dyer's Madder, and the fine blue Gentiana verna, 3*s.* 6*d.*, post free, or 8*s.* per 100.

P. B. O'KELLY,

Botanist and Fern Collector,

GLENARRA HOUSE, Ballyvaughan, co. Clare, Ireland.

GREENHOUSES FOR EVERYBODY.

TO all who are about to Buy, call and see the Little Gems, Span-roof, 75*s.*; Lean-to, 65*s.*; a perfect novelty, not to be believed until seen. Also Cucumber Frames, glazed and painted, from 20*s.* Send four stamps for the Photo. of the Little Gem, and see what you are buying for yourselves. Call or write for OGDEN & CO.'S Special Price Lists for 1885. Post free, two stamps, at the Alexandra Palace Horticultural Works, Wood Green, London, N.—*Copy of Testimonial*: "To Messrs. Ogden & Co., Gentlemen, I have now got the Little Gem Greenhouse I had from you fixed up, and think it but right to tell you that it gives me every satisfaction. Many of my friends have been to see it, and they all agree as to its being a marvel of cheapness. It would have cost half as much again if made locally.—I am, faithfully yours, T. Llewellyn, Ogmore Vale, March 9th, 1885."

JAMES LOOMES, F.R.H.S.,

THE NURSERIES,

WHITTLESEA, NEAR PETERBOROUGH,

BEGS TO CALL ATTENTION TO THE FOLLOWING

SPECIALITIES.

FOR GREENHOUSE.

	Per Doz. s. d.
*Coleus, in great and beautiful variety	2 0
In pots, well established	5 0
Cyclamen Persicum Giganteum. From the best varieties ... 2*s.* and	3 6
In pots, well established ... 5*s.* to	12 0
Eucharis Amazonica, flowering bulbs, each 1*s.* 6*d.* &	2 6
*Fuchsias, an immense collection. Single and Double Varieties ... from	2 6
Ditto, in 4-inch pots	5 0
Gloxinias, Erect, Horizontal, and Drooping varieties	2 6
Ditto, Plants in pots ... 6*s.* to	24 0
Balsams. Rose and Camellia fld.	2 0
Begonias, Mixed Tuberous, Rooted, from splendid varieties, Laing's and Low's Strain ... from	3 6
Ditto, in pots ... 6*s.* to	24 0
Grevillea Robusta, splendid Fern-like Plants, suitable for table decoration ... 6*d.* each, or	4 0
Mimulus (Queen's Prize), choice	2 6
*Pelargoniums, French and Regal. A unique collection of most of the newest varieties ... 12 choice	3 6
Ditto, in pots ... 6*s.*, 8*s.*, and	12 0
Pelargoniums (Geraniums), Zonals, Choice Varieties, named	3 6
Petunias. Choice Double	5 0
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Lilium Auratum. Large bulbs ... each	1 9
Ferns in variety, from 6*d.* each	5 0
Gold Fern ... 9*d.* and 1*s.* each; 7*s.* to	12 0

☞ *Many other Greenhouse Plants in Stock.*

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*Chrysanthemums, a large collection of every variety. Well rooted Plants ... from	2 0
Ditto, in pots, well established ... 5*s.* to	18 0
Carnations and Picotees. Very choice named Stage Flowers ... from, per pair	1 6
Ditto, unnamed, good varieties ... per doz.	3 6
Pinks, Pink and White ... ,,	2 0
*Dahlias. A superb collection, including the Cactus family, including Constance, Juarezii, Glare of the Garden, &c. *Pompone or Bouquet, Show, Fancy & Single.* Well rooted Plants	5 0
Established, in pots	7 6
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Carpet Bedding Plants, viz: Iresines, Alternanthera, Mesembryanthemum, Mentha, Coleus, Verschaffeltii, &c., &c., in Stock. Prices on application.	
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☞ Special Price for large quantities.	
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Pansies. Strong Plants, from English Show and Fancy, Belgian, French, and all the leading varieties ... from	1 0
Phlox Perennial. Choice varieties, mixed colours	2 6

* Detailed lists on application. Selections left to J. L. are guaranteed to give entire satisfaction.

N.B.—The above sent carriage free. Dozens may be divided at the same price, but no order for less than 1*s.* *sent free.*

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NOTICE.—Please mention this Paper when ordering. Post Office Orders payable at Whittlesea. Cheques crossed "National Provincial Bank."

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OUR GUINEA COLLECTION

Contains 16 dozen fine healthy Plants, as follows:—

24 Geraniums, assorted colours.
6 Ageratums, dwarf blue.
6 Verbenas, choice named.
12 Calceolarias, Golden Gem.
18 Lobelias, dark blue.
12 Petunias, large-flowered.
6 Chrysanthemums, fine named.
6 Mimulus, large-flowered.
12 Antirrhinums, mixed.
18 Phlox Drummondi, mixed.
18 Asters, fine double.
12 Pansies, mixed sorts.
18 Pyrethrums, Golden Feather.
6 Dahlias, fine named sorts.
6 Fuchsias, named.
6 Phloxes, fine named Perennial.
3 Pentstemons, in variety.
6 Heliotropes, of sorts.

Double the above quantity 40*s.*; Half the above quantity 11*s.* 6*d.*

No charge made for Packages.

This collection will be ready for sending out in May; and all orders will be executed in the same order of rotation as received.

Subject to slight alteration as the Season advances.

From Mrs. KEYMER, Guildford.

March 24th, 1885.

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Orders with Cheque or P.O.O. should be sent in at once to

DANIELS BROS.,
TOWN CLOSE NURSERIES,
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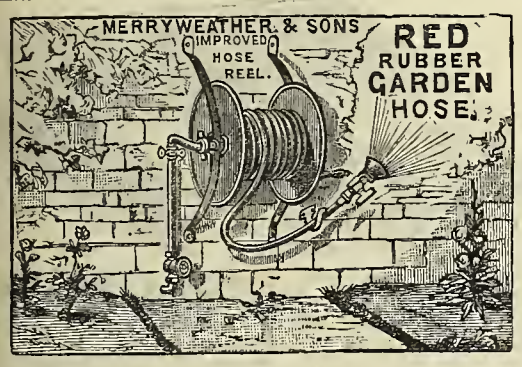

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PATENT ANTIMONIAL RED RUBBER GARDEN HOSE.

Lasts four times as long as ordinary white vulcanised hose. Stands severe Government tests, thus proving superiority of quality, lighter in weight, greater in strength, and cheaper in the long run than any other hose for garden use. A correspondent writes—"I have had a length of your Red Rubber Hose in use nine years, and it is now as good as ever." Samples and priced Catalogue of Hose, Garden Engines, and Fittings, free.

Beware of common quality hose, *coloured* red, and order any length direct from

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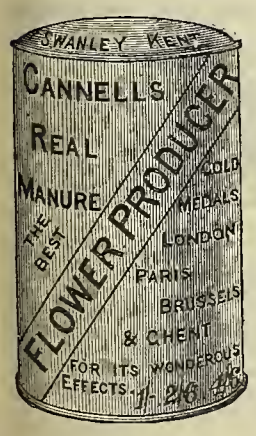

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Not one, but all; and it is a surprise and the conversation with all wherever we exhibit; and whoever comes to see our flowers remarks, "How do they get such a quantity of Blooms with such brilliancy of colour, and nice small bright foliage?" The answer is, "Their REAL MANURE" and Fumigating Material.

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BY JAMES RUNCIMAN,
NOW APPEARING IN
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AMORTISER

(NON-POISONOUS).

1s., 2s., and 3s. per Bottle.

Observe the Company's Signature round the Cork, without which none are genuine.

BEWARE OF SPURIOUS IMITATIONS.

THE AMORTISER we particularly recommend for Greenhouses, it being so pleasant for use and for its perfume. Its properties for destroying insect pests, &c., is equal to our Carbon Paste. We guarantee, if used as per directions, it will not injure the most delicate foliage or blooms any more than water.

P.S.—We highly recommend "BRAY'S" Spray for light work; it is a cork spray and will fit any bottle. It sends a very fine spray about 4 feet, and if the rose is removed will send it 12 feet with the greatest ease. This is the most useful spray we have ever seen, and may be used for many purposes; it requires no strength, and a child can use it.

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Four Gallons for One Shilling.

Will destroy in a few moments the Larvæ of the Aphides, Hop-Flea, Green and Black Fly, Mealy Bug, Thrip, Red and White Spider, Brown and White Scale, American Blight, Woolly Aphis, Ants, Mildew, Ear-Wigs, Caterpillars, and all insect pests.

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Small Amateurs' Span Roof Greenhouses from £5 5s.

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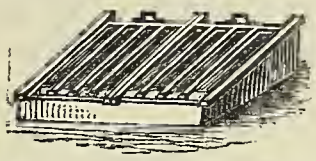

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Conservatories built to any design, full particulars and illustrated Catalogues, post free. Experienced Workmen sent to all parts of the Kingdom.

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Warranted to Protect Bloom from Frosts, Winds, Hail, &c., and Fruit from Birds, Wasps, &c.

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TWO PRIZE MEDALS.
Quality, THE BEST in the Market.

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PEAT, best brown fibrous, 4*s.* 6*d.* per sack; 5 sacks for 20*s.*
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COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1*s.* each; 10 sacks, 9*s.*; 15 sacks, 13*s.*; 20 sacks, 17*s.*; 30 sacks, 25*s.*; 40 sacks, 30*s.* Truck-load, loose, free on rail, 25*s.* Limited quantities of G special quality, granulated in sacks only, 2*s.* each.

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Sold in Tins at 1s., 2s. 6d., and 10s. 6d. each; also in sealed air-tight Bags, containing 1 cwt., 13s.
The 10s. 6d. Tins serve as a strong substantial receptacle to re-fill from the 1-cwt. bags.
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W. H. BEESON, Carbrook Bone Mills, Sheffield.

Testimonials from the Rev. Canon Hole and most of the leading gardeners free on application.

C. G. FRAZER,

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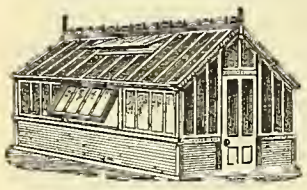
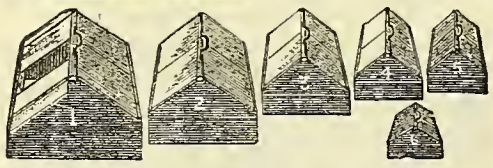


Span-Roof Greenhouses, fitted complete, glazed with 21-oz. glass, and painted three coats.

Tenant's Fixture, 10 ft. by 8 ft., £15.

For Brickwork, £13 7s.



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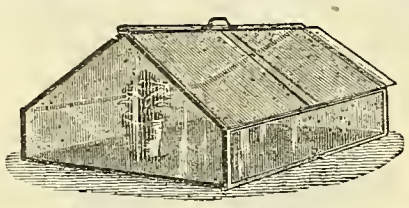

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NEW "IMPROVED" HANDLIGHTS.

Made diminishing sizes, covers 17 square feet; painted three coats, and glazed with 21-oz. glass; per set, £2 7s. 6d.

Cucumber Frames, Lights, 2 in. thick, glazed with 21-oz. glass, painted four coats.

	£	s.	d.
4 ft. by 6 ft.,	1	18	0
8 ft. by 6 ft.,	3	4	6
12 ft. by 6 ft.,	4	12	6

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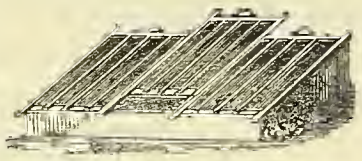

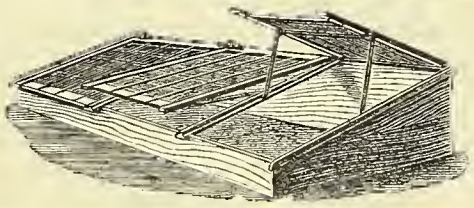

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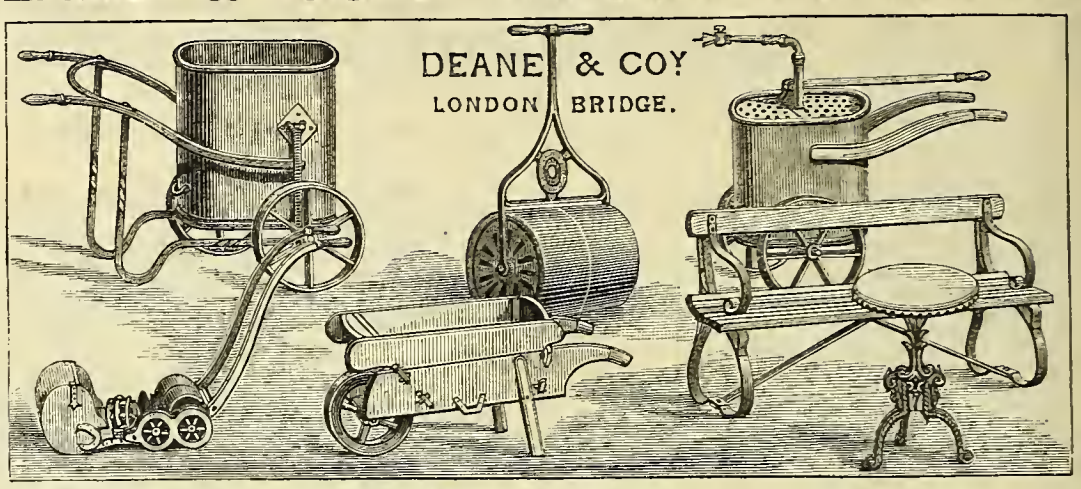

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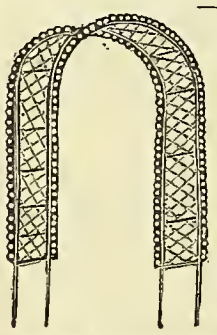

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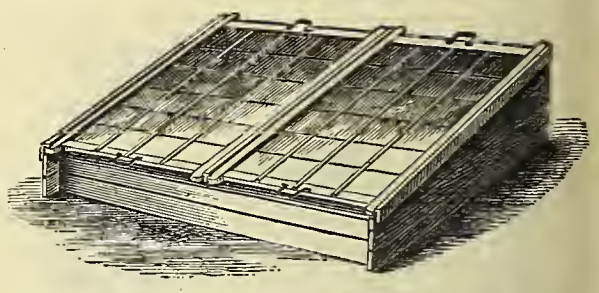

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THE GARDENING ILLUSTRATED WORLD

No. 37.—1885. SATURDAY, MAY 16TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

FLOWER SHOW.

Royal Botanic and Horticultural Society of Manchester.

THE GRAND NATIONAL HORTICULTURAL EXHIBITION of 1885 will open at the Gardens, Old Trafford, Manchester, on FRIDAY, MAY 22nd, at 2 p.m. Entries close on the 15th inst. For further particulars apply to the undersigned,

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The Gardening World.

SATURDAY, MAY 16TH, 1885.

THE ORCHID CONFERENCE.—Though thus oddly entitled, the Orchid display, seen in the conservatory of the Royal Horticultural Society on Tuesday and Wednesday last, was really an exhibition, and a grand one. Whilst the general public, which attended in such large numbers, doubtless thought the flowers curious, pretty, and so on, the Orchidophilists present regarded the gathering of their favourite plants as something more than a banquet; it was a magnificent feast; and we may say that, almost happily, such wondrous exhibitions of these costly plants are not common. Such a treat would lose all its pleasure—indeed, would be no longer a treat were such collections of Orchids often gathered together; therefore, whilst most fully acknowledging the marvellous array of beauty presented, would prefer that such sights may not be made common.

Probably many who compared the Orchids with numerous other flowering plants thought that, in the matter of decorative effect, Roses, Pelargoniums, Begonias, &c., possessed the greatest merit; and if the production of masses of colour were the be-all of decorative efforts, the preposition could hardly be gainsaid. But Orchids are not to be judged on such low ground. They lend themselves to all kinds of effect, but must, at the same time, always be regarded for their individual beauties rather than for any other reasons. And yet it must be admitted that some of the banks of flowers as seen at South Kensington were singularly beautiful. More almost than any other group of flowers, they bore the most minute inspection, and the keener that observation, the more and more did the beauties of the plant develop. Very likely in the hands of skilful decorators, who had at disposal plenty of suitable greenery for base or carpeting, the groups might have been made much more striking than they were; indeed, although many of the most beautiful things shown suffered from overcrowding, the individual merits of flowers, and clusters or spikes, not being sufficiently displayed.

Again, it was equally evident that for educational purposes the grouping of all the various sections would have been an admirable arrangement, though breaking up the different owners' collections, and materially detracting from their displays. Still, could all the Lælias, Cattleyas, Dendrobiums, Cypripediums, Masdevallias, &c., have been put into families, or sections of families, there can be no doubt but that if the general effect was lessened, the interest would have been greatly increased. Without doubt the striking and effective Cattleyas were the giants of the show. Their huge and beautiful flowers stood out boldly in all directions. The very finest forms seem to be found in the lovely C. Mossiæ, with its large lip densely pencilled with purple, set in an orange ground colour; and in the rich, purple-lipped C. Mendelli. But of pure white forms it would be indeed difficult to excel the purity and freedom of bloom found in the white form of Skinneri, whilst this latter, having a body of rich, rosy-mauve, and blooming profusely, is not less striking.

For the production of masses of flower of striking distinctive hues, these two seem to stand out as most valuable. Yellow hues are not so common in Orchids as in many other flowers, but they are not wanting, and are occasionally found in singularly pleasing form. Such, for instance is the lovely Oncidium Marshallianum, which comes intermediate between the pale yellow of O. ampliatum and the orange flowers of Dendrobium chrysotoxum. The Oncidiums are a charming race, and may be generally termed the Butterfly Orchids.

But if the Cattleyas were the most striking, the singularly beautiful sections of the Odontoglossum family, found in crispum, or as it is still more popularly known Alexandræ, must be pronounced the most elegant. It is doubtful whether any spike or cluster of flowers of any kind can excel the wondrous delicacy of hue and marvellous beauty of form and arrangement found in spikes of the best of these. Many of the spotted flowers are indeed wonderful floral compounds of form and colour. The opportunity afforded the other day for comparison of these various forms was a treat which the growers and fanciers enjoyed to the full, because to them the most minute features and variations were full of interest.

Perhaps the quaintest and most peculiar forms were to be found in the Cypripediums and Masdevallias, such kinds as caudatum of the former family and chimæra of the latter exciting wonder from the uninitiated, who could hardly realize that these were real flowers. In the family of Masdevallias we get glimpses of the rich hues which Orchids can produce in a small way; for, if the majority of the Masdevallia blooms are small, the best forms of Harryana make up for that defect in richness of hue; indeed some forms give us spathes like a glowing sunset or a ball of purple fire. If gentlemen will display an Orchid bloom in the button-hole, rather let it be one of the small but lovely Masdevallias, than a Cattleya as big as a cabbage. The former claims attention for itself, the latter calls attention to the wearer.

The comparative absence of what are commonly termed specimen plants indicated either that the growers were reserving those for the June Show of Orchids, or else that ordinary growers do not make them up. Still farther it may be assumed that in the present instance big plants were thought to be less meritorious than smaller ones in greater variety. As a result, probably, few Orchids in season remained unrepresented. The free employment of note-books betokened the interest which gardeners took in the Show, and probably we shall find an impetus given to Orchid culture in many directions. It is no exaggerated statement to aver that the plants themselves, so beautiful and so interesting, pleaded more eloquently in favour of their extended culture than did the essays read and speeches delivered at the Conference.

We have heard it said that, given the needful appliances with a liberal hand, Orchids may be grown with comparative ease. That is no doubt true, and it is perhaps as true to declare that many plants are much more difficult to cultivate, though far less costly. Orchid culture seems to have become a speciality in gardening. The practised grower rather looks down upon the cultivator of common plants and products as inferior beings. Inasmuch as the Orchid is the special appanage of wealth, and very often of ostentatious wealth, it is certain that the gardener who is an orchidist only and nothing more has hardly such a permanent position in his profession as has the man who, though no specialist, is good all round and useful in a score of ways. There

are other beautiful flowers besides Orchids, and all help to beautify and give happiness. A humble Pansy sometimes gives as much delight to the poor as the grandest of Orchids can to the wealthy.

Garden Seedsmen.—Gardening opens up such a wondrous range of topics, and is so varied and far-reaching in character, that oftentimes subjects start up in the gardening papers that seem at first sight to have not the slightest connection with it, and yet is presently found to be linked with its interests very intimately. Thus in the matter of trading in garden seeds we find, curiously enough the question raised as to whether it is proper or, legitimate that chemists and grocers, amongst other small traders, should sell garden seeds, thus competing with the seedsmen. That topic seems to have been started rather late in the day, inasmuch as we have seen co-operative stores in many large towns selling not only seeds, but plants, and all sorts of garden requirements, conjointly with almost everything else. The pinch of competition alluded to is most probably chiefly found in small towns where it is dangerous for one shopkeeper to tread upon another's toes. And yet it seems very difficult to understand why a grocer or a chemist may not sell garden seeds, if they are genuine and good, just as freely as anyone else; as in the same way the small seedsman may, if he likes, retaliate by selling to the public, even more cheaply than his neighbours if he can, sugar, soap, or many other articles retailed both by grocers and chemists. The real question is, How far by this free and wide dispersal of seeds can gardening be made to benefit? and the answer is, of course, the more seeds sold the better. If the chemist's seeds were bad, and turned out to be old and useless, the public could soon have their revenge; but if on the other hand, as is asserted, the seeds so vended are all good, though cheap, the purchaser is the gainer, and the only course open for the retail seedsman is to sell as good an article, and as cheaply also, advertizing his wares widely, and thus attracting public attention. We cannot begin in these days of open trading to restrict a man as to what he shall sell, provided his wares are not exciseable, and are good. The large seedsmen have in many ways, especially in their packet system of selling seeds, shown how cheaply seeds may be retailed. It is for other seedsmen to go and do likewise.

Horticulture at the Royal Academy.—For some, to us unaccountable, reason the garden in this year's Exhibition is very poorly represented. It is not that people, from the wealthiest to the middle and even poorest class, are less fond of flowers than ever they were; the cultivation of them is spreading at a wonderful rate, and with our advanced modes of culture, the price of even the choicer species of flowers is within reach of a moderate income. But there is the fact, with regard to this year's Royal Academy, that the proportion of garden pictures is much lower than usual, and the standard of merit lower still. Out of the 1,160 works in oil exhibited, fifty only, or one in twenty-three, treat of flowers, even as accessories, and most of these in only a cursory manner. We miss entirely the gorgeous masses of Azaleas, Roses, and Lilies pourtrayed by the facile and graceful pencil of Miss Mutrie, and M. Fautin contents himself with a bunch of Roses and a vase of Chrysanthemums. As to fruit pieces, there are very few worthy of the name. Even in water-colours, for several reasons the most suitable vehicle for flower painting, out of 315 drawings there are only twenty-four flower pieces, and the majority of these of so modest and retiring a nature—merely transcripts of ordinary garden flowers—that the several artists might be offended at our mentioning them.

There are two or three drawings, however, that deserve more than a passing notice. Foremost of these is E. J. Poynter's, R.A., "Arabian Nights" (1225). It is an upright drawing, representing a garden containing dense masses of tropical foliage, interspersed with a few flowers, chiefly Roses and Camellias, Bamboos, Hickorys, Palms, Cedars, beneath a rich brown sandstone cliff. Some wreaths of Clematis Jackmanni, as it seems to us, trail down the face of the cliff, added, no doubt, for its delightful contrast with Gloire de Dijon Roses. Over the top of the stately pyramids of verdure rises the graceful cupola of a mosque; a dark-eyed beauty, reclining on a rich carpet spread on the turf, in the foreground. She is toying with a cockatoo of magnificent dark blue plumage. It occurs to us, as we look at the picture, that English artists seldom attempt an English garden of the highest rank, although the material would far outvie in splendour the "Dream of the Arabian Nights." Two other drawings deserve notice, one a group of Oriental Poppies (1176), terribly brilliant and aggressive in colour, and the other a branch of Victoria Plums in a purple vase (1188), Wm. Hough.

Out of the fifty oil paintings which are more or less suggestive of the garden, there are scarcely half a dozen in which the garden is more than an accessory to figures. "Helping Gardener" (781), by Miss Hallyar, is a bright and pleasant picture. An elderly gardener, one of the old school, who is taking a barrowful of Geraniums and Azaleas to the conservatory no doubt, is escorted by two rosy little lasses, each carrying armsful of rosy blooms. "Sunday Morning" (672), Arthur Hughes, is a charming subject nicely treated. A young lady is wending her way through the prim old garden of a country house; two sleek colley dogs have followed her, but she turns to remind them that they must go back. Quite a forest of Roses and other border plants help to make up a pretty and suggestive picture. There are two or three quiet little cottage gardens by C. E. Boutwood and G. S. Coke, and a pretty little interior of a greenhouse in winter by Miss Linnie Watt.

Mr. Boughton, R.A., in his fine picture (663) of "Milton visited by Andrew Marvel," has one of the pictures of the year. The poet is seated by his daughter on a bench outside his cottage. He is pressing the outstretched hand of Marvel with both his; two friends have come to solace him with music. A son and daughter of Marvel, as it appears from the likeness, accompany Marvel, the daughter bearing a small bouquet of Honeysuckle and Dog Roses. A jar of the same fragrant wildings stands on a table beside his daughter. They are favourites, no doubt, with the blind poet. In the right foreground is a border of Cloves and Carnations beautifully painted, and a verdant little vista, stretching away on the right, with flower-border, hedgerow, and slender trees. Of groups of flowers the most effective are "Hollyhocks of the Royal Garden, Kew," by Miss L. Aumonier (342), simply three spikes, a crimson, flesh, and white, a most effective and ornamental panel; (385) "Field Flowers," by Maurice Page, a large bunch of Ox-eye Daisies and Corn Poppies, interspersed with Grasses and spikes of green Oats. The red cups are brilliantly suggestive of headache; cannot the artist select a more fragrant and attractive subject for his clever pencil? (683) "Autumn Roses," by W. J. Sanders, a group of Teas, Gloire de Dijon, Souvenir de Malmaison, Niphetos, and President, is beautifully painted. Several long panels of Roses and Christmas Roses, Hydrangeas, and several vases of somewhat gloomy-looking Chrysanthemums complete the meagre list of Royal Academy flower subjects. Let us hope for better things next year.

Gardening Miscellany.

Flower Shows for Next Week.—*Wednesday:* Royal Botanic Society's Summer Exhibition.—Paris International Horticultural Exhibition opens.—*Friday:* Grand National Horticultural Exhibition opens at Old Trafford, Manchester.

Mr. W. M. Baillie, gardener to the Earl of Wilton, at Heaton Park, has been engaged by the Danish Minister to succeed Mr. Butters (who is leaving next month) as gardener at Luton Hoo, Beds.

The Royal Horticultual Society of Liège have conferred their large Silver-gilt Medal on Dr. Robert Hogg, of London, in recognition of the merits of his *Fruit Manual.*

We regret to hear that Mr. Stevens, of Trentham, is very ill in the Isle of Wight, and that his condition is the cause of much anxiety among his friends.

It is interesting to learn that, even in these degenerate days, plant lovers are alive to the value of good novelties. This has been demonstrated during the last fortnight in the case of the new hardy white Passion-flower, Constance Elliot, Messrs. Lucombe, Pince & Co., of Exeter, having during that time sent out 2,000 plants of it.

The committee appointed to wind up the affairs of the International Forestry Exhibition, held in Edinburgh last year, have at length completed their labours. The balance in hand, after paying all expenses, is £291 14*s.* The total income of the Exhibition was £22,957 9*s.* 8*d.*, and the expenditure £22,665 15*s.* 8*d.*

The many personal friends of the late Mr. Charles W. Shaw (editor of *Gardening Illustrated*) will learn with deep regret of the death of his widow on the 6th inst. Mrs. Shaw suffered from the same malady as her husband—consumption—and survived him only about five months.

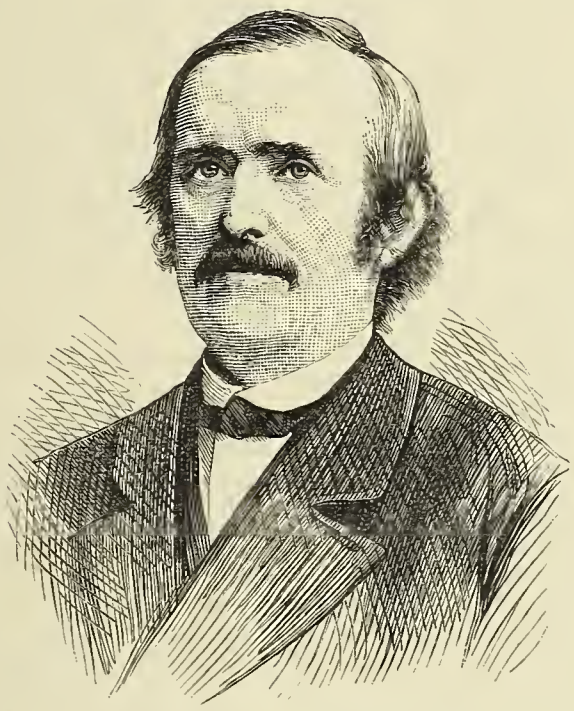
Ten thousand flower spikes of Lily of the Valley, besides numerous cut blooms of choice Orchids, were used in the floral decorations carried out on the 8th inst. by Messrs. Wills & Segar, at Mrs. Charles Waring's mansion, 2, Grosvenor Square.

Amongst the recent donations received by the Royal Botanic Society, and shown at the meeting on Saturday last, were many interesting plants, &c., from Teneriffe, presented by Mr. W. Cossart. These included several flowers and fruits of a species of Eucalyptus, remarkable in that the horn-like lid of the flower is used as a cigarette-holder by the Spaniards. Professor Bentley said the various species of Eucalypti were of great interest, not only in the natural state as plants, but as affording some valuable medicinal substances, and in other ways, more especially in rendering malarial districts healthy. The Secretary said that in his recent journey he had seen the Eucalyptus flourishing equally well in damp situations and where the soil was very dry.

Lady-birds and Aphis.—Those who have plant-houses cannot do better than collect the beetles of lady-birds or cow-ladies (Coccinella) in early spring before they have deposited their eggs, and place them among their aphid-affected plants. Some of the lady-birds will probably lay their eggs on the plants, and the young "niggers" which will hatch from them will make short work of the plant-lice, for a healthy nigger will consume thirty or forty aphids per hour. The larvæ may be collected and placed upon Rose trees with great benefit, one or two of which larvæ will soon clear an affected tree. These may be obtained by beating likely-looking hedgerows or tree branches over an inverted umbrella, and when found the "crocodiles" should be conveyed in a small tin box, as chip or wooden carriers are apt to become too dry, and so kill the captured larvæ. In the autumn, lady-birds disappear after the first frosts of winter, and retire for hybernation. Where it is desirable to cultivate these little assistants—and where is it not?—shelter may be provided for them. No better can be found than a few slabs from the sawmill placed close against the sunny side of a wall or other dry place, and the lady-birds will hide there in the winter in surprising numbers, returning to activity with the first warm sunny days of spring. Hop-poles are good hiding places for them, for they get into the cracks and chinks, and care should be taken not to shake them out when stacking for winter.—*Field.*

PROFESSOR REICHENBACH.

In the ranks of Orchid-growers—an army of enthusiasts of constantly increasing dimensions—few names are more familiar than that of the gentleman who since the death of Dr. Lindley, has been universally regarded as the Orchid king, Professor H. G. Reichenbach, Director of the Botanic Garden, Hamburgh. Professor Reichenbach is the recognized historian of Orchids—the one man whose names of species and varieties are accepted without question, and whose descriptions of new forms are anticipated as keenly by importers and others as is the introduction of the plants themselves. At the leading Horticultural and Botanical Congresses held during the last quarter of a century, Professor Reichenbach has generally taken a leading part, his services as a judge of Orchids being always in demand. He was one of the Vice-Presidents of the Congress held in London in 1866, and is not an unfrequent visitor to Kew, and other English establishments. The Orchid Conference Committee had great hopes that the Professor would have put in an appearance at South Kensington on Tuesday and Wednesday last, but he was most unfortunately indisposed at the time, and the Orchid Conference had to be held, to the regret of all, in the absence of the Orchid king. His absence, however, did not prevent the Committee from recognizing the great value of the services he has rendered to Orchid-growers for many years, by awarding him the first of the three Veitch Memorial Medals placed at their disposal by the Trustees.



PROFESSOR H. G. REICHENBACH.

Professor Reichenbach was born at Dresden, in January, 1824, and in early life his labours were for some time conducted at Leipzig, but of late years he has held the post of Professor of Botany in conjunction with that of Director of the Botanic Garden at Hamburgh. The Professor states that he has studied Orchids since 1841, but not Orchids alone, for he has written a great deal concerning the floras of several countries, including that of his own native land. In an appreciative notice of the Professor's labours in the horticultural world, published some fourteen years ago in *The Gardeners' Chronicle*, it was stated that the Professor ascended the throne vacated by the death of Dr. Lindley amid the unanimous assent of his colleagues, and most worthily does he fulfil his regal duties. "Nor does our Orchid king share the exclusiveness sometimes manifested by those in high positions; on the contrary we doubt whether the President of the United States himself is more accessible than our Professor. Does a new Orchid arrive? forthwith it is dispatched to Professor Reichenbach. Does a stranger make his appearance without his passport or visiting card? forthwith he is forwarded to the Hamburgh Professor for identification, verification or baptism, as may be required. Does any question arise concerning that most intricate and difficult family, the Orchidaceæ? Professor Reichenbach acts as the universal referee and umpire"—and as universal referee and umpire he still remains. May the duties of his high office sit lightly upon him, and his shadow never grow less.

A LANCASHIRE NURSERY.

There is no county in England in which Floriculture and Horticulture is more loved than that which is situated between the Rivers Mersey and Ribble. Over half a century ago, Loudon said of the Lancashire people that they were the most enthusiastic customers of the London nurserymen for all new plants, and he described some of their flower-shows as being the best in the provinces, and in some respects as superior to those held in London. At that time there were several first-class nurserymen and florists' establishments round Manchester, but owing to the development of business, they had to make way for factories and dwellings, and now are only kept in remembrance by the names of streets—such as Nursery Street, &c. Then came a time in which pessimist views were the order of the day, and "it is no use to try, smoke and gas poison everything," was the cry. Even within the last seven years the writer was laughed at when he said, "Only practical skill and common sense are requisite to produce flowers and fruits equal to any other county." To grow a Rose on the north-west side of Manchester was thought to be an impossibility, even under glass, seven years ago; but there were a few who quietly plodded on and worked patiently, among them being Mr. C. J. Noyes, of the Pendleton Nurseries, whose father commenced business there when some of the old nurseries were being broken up, about 1838.

Mr. Noyes is now reaping a rich reward for his perseverance. At these home grounds he has upwards of thirty houses, from 70 ft. to 110 ft. long, and the number is being yearly added to. No pessimist views are held here, for we saw, a few days since, fine plants of Maréchal Niel, Gloire de Dijon, and other sorts in fine bloom, and were told that they had been cut from since February last. There were also some thousands of nice plants of Roses in pots just coming into bloom, and in one house were over a thousand Spiræas; Cinerarias and Hyacinths were nearly over. Calceolarias, Ferns, and in fact all plants suitable for market, either as cut blooms or in pots for general decorative purposes, are to be seen here in any quantity, clean and well grown. Two specialities we must mention as being done well here, viz., Pelargoniums and Dahlias. The former, by the vigour of their growth, reminded us of the plants we used to see thirty years ago grown round the South of England, clean sturdy stuff, some just coming into bloom, with others to follow until July. The Dahlias are a grand collection, both single and double.

To describe all we saw would occupy too much of your space, but we must not omit a few words about the Rhododendrons out-of-doors, which to us are the most interesting and, as we think, most important feature in Mr. Noyes' nurseries. For many years past, villa gardens by hundreds have been formed and planted with trees and shrubs obtained from distant nurseries, but Mr. Noyes having long held the opinion that there was no necessity for being dependent on distant places for the supply of shrubs, &c., for this district, was successful in obtaining by purchase part of a tenant's interest in some land near Barton Station, on the L. & N. W. line between Manchester and Liverpool, a part, in fact, of the well-known Chat Moss. This, if you will allow the diversion, is an extensive bog, nearly ten miles in length, and six in width, originally an extensive forest extending from Stretford and Old Trafford to Warrington, as the remains of the ancient trees and relics found at various times embedded in the bog testify. Here the native brigands hid themselves and sallied out to harass the soldiers under the Roman General, Agricola, who ordered his troopers to cut down and burn this forest, and to this day the trees found attest the fact that they all lay from west to east. Many grand trunks have been found burned and charred with fire, hard and black, but which fell to pieces when exposed to the atmosphere. Cows' horns have been found of a breed now extinct; the trees were Oak, Birch, Fir, Yew, Beech, Holly, and others. After the Roman destruction it became a swamp until the latter end of the last century, when Sir Thomas Joseph de Trafford obtained an Act of Parliament to enclose and let it on leases, and since then much has been done to reclaim it, first by Mr. Roscoe and Mr. Wakefield, and the late Sir Edward Baines and his manager, Mr. Bell, but much more remains to be done.

Doubtless, however, in the near future this "Chateley More" (as Leyland, the travelling historian, calls it) is destined to become of great importance as the market garden of Lancashire. Leyland gives the following quaint description of the moss:—"Chateley More is a iii or iiii myles in Breadthe and vi myls yn lengt. Sum (part) brast up within a myl of Morley Haul and destroied much grounde with mosse thereabout, and destroied much fresh water Fische thereabout, first corrupting the stinking water Glassebrooke, and so carried the roulling mosse and stinking water into Marsey water, and Marsey corrupted carried the roulling mosse past the shores of Wales, part to the Isle of Man and sum to Ireland. Syr John Holcrofte's House within a myle or more of Morle stoode in jeopardi with fleeting of the mosse." Camden also repeats this "fleeting of the mosse." In other places also the moss appears to have rose up and then slipped away into the Irwell and the Mersey. All this has now been prevented by deep draining, and on some of this ground Mr. Noyes has planted some thousands of Rhododendrons, and a general collection of shrubs, which are growing remarkably clean and free, and set well for bloom. Without doubt in a few years the nurseries here will rival those in other places for the excellent quality of the plants, which will be more acclimatized and better adapted for the district.—*N. J. D.*

A FOREST OF ARAUCARIAS.

Miss Marianne North, the most celebrated of living flower painters, recently wrote from Chanlion, Chili, to *The Pall Mall Gazette*:—"My chief object in coming to Chili was to see and paint the old forests of Araucaria imbricata, known in England as the Puzzle-Monkey Tree, rather unreasonably, as there are no monkeys here to puzzle; probably they crossed the Cordilleras in disgust at the general prickliness of all plants here, especially the Araucarias, and never came back again. It was not easy to make out how to reach these forests. Some people talked of difficulties and even dangers; they said I must sleep out, be eaten by pumas, or carried off by Indians, a noble race which has never yet been conquered by the white man; others declared the trees no longer existed, having all been sawn up into sleepers for railways.

"But, as usual, I found all impediments vanish as I got nearer the spot, and four hours of easy and delightful riding from Angole, the present end of the

railroad, brought me to the comfortable farmhouse of the Irish family who now own the Araucaria forests, which could be seen from the windows fringing the tops of the hills some five miles off with delicate, long stilted umbrellas. Nothing could exceed the hospitality of Mrs. Smythe and her brother Mr. Nixon, and no more perfect quarters could be found than those they gave me. The house was very roomy, built as usual in one storey, with a verandah all round, on a bare little knoll rising from green meadows, and surrounded by hills covered with trees resembling Oak and Beech, growing separately and in groups, so that the sun could peep through and sweeten the grass under them, which gives the best of food to some two thousand cattle, which are straying over the property, and to about a hundred cows, which at that time were giving quantities of milk and cream, and the butter was already famous. In the winter the cows are divided and given over in charge to the different cottagers on the estate, who take care of them, and make cheeses, giving back half the profits and keeping half for their trouble. The house might have been more picturesquely situated, but it was built at a time when the Indians were troublesome, and it was necessary to keep a good look-out, and have no bushes for them to hide in near at hand.

"It was a lovely ride from Angole and its terrible dust. First we mounted over rocks and more dust for some 2,000 ft., among Pusas and succulent and prickly plants (which prepare themselves for the long dry season by hoarding moisture and growing weapons of defence to prevent other thirsty creatures benefiting by it), and then leaving a glorious view of snowy volcanoes behind us we entered the mixture of forest and pastoral scenery I have just described, passing stream after stream of clear running water and more lovely flowers than I had seen in all Chili before. The Embothrium, or Burning Bush, was in full beauty, growing in long sprays 6 ft. or 8 ft. high, quite covered with the purest vermilion flowers formed something like Honeysuckle. But I saw none grow into such a tree as I saw in my cousin's garden in Cornwall last year; perhaps it may enjoy a new soil and climate, and treat England as our common weeds do Chili; they have quite driven the natives out on the great plain or valley of Santiago, and show unbroken masses of Camomiles, Thistles, and Cornflowers far stronger than those of Europe. Near the streams were masses of huge Gunnera leaves (whose stalks are eaten like Rhubarb), lovely Ferns with pink furry stalks and young leaves, and a most exquisite scarlet flower, something like a Mimulus, which dipped its roots in the running water and grew nowhere else.

"A small Bamboo and many other graceful plants grew over these things, and overhead hung from the branches of the Oaks a most beautiful Lauranthus, with bright green leaves and pale green buds, changing as they opened to yellow, then turning orange, and becoming deep red before they dropped. The flowers were often half-smothered in the grey Lichen, commonly called 'Old Man's Beard,' which waved in every wind and grew in masses on all the Oaks. The Beech had its own pet parasite—a tiny Mistletoe, forming perfect balls of every shade of green and gold, and over the bushes climbed many species of Pea, Lapageria, and lovely pink star flowers, which hooked themselves up by the long tendrils at the end of their leaves, while some yellow stars seemed to have no leaves, only tendrils. Tall Fuchsia trees were there too, and Buddlea, with its golden balls, sweet as honey, and whose leaves, when toasted and pounded, form the popular cure for all wounds and sores. Another bush called the Pinche, looks like a lilac and white Heath, and is said to be a cure for all diseases. The grass was in flower, quite red and lilac, and sprinkled over with exquisite scarlet Lilies Alstrœmerias of many tints, Tropæolum, and four species of Orchids so handsome that I persuaded my host to send roots to Messrs. Veitch. It seemed a shame that the Chilians (who do not appreciate native flowers) should alone possess such treasures.

"Soon after reaching the first Araucarias we found ourselves surrounded by them, and all other trees gave way to them, though the ground was still gay with purple Peas and orange Orchids, and many tiny flowers whose names I did not know, and which I had not time to paint then—such flowers when picked die almost directly. Many hills and the valleys between were covered with old trees, covering some miles of space, and there are few specimens to be found outside this forest. I saw none over 100 ft. high or 20 ft. in circumference, and, strange to say, they seemed all very old or very young. I saw none of those noble specimens of middle age we have in some English parks with their lower branches resting on the ground. They did not become flat-topped like those in Brazil, but were slightly domed like those of Queensland, and their shiny leaves glittered in the sunshine, while their trunks and branches were hung with white Lichen, and the latter weighed down with cones as large as one's head. The smaller cones of the male trees were shaking off clouds of golden pollen, and were full of small grubs, which, I suppose, attracted the flights of parroquets I saw so busily employed about them. These birds are said to be so clever that they can find a soft place in the great shells of the cone when ripe, into which they get the point of their sharp beaks, and fidget it until the whole cracks and the nuts fall to the ground. It is a food they delight in, and men too, when properly cooked, like Chestnuts. The most remarkable thing about the trees was the bark, which was a perfect child's puzzle of knobby slabs of different sizes, with five or six decided sides to each, and all fitted together with the neatness of a honeycomb. I tried in vain to find some system on which it was arranged."

THE VICAR'S GARDEN.

Since our last visit the various varieties of Narcissus have been coming along, and they are yet the most conspicuous adornments of the garden, lighting it up in all directions. There are grand clumps of N. Horsfieldii, which is one of the most showy, and which, from its great beauty, must hold a leading position for a long time to come. Of the varieties of N. Poeticus in flower, there are ornatus and Poetarum, the latter a real gem, with very pure white perianth, broad cup, and orange-scarlet ring. Every Daffodil-grower should try to possess it. Empress and Emperor are both very good sorts, so are Burbidge's Model, Maxima, Leedsii expansus, Bicolor, J. B. M. Camm, Macleaii, Grand Monarque, Incomparabilis Leedsii, Cobularia conspicuus, and last, but not least in merit, N. Capax plenus, Queen Anne's Double Jonquil, which is singularly distinct and beautiful. There are in this list a few rather high-priced ones, but they will get cheaper in time.

Two fine beds of Tulips, from own-grown bulbs, prove beyond all manner of doubt that these can be successfully grown at home where the soil is suitable, and they are not very particular about that. The stock here has been worked up from fifty bulbs forced in pots in 1880, and now numbers over 3,000. Could not some of our country gentlemen or clergymen, where the soil is likely to suit, and the cottagers have ground to spare, set them up with one or two varieties, and induce them to grow these for sale? One rod of ground would contain, at about 4 ins. apart, 2,500 bulbs; and if these when sold realized only 1*s.* per hundred, they would bring 25*s.*, a result with which many a country labourer would be highly delighted, and it would be a very pleasant diversion from the ordinary routine of his daily toil. I fear, however, that while John Bull fondly imagines he will always have plenty of money to buy what he wants from abroad cheaper than he can do it at home, this idea stands a very poor chance of being put into practice.

A fine lot of Anemones, of the St. Bridget's strain, claim at least a passing notice; but so much has been said respecting these in The Gardening World that I will only endorse all your correspondents have said in their favour; they cannot be too highly recommended. Among other good things at present in flower are Gentiana acaulis and verna. Where among the occupants of our stoves and greenhouses can we match the beautiful shades of blue we see in these flowers? The first forms a fine edging plant, and should be seldom disturbed; the Gentiana verna is a veritable gem, and will in most places do best if planted over some stones and slightly elevated. We come across patches of Fritillaria Meleagris, and its white variety. Many strangers to this plant marvel at its gracefulness of form and beauty of colour, and are very much surprised to hear that it is a native plant and quite hardy; Fritillaria pyrenaica is quite distinct and equal in merit. These are a strange contrast to the Crown Imperial, Fritillaria imperialis, one of the most handsome of all hardy-flowering plants; its great drawback, however, is its offensive odour, and on this account it ought not to be planted very near the dwelling.

There are in flower also Ranunculus aconitifolius, Anemone stellata speciosa, A. stellata Archemede, Iberis coriacea, Primula Sieboldi in variety, Alpine Auriculas, Leucojum æstivum, a fine clump of which is very telling and one of the best things in the place; Ornithogalum nutans, Pulmonaria Virginica, Doronicum austriacum, a plant that should please all æsthetics, and which may fairly be styled a small early summer Sunflower; an old inhabitant of our gardens, but seldom seen except where hardy flowers are made a speciality, it ought to be grown by everyone. Of Prunus triloba, the pink double-flowered Plum, a dwarf bush grown from a cutting is a pretty object. I would especially call the attention of your readers to the double-flowered Cherries, of which there are two distinct varieties, the best of the two being what I have known as the French variety. This is much stronger in growth and altogether a finer thing than the ordinary one. The flowers are more pure, larger, more double, and more abundantly produced. No other tree flowering at the same time can vie with it.

Our Vicar's garden being on a dry soil, he makes use of the short grass from the lawn to mulch the Rose beds; this by preventing evaporation keeps the soil moist and cool during the hottest sunshine, and unless copiously watered or mulched, many things in hot seasons would be parched up. The experience of the past two summers has forced the conviction home to my mind that this practice of mulching is generally put off till too late; if done earlier than it usually is more satisfactory results would be obtained. I hope later on in the season to chronicle results from a somewhat extensive application of this plan in the kitchen garden.—*W. B. G.*

THE CULTIVATION OF ORCHIDS.

(*Paper read at the Orchid Conference on May 13th by Mr. James O'Brien.*)

The subject of Orchid culture being almost inexhaustible, I shall only be able to touch briefly upon some of its phases, and in doing so, whilst endeavouring to make some remarks acceptable to all Orchid-growers, I shall direct them principally towards the amateur. A glance at what has been written on the subject many years ago, proves that there may be rules laid down for the culture of any or all of the Orchids, and that a good result once attained may always be secured by following the same line of treatment. Whenever I read a detailed account of the treatment given to an exceptionally fine plant by some grower of forty or fifty years ago, I find that in our practice of to-day we need not depart from it in the least to ensure the same good results, which ought, however, to be attained by us with much less trouble than by those of olden time, by reason of the much better accommodation we have.

Orchids, from the time of the earliest arrivals, have always been appreciated, and as early as the year 1800, when the lovely Aerides odoratum and many other showy things were introduced, their habits and culture seem to have been understood fairly well, but the bad construction of the houses and their defective heating by means of flues and other contrivances militated sadly against the culture of the small growers and the varieties requiring cool treatment; and hence, while many continued the culture of the more robust kinds, and attracted visitors from distant parts to see them when in bloom, no general progress was made until the period between 1835 and 1850, which was perhaps the richest in importations of fine handsome Orchids.

During that period the fine discoveries of Messrs. Veitch's collector (Lobb) with Aerides, Saccolabiums, and Vandas; Griffiths with his Cymbidiums and Dendrobes; Skinner, Barker, and Hartweg, in Mexico, Guatemela, and along the Andes; and other collectors, made quite a revival among the Orchid-growers, and the result of new energy being put into the matter was that with some of the showier Orchids such perfection was attained that I fear we could not even now match some of the specimens mentioned as being exhibited

at the Horticultural Society's Shows at the famed Chiswick Gardens, where in those days a good collection of Orchids was to be found. Among the best exhibits for many years appear those from Mrs. Lawrence's renowned collection at Ealing Park, that home where our worthy President, Sir Trevor Lawrence, first acquired that love for Orchids which he has turned to such good account in forming and keeping up, always in good condition, the best representative collection of Orchids which was ever got together.

Among the specimens exhibited in 1845-6-7 are enumerated: from Mrs. Lawrence, Ealing Park, Aerides odoratum, with sixteen leading growths and between thirty and forty flower-spikes; Cattleya crispa, with over twenty spikes; Saccolabium præmorsum, covered with bloom; Epidendrum bicornutum, with many spikes; Oncidium ampliatum majus, with many spikes, forming a head of golden flowers over 4 ft. across, and Odontoglossum grande, quite worthy of being a leading plant in a collection. J. H. Schroder, Esq., of Stamford Green, is also credited with Calanthe veratrifolia, with eighteen spikes, and many other fine plants. J. J. Blandy, Esq., with Saccolabium guttatum, with eighteen flower-spikes. R. S. Holford, Esq., of Weston Birt, with Aerides odoratum, with twenty-seven to thirty spikes. Sigismund Rucker, Esq., also produced specimens which it is pleasant to read about; and among other things, Robert Hanbury, Esq., in November, 1845, exhibited a robust plant of the autumn-flowering Cattleya labiata, with four spikes, bearing sixteen flowers between them, and forming a specimen which any of our best collections would be glad to give room to at the present day.

Of plants described as being very fine in different places forty years ago, but which are yet rare, and in some cases the specimens mentioned are not to be matched, are Renanthera coccinea, in the gardens belonging to A. Palmer, Esq., at Cheam, with seven panicles on a plant, each bearing from 100 to 110 flowers, and an equally good one of it in the possession of R. S. Holford, Esq., on one of the panicles of which were 117 of its showy scarlet flowers; good specimens are also mentioned of the yellow Calanthe curculigoides, from the Straits of Malacca; Angræcum bilobum, with a dozen long flower-spikes; the rose-coloured Eulophia guineensis; and in the gardens of the Horticultural Society, in 1847, a Lælia superbiens, with nine large heads of bloom.

These notes show that the love for Orchids, which existed from the time the first plants came into the country, has steadily increased, and that their widely-diffused culture of the present day, far from being a modern fashion in flowers, is but the result of the steady progress of that which always existed, and always will exist, as long as that love for flowers, which is one of the chief characteristics of the inhabitants of these isles, remains. For those who want novelty as well as beauty, too, there is as good a prospect still as for those who wish simply for the beautiful, for if we turn to the works of Dr. Lindley, Professor Reichenbach, and other writers on Orchid lore, we there see such a host of lovely things figured or described, but not yet imported, as to prove bewildering even to one, like myself, who has made Orchids a study from childhood. So far as I am concerned, I never could see that there was any difficulty in growing the greater part of our handsomest Orchids, provided the one who took them in hand had a real liking for them, and a determination to use his own eyes and his best judgment for their benefit. In such a case success follows invariably, for Orchids, like the domestic animals, soon find out when there is one who is fond of them about them, and they seem to be happy and to thrive and establish an understanding with such a guardian, indicating to him their wants in many important matters as plainly as though they could speak.

It is this kind of understanding that should be aimed at, as it goes a great way towards securing success, as well as giving pleasure to the pursuit; and it is the existence or the want of this kind of relation between the plants and their master which makes all the difference between a good grower and a bad one—between a healthy collection and a shabby one. Be sure, that without someone takes an unfeigned and steady interest in the plants, they will not thrive, but if one can be found to be watchful over their interests, and apply what knowledge he can get by what he sees or reads of in other collections, a good measure of success is sure; and hence some of our smaller amateurs, by their diligence and real liking for their plants, often grow things to perfection which have puzzled more scientific men. In growing a general collection of Orchids, however, many stubborn subjects will be met with, but as the bad-doers of the past have given way, those of the present will follow, no doubt, in the case of all who steadily persevere. Every point in Orchid culture is of importance, one neglected item often causing failure in some direction or other. Let us glance at a few of the most important matters, beginning with

The Orchid-house.

In this particular, we certainly have the advantage over those of former years, in that we now have compact, well-ventilated, and comfortably-heated structures; but these changes were not made until the Orchid-growers themselves took to designing their own houses or advising with the builders about them; and from that time a new era in Orchid culture commenced; the running lights, which were so fond of slipping down in the night, were done away with; the swinging-sashes on a level with the plants on the side-stages were doomed; those neat little sliding-traps at the base of the house, and those convenient top ventilators, substituted, and many other sanitary matters arranged, which anyone may see to perfection in that fine new Cattleya-house, and those other recently-built structures belonging to William Lee, Esq., at Downside, Leatherhead, where one of our largest, best, and best-housed collections will be found, many of the convenient arrangements in those houses being of Mr. Lee's own designing. At Baron Schroder's, too, at The Dell, Egham, some of the best of our modern improvements, combining usefulness and ornament, will be found; and as the plants contained in the houses are of the best and rarest, a visit to them is a great pleasure to any Orchid-grower.

In former times, it used to be considered imperative to build the Orchid-houses running east and west, and many adhere to that plan still; many also consider that a lean-to or three-quarter span facing north is the best for Odontoglossums and cold-house plants. For my part, I cannot say that houses of any other aspect are not as good as these, provided they be properly arranged in other respects. A north house is certainly very cool, and good for cold-house plants, and particularly Masdevallias in summer, but, from the very conflicting evidence I have gathered in different parts of the country, I should say that anyone having houses which they wish to devote to Orchids need not be deterred by their facing this way or facing that, or in building new ones, to greatly inconvenience themselves to make their houses run in any particular direction.

Tolerably low span-roofed houses are the best to build for most Orchids, and in building them, no two should be placed together side by side, but each should be built apart, in order to allow of the bottom ventilation being effected by traps opening into the outer air. In some cases, where this has been neglected, chambers from end to end, with openings at intervals, and other intricate contrivances, have been resorted to, but all to no purpose, as the houses have gone back to the style of those of very many years ago, and are practically unventilated, as we now understand the word. It is to the even balancing of the ventilation, by means of the bottom ventilator opening into the outer air, and the top ones at the highest point of the house, that we, in a great measure, may attribute our much better culture of Odontoglossums, Masdevallias, Cattleyas, &c., than the Orchid-growers of former years displayed. Next in importance after the ventilation, comes

The Staoing.

This, by common consent, seems to be best when an open wood-work staging is raised over a close one, containing either water or shingle, which is kept moist. Some, indeed, grow Moss on this close staging, and Ferns underneath them; but although such arrangement is perhaps beneficial whilst the Ferns keep clean, they are so liable to thrips and other insects that they are better kept out of the Orchid-houses, in my opinion. The open woodwork staging is certainly very good above the close and moisture-supplying one, and great need of it might be seen formerly in the presence of large numbers of inverted flower-pots for raising the plants.

As a further means of giving moisture and storing rain-water, which alone should be used wherever it can be obtained for watering Orchids, too much space cannot be devoted to open rain-water tanks under the stages. Plants watered with rain-water alone have a great advantage over those watered with water from any other source, and Mr. Bateman records his opinion that they are not attacked by those small snails which are so troublesome where they abound. From my own observation I can say that I believe there is a good foundation for the statement.

Watering Orchids.

The watering of Orchids is a matter on which much depends. It is now pretty generally understood that all evergreen Orchids, either terrestrial or epiphytal require plenty of water when growing freely, and less when not growing; that those which lose their leaves, such as some Dendrobes, invariably require a period of rest, during which water is entirely withheld and a lower temperature given, and that Odontoglossums, Masdevallias, and the other cold-house things, want water summer and winter, but I find the resting or drying-off system is often overdone, and plants injured accordingly, and that in some collections the plants would be much better if watered all the year round than dried as they are to such an extent that they cannot recover in the growing season what they lose in the so-called resting period.

My own opinion is that any drying-off which causes shrivelling is wrong, and that Cattleyas, Lælias, and similar plants, if properly potted, do best kept moist, even when not actively growing, but care must be taken to see that they are not in bad peat. As a rule, it would be much better for the plants we often see in small collections if they had one half the quantity of potting material about them and twice the quantity of water they get given them. Syringing a house of Orchids should never be done, and the syringes should be only used for moistening the staging and back walls, or doing any other work on which it can be certainly employed without harm. When used on the plants the operator cannot tell what he is doing, and in the hands of a thoughtless person the syringe is the most mischievous instrument ever introduced. There can be no rule for its use among Orchids as a means for distributing water, and certainly no benefit that can be set against the loss of young growths and decayed flower-spikes which must follow an indiscriminate use of it.

(*To be continued.*)

NEW GARDENING PATENTS.

[*Compiled by Messrs. Lulman & Co., Patent Agents, 8, Essex Street, Strand, London, W.C.*]

3,914. Lawn Tennis Marker and Mixer (W. Hampson, Rock Ferry).—A kind of covered wheelbarrow has a wheel which is the marker at one end and a handle at the other. The whitening and water or other materials are put into a box through a lid at the top, and mixed by means of a flat bar running from end to end of the box and rotating by the action of the machine. A brush projects from the under part of the machine to clear the wheel from dirt and grass.

10,982. Garden Gates (H. V. R. Read, Westminster).—For opening and closing gates the hinged pin is made of two small cranks connected by links with treadles at each side of and some distance from the gates; when one of the treadles is depressed by wheel of cart or otherwise, the crank hinge pin is turned. This has the effect of lifting the gate out of its catch. The gate then swings open. When the other treadle is depressed a reverse action takes place.

11,108. Artificial Asphalte for Garden Paths (F. Bosshardt, Market Place, Manchester).—Natural or artificial stones, ore, earth, wood, sand, glass, or paper substances are powdered, mixed mechanically with finely-powdered pure bitumen, sprinkling the mixture if necessary with petroleum, and warming it in a rotating vessel.

"Begonia socotrana," says M. Duchartre, "besides its natural reproduction by means of seeds, possesses a rapid means of multiplication, thanks to the abundance with which it produces on the lower and underground portions of the stem bud-shoots of a special organization, which develop rapidly after a period of repose into a new floriferous stalk."

The Amateurs' Garden.

THE GREENHOUSE.

Shade and Free Ventilation are the two essentials in the management of the greenhouse at this season, the one to break the force of the sun, and the other to keep down the temperature, any great rise in which soon distresses flowers and brings them off the plants quickly, as does also excessive sunlight. The lights should therefore be opened early and the air increased during the morning, and the shading let down to remain for four or five hours in the middle part of the day.

Watering, too, will now demand careful attention, as the balls dry rapidly, and to make sure of soaking them through, it is advisable to go over the plants a second time and fill up the pots, especially those where the soil has cracked away at the sides. Peat is very subject to this shrinkage, and it is a good plan with Azaleas and other hard-wooded subjects that are growing in it, to stand them for an hour or two in a tub containing sufficient water to cover the pots, and this should always be done before giving them a shift, for if dry through, then it is almost impossible to get them wet after. Loam is not so impervious to moisture, and yet, when the balls get very full of roots, water is apt to escape without doing good.

Camellias.—Much has been said and written about the proper time for potting these; some advocating giving them a shift when they have set their buds, and others directly they have done blooming, which I hold is by far the best season, as, like most plants, Camellias make their growth and roots together, and fresh soil for the latter to feed on gives an impetus, and enables them to form much stronger shoots than they otherwise would. The best soil to pot in is equal parts of peat and loam, both of which should be fresh and full of fibre and used somewhat rough, as then they are more lasting, aud the roots can ramify freely and water pass quickly through. Although Camellias do not like heat after they have set their buds, it does good now; but with it the plants must have shade and plenty of moisture, the latter being afforded by frequent syringing.

Pelargoniums, of both the Show and Zonal kinds, will now be throwing up bloom, and as the first named are so subject to green-fly, they should be fumigated before they advance further, for though no insects may be seen on them, some are almost sure to be there, and the plants cannot be smoked later on without spoiling the flowers. To keep the foliage of a good colour, and the plants healthy and strong, liquid manure will be found a great help, and may be given frequently, especially if the plants are at all pinched at the roots. The Zonals for summer blooming should be stopped by having the points of the shoots nipped out, and as soon as they break again, the plants may be repotted and then plunged in some sunny spot out-of-doors, or kept in a light pit or house close up to the glass, the object of the exposure being to harden the wood and make it short jointed, in which state it is sure to produce fine heads of flowers.

Begonias of the tuberous-rooted class are invaluable for greenhouse decoration, and should be largly grown, as they are grand for pots or baskets, the erect kinds being suitable for pots, and the drooping for suspending, in which way they make a fine show. It is late for raising seedlings now, but tubers may be had cheap, and cuttings from these, taken off when they are about 3 ins. long, strike freely under handlights in any cold frame. To induce them to do this, they should be inserted singly in small pots in sharp sandy soil, and kept just moist till they callus, after which a good watering will cause them to emit roots, and then growth will be rapid.

BEDS AND BORDERS.

Calceolarias and other half-hardy and hardy plants should be got out at once, and preparations made for planting the more tender towards the end of the month. With this view, edgings will have to be put in order and Box clipped and cleared up, and gravel walks weeded and rolled, after wet, when it will go down firm and form a hard surface.

Grass Verges and Lawns.—Nothing disfigures grass verges and lawns so much as Daisies, Dandelion, and Plantain, which should be eradicated at once, as by getting rid of them now the herbage soon spreads and covers the bare patches they leave. To have a good bottom, it will be necessary to mow once a week regularly from now, as grass grows at a great rate, and it is only by cutting it often that it can be kept thick below. The roller is a great help in giving texture, and should be used frequently, and always before the machine, to press down any stones or worm-casts out of the way of the knives.

THE FRUIT GARDEN.

Peaches, Nectarines, Cherries, and Plums will now require close watching to keep them free from aphis, which if allowed to remain on the trees soon cripple the shoots. To prevent this as much as possible, disbudding and stopping should be proceeded with, as Plums and Cherries may now be pinched back to within two or three leaves of the base, and this shortening will do much good by keeping the spurs close to the branch, besides getting rid of most of the green-fly; but those on Peaches must be dealt with by dusting them with tobacco-powder, or wetting them with dilute Nicotine Soap, soon after which the trees should be heavily syringed to wash the insecticide off. Under glass there is no remedy equal to fumigating, as the smoke is so penetrating that it finds its way everywhere, and carries death to the aphis.

The Vinery.—If the vinery has been kept warm, as directed, by being closed early, the bunches will now be in flower, and till they set the air of the house should be dryer than before, but as soon as the berries begin to swell, the floors and other surface cannot well be too damp, as a moist atmosphere is necessary to keep down red-spider and maintain the foliage in health. The shoots being at their present stage more hard and woody, they will bear tying down, which ought to be done at once to get the leaves well away from the glass, and so regulated that they do not interfere with each other. All laterals that show below the bunches may be taken clean out, and others stopped at one leaf aud kept to that all through the season.

THE VEGETABLE GARDEN.

Potatos.—The warm weather has brought Potatos through with a rush, and weeds have been equally quick in making their appearance, which necessitates the use of the hoe at once, and this should be drawn lightly through the ground so as to prepare for the moulding up, which ought to be done immediately the tops are high enough, as any delay after that tells against the Potatos by disturbing and injuring the roots. In cases where the soil has not had much manure and is poor, it is a good plan to give a top dressing of soot before the hoeing, which will do much towards keeping the tubers clear in the skin, and greatly add to the crop. If the rows have been planted as advised, at 4 ft. apart, plenty of room will be left for

Brussels Sprouts, Broccoli, and all the winter greens, the whole of which should be got out at once, as when planted thus early they stand a much better chance of becoming established before dry weather sets in, and not only that, but it is the only way of getting them fine.

Celery.—To have Celery large and good, every attention must be given to the plants, which should never receive a check from any cause, or they will bolt, and to prevent this, the way is to prepare a bed by putting some short rotten dung and soil, mixed together, on a hard bottom, and prick the plants out in that, when, by-and-bye, they will lift with large balls, and may be transferred to the trenches prepared for them without feeling the change.

Ridge Cucumbers.—To grow these well in ordinary seasons, it is necessary to afford a little bottom-heat, which may be done by digging out a wide deep trench, and filling it with fresh stable manure or anything that will ferment and hold warmth for a time. As soon as the bed is made, and the heat generated, it may at once be covered with soil, and the plants turned out under hand glasses, where they should be kept quite close till they get a fair start, when they may have a little air by day and be shut up again at night till the middle of June, at which time the lights may be taken off and the plants be fully exposed.

Vegetable Marrows, if they are wanted early, require similar treatment, but though they are well deserving of the same care and attention, few go to the trouble, and simply wait till they can be planted out in the open. A good place for Marrows is a rubbish heap, which generally has some warmth through the fermentation going on, and not only that, but the richness of the decomposing matter favours the plants, and affords just the food they require.

Onions, Turnips, Spinach, Parsnips, Carrots, and such like crops, should be thinned out directly they are well up, as then they may be pulled out easily without disturbing those left, which have every chance after of making rapid progress, and this the hoe will aid if run through between the rows so as to slightly loosen the soil and let in the air, the beneficial influence of which is great on the plants.

Radishes and Lettuce.—To keep up a supply of these, a little seed must be sown once a fortnight or so, and to save transplanting the Lettuce, it is a good plan to sow in rows where they are to grow, and thin out, treated in which way they are not so liable to run, and they make much larger and finer hearts than any that are checked by removal.

THE LATE MR. C. TURNER.

The death of Mr. Charles Turner, of the Royal Nursery, Slough, on the morning of Saturday the 9th inst., will come as a painful announcement to many florists and others throughout the United Kingdom, and, it might be added, in many parts of Europe and America also. For many years past he had been a conspicuous figure in the world of Floriculture. He was one of its kings, for he may be said to have governed the Floral world, and created many of its laws; more than that, he largely assisted to fill it with subjects, many of them of a very high order of merit, for hundreds of new flowers went out from Slough, during the time he was the proprietor of the Royal Nursery, that were so true and beautiful in expression as to make little worlds of their own, compelling homage, and bringing constantly into the ranks of courtiers many who never went out therefrom again. To how many have the beautiful flowers sent out from time to time come as a revelation of a new order of beauty, inspiring them with a desire to become better acquainted with them, to grow them, and make them objects of absorbing interest, and thus develop one of the pleasantest and most absorbing recreations that can refresh the body aud soul of man? Ah! who can say? But to-day they mourn the loss of him to whom they owe so much.

For something like fifty-four years Charles Turner was actively engaged in the profession of a florist. He was born a florist; the gift of floral genius was in the child, and budded and blossomed into rich fruition in the man. He was born at Wilton, near Salisbury, "just at that season which we florists love so dearly, when all things are bursting into life and loveliness, blossom and bloom, on May 3rd, in the year 1818," so he died a very few days after completing his sixty-seventh year. It was not until within the last five or six years that he really looked his age, for, as the Rev. Canon Hole has stated, "the garden life is the youngest, freshest life of all, and the heart which loves flowers, rightly and reverently, enjoys a perpetual spring." At the time of Charles Turner's boyhood the Pink was one of the most popular of florists' flowers, and the lad took up the culture of the subject, and "in 1832 he won his first prize. One fancies," says Canon Hole, "how some of the older competitors would grin derisively at the stripling of fourteen years, as he entered the show-room with his box, but it was Goliath despising David, and we should liked to have seen Master Charley's face as he went home to tell the news that day—the proudest aud happiest boy in England. This early success confirmed for ever his floral bias, united him to his first love in bands never to be broken, aud finally decided his vocation in life. From that day of victory he was never so happy as when in his garden. The jockey had won his first race, and the world was a dreary wilderness except when viewed from the saddle. His parents kindly conformed to his ardent desire, and, in 1834, when his enthusiasm had mounted to "fever heat," on his

again winning the first prize for Pinks, and also the second for Dahlias, he was apprenticed to a nurseryman at Salisbury. Here his precocious talent grew and throve as rapidly, but withal as robustly, as one of his show Pelargoniums. His master was an invalid, and many things were entrusted to his supervision which are usually cared for by the owner himself, and which, perhaps, no other youth in existence would have successfully undertaken, as he did. In 1835 he went to Bath with Dahlias, and brought home a £12 and £8 cup.

"He went from Salisbury to the nurseries of Messrs. Cormack, New Cross, Surrey, and thence to the Messrs. Brown, at Slough, at the nursery to the proprietorship of which he ultimately succeeded." But previous to doing this he went into business for himself at Chalvey, near Slough, and then, when the Messrs. Brown vacated what is now the Royal Nursery, he removed there, and since that time the years have been to him as one long career as a victor—wherever he went victory went with him, and as he gradually extended his ambitions, so did honour always reward enterprise. "He tried no branch of floriculture without improving it; he aspired to no prizes which he did not obtain. In 1840 he won a £20 cup at Cambridge, and a £25 cup at Norwich; and in 1841 three £20 cups in one week; namely, at Tamworth, Warwick, and Halstead, for Dahlias, which were then the favourite flowers for exhibition. From 1832 to 1848 the number of prizes awarded to him was 498, and since that date no account has been kept."

And while winning triumphs as a successful exhibitor of Dahlias, his business grew rapidly. Those who knew the Royal Nursery of thirty years ago, and can compare the extent of glass seen there to-day to what it was then, can fully understand what its growth has been. Look at the number of subjects grown for exhibition—Pinks, Carnations, Picotees, Dahlias, Auriculas, Cinerarias, Pansies, Azaleas, Pelargoniums, Roses, and others, have all been brought out at Slough in the best character. No chronicles of a king, ancient or modern, can set forth such a series of triumphs. He sent out new Pelargoniums raised by Hoyle, Foster, Matthews, Brehaut, and himself; Carnations, Picotees, and Pinks raised by the best seedling producers of the day; Dahlias by Fellowes and others too numerous to mention; Auriculas, especially Alpines of his own raising; and what specimen Azaleas he produced from time to time let the records of the exhibitions at South Kensington, the Royal Botanic Society, and the Crystal Palace testify.

Those who saw the great International Horticultural Exhibition of 1866 will remember that the Slough Azaleas were one of the leading features of that great and never-to-be-forgotten show. What Roses too! and what a sensation such splendid productions always created. Such conspicuous successes as fell to his lot fully justifies this eulogium once passed upon him—"Mr. Turner does not show his cards, but when he cares to play them upon the green cloth or baize of the exhibition table, no man deals more fairly, knows his game more thoroughly, holds more trumps, or scores the honours more frequently."

All matters and institutions affecting the politics of horticulture found in him a warm supporter. He was one of the founders and active sympathisers to the end of the old National Floricultural Society. He was a generous supporter of the Gardeners' Royal Benevolent Institution from 1849, and was the first man in the trade to send plants for the decoration of the room at the old London Tavern, on the occasion of the annual Festivals of the Institution. He was for many years an active member of the Floral Committee of the Royal Horticultural Society. He was one of the most active members of the Executive Committee of the International Horticultural Exhibition held in London in 1866; of the twenty-two members of that body, just one-half have passed away. The National Rose Society; the National Auricula and Carnation and Picotee Societies; the National Tulip Society of the past; the annual Dahlia Show at the Crystal Palace; the International Potato Exhibition; and the National Chrysanthemum Society, among others too numerous to mention, found in him a constant and faithful friend.

As a censor at flower shows, his services were in great request; and the close of his labours in this respect will be deeply regretted by many friends throughout the country.

More than twenty years ago, a dinner was given to the late Mr. Charles Kean, the eminent tragedian. On that occasion, it was resolved to invite a member of every trade and profession as far as it could be done. The nurserymen were represented by the late Mr. James Veitch, the florists by Mr. Charles Turner.

CHARLES TURNER.

BORN MAY 3, 1818. DIED MAY 9, 1885.

It is perhaps somewhat remarkable that one so well informed as Mr. Turner, in floricultural matters, should have written so little. He published pamphlets on the cultivation of the Pansy and the Dahlia, but it is believed they are out of print. He was essentially a man of action, and literary work never appeared to come to him as entirely congenial. In 1852 or thereabouts he succeeded to the superintendence of *The Florist and Gardening Miscellany* when this post was resigned by the late Mr. Edward Beck, carrying on the work till 1862, when it passed into other hands.

As a townsman he undertook a share of local work, and for some years was an active member of the Slough Local Board, and helped in this capacity the development of Slough from a village to a town of some importance in the county of Bucks.

Thus we bring to a close a somewhat imperfect sketch of a florist who more than any other of his contemporaries influenced the development of his favourite profession. He died in the midst of the subjects he loved so well. Some of the flowers in which he took so much interest fittingly covered his coffin as it was lowered into the silent grave on Wednesday afternoon. There we leave him, with a thousand regrets clustering about his tomb, and the tender memories of a large circle of attached friends. For the portrait which accompanies these lines, we are indebted to his friend, Mr. James Douglas.

AGATHEA CŒLESTIS.

This plant affords an illustration of an old plant becoming neglected and then suddenly rising into some importance. This is a time when Marguerites are fashionable, and so this flower has been named the Blue Marguerite, and this being a taking designation a considerable demand for the plant has resulted. It is an old plant, having been introduced from the Cape of Good Hope in 1756. The name Agathea is derived from *Agathos*, excellent, and the specific name, *cœlestis*, means heavenly, referring, no doubt, to the colour of the flower being similar to that of the sky. But a much more pretentious name has been given to it, namely, Flower of Heaven. There is no authority whatever for this designation, and it may be safely assumed that it is given to it simply to make it sell. It would appear that there is no known flower to which the term Flower of Heaven can be applied.

Mr. R. Folkard, in his book on *Plant Lore, Legends, and Lyrics*, states that, "under the names of Rain Tremella and Star Jelly is known a strange gelatinous substance of no precise form, but of a greenish hue, which creeps over gravelly soils and is found mixed up with wet mosses on rocks beside waterfalls; when moist it is soft and pulpy, but in dry weather it becomes thin, brittle, and black in colour. Linnæus called it Tremella nostoc, but it is now classed with the Algæ Glaiocladeæ under the name of Nostoc commune, a name first used by the alchemist Paracelsus, but the meaning of which is unknown." Such appears to be the best known account of what are termed Flowers of Heaven. "During the Middle Ages some extraordinary superstitions were afloat concerning this plant, which was called Cœlifolium, or Flowers of Heaven. By the alchemists it was considered a universal menstruum. The country people in Germany use it to make their hair grow. In England the country folk of many parts firmly believed it to be the remains of a falling star, for after a wet, stormy night these Flowers of Heaven will often be found growing where they were not to be seen the previous evening."

But the pretty Agathea is worth growing, for it is a very useful, half-hardy plant, adapted for summer bedding and for cutting purposes. It forms a neat, compact, evergreen shrub, producing pretty sky-blue flowers about the size of a shilling. One good thing about it is that it remains in flower for such a long time, and with careful management will bloom throughout the winter in a warm greenhouse. Thirty years or so ago a variegated form of it was sent out as a bedding plant, but it failed to realize the expectations formed of it. I wonder if it is yet in cultivation.—*R. D.*

Jamaica Ferns.—Jamaica, as is well known, is particularly rich in Ferns. Although the island is comparatively so small, it contains about 500 species of Ferns, which is one-sixth of the Ferns of the whole world. To express its richness in another form, it is mentioned in the last report of the Botanic Gardens of Jamaica that within an area about the size of Wales, Jamaica contains twelve times the number of Ferns found in the British Islands, and more than ten times the number of Ferns found in the whole of the United States.—*Gardeners' Chronicle.*

FRUITS.

Fruit Culture under Glass.—Figs: Houses in which the fruits are either ripe or approaching maturity, should be ventilated freely during favourable weather, and a somewhat dry atmosphere should be aimed at to insure high flavour. As soon as the fruit has been gathered, give the trees a good soaking of clear water at the roots, and a good washing overhead with the syringe, and keep the house rather warmer, and the atmosphere more moist, to encourage a second crop of fruit to swell. The trees in successional houses should have occasional waterings of tepid liquid manure at the roots, and should be syringed overhead morning and afternoon with clear tepid water, as much with a view to keeping the foliage free from the attacks of red-spider as promoting a genial atmosphere in the house. Pinch the points out of young shoots as soon as they have obtained to a length of 18 ins. or 20 ins., to encourage thereon the formation of young fruit as well as a balance of growth on the individual trees.

Peaches in the early house can, if desired, be pushed on rapidly by closing the house sufficiently early in the afternoons of bright sunny days to run the temperature up to 90 degs. or 95 degs., with plenty of atmospheric moisture, providing the trees are sufficiently moist at the roots, and that they are otherwise in good condition. The trees in successional houses should also be syringed well overhead morning and afternoon, and be kept well supplied with water at the roots. It will not be advisable to give liquid manure to the roots until the fruits have stoned, after which critical period is over it may be applied copiously with great advantage to the trees, which will swell larger fruit in consequence.

Long-keeping Grapes.—These include Muscat of Alexandria, Gros Colmar, Black Alicante, Mrs. Pince's Black Muscat, Gros Guillaume, Lady Downes, and Gros Maroc, and they should all have the berries thinned well out in the bunches, as much with a view to securing large berries as insuring their keeping qualities, by reason of the berries being less close together in the bunch, and therefore less liable to suffer through damp and friction of the berries as bunches not so thinned would be.—*H. W. Ward, Longford Castle.*

A Good Late Apple, Lodgemore Nonpareil.—A very interesting correspondence has lately taken place in the columns of *The Field*, respecting the flavour of late Apples. As the result of some unfavourable comments by the Editor on the poor quality generally of the sorts of Apples sent to market after Christmas, he has been favoured with specimens of a number of varieties, more or less esteemed for their good flavour by those who sent them, but only one of them has really reached his standard of excellence. This is the Lodgemore Nonpareil, or Clissold's Seedling, concerning which the sender writes:—"There is no excuse for there not being a supply of this Apple in London, or anywhere else. It is a regular every year bearer, but never of a very large crop. It is also a healthy tree, having the peculiarity that it is quite a month behind all the others (with one exception) in putting forth leaf and bloom. It looks like a birch broom, and is often pointed out as dead when all the other kinds are green. I believe this to be the best of all the Nonpareils to grow, though I am not sure that it quite equals the real old Nonpareil for richness; yet it certainly is a kind to save seedlings from, and one from which to take pollen for artificial impregnation." The fruits are described as small, but well formed, with a truly refined and high flavour—"the best Apple," remarks the Editor, "yet sent to us late in the year." Dr. Hogg describes its season as being from February to June, and states that it was raised at Lodgemore, near Stroud, Gloucestershire, by Mr. Cook, about the year 1808. Judging from the fact that only eight dishes of it were shown at the Apple Congress, and that it does not appear in any of the lists of varieties selected by the exhibitors, the Lodgemore Nonpareil is not much known or not so much appreciated as its merits appear to deserve.

RORAIMA, A MOUNTAIN OF BRITISH GUIANA.

The following are a few extracts from a paper read by Mr. H. J. Perkin—who accompanied Mr. Im Thurn in his successful ascent of this hitherto unexplored mountain—before the Royal Geographical Society:—

"The north-east and west sides of Roraima are forest covered, but on the south and south-west it is for the most part devoid of trees until a height of 5,890 ft. is reached, and from here up to the cliff-face the slope becomes far more steep and is covered by a thick dense undergrowth; there are very few large trees, and even they are small when compared with the giant vegetation of the forests we had passed through."

"At about 5,600 ft. we found a large piece of swampy ground filled with most exquisite varieties of Orchids and Ferns, and also the Utricularia Humboldtii, which grows to greater perfection here than on the Kaieteur savannah. Here, also, we found the Heliamphora, or pitcher-plant, whose cup-shaped leaves were full of water; it bears a delicate white flower without smell."

"On the 10th, with Mr. Siede, we went up a path cut by a Mr. Whitely, in 1883, to the face of the cliff, and on our way, at 6,410 ft., found a lovely flowering plant, the Leiothamnus Elizabethæ, of Schomburgk; it has deep carmine star-shaped flowers, with a white star centre, the points of which radiate down the petals. At 6,841 ft., we rediscovered another exquisite flower, first found by Richard Schomburgk, an Utricularia, with a large deep crimson blossom. The plant grows on the branches of trees, and is about 2 ins. to 3 ins. in height; the bloom completely hides the stalk, and is about 1¼ in. long, by ½ in. wide; sometimes there are two flowers on the same plant, but usually only one. The appearance of one of these bright blossoms on the sombre tree-branches has a most peculiar effect, and one's admiration is divided between the brightness of the flower and the wonderful energy of the tiny plant that produces it. Pursuing our way we reached the cliff at twelve o'clock, nearly three hours from the start, the way being extremely rough and steep, over roots and trunks of trees and bare rocks; at times we could hear water running among the stones under our feet.

"There are no trees of any very great size growing on that portion of the mountain, but the varieties of Ferns are very numerous and beautiful, varying from small filmy to tall tree ferns, some 20 ft. to 30 ft. in height; but the plant that seemed to awaken for the time as much interest with us as any other, was the Rubus Schomburgkii, or Roraima Blackberry, which greatly resembles the English Bramble; we gathered several branches of the fruit, which possibly does get sweet, but none of those we obtained were at all eatable."

After describing how the explorers passed the waterfall, getting thoroughly drenched, Mr. Perkin goes on:—

"From this fall to the top the last portion of the ledge slopes at an angle of 30 degs., and is in places quite twenty or more yards in width; it is covered by a dense growth of moss, and in spots tall coarse grass, which gives way here and there to flowering plants and small shrubs. Of the flowers, one in particular, a species of Heath, took our fancy by its dark pink blossoms of six petals, about the size of a halfpenny, which lay in quantities along our path.

"So occupied were we in securing each new treasure, that we had almost gained the top before being aware of it, for near the summit the ledge loses its steepness and is, so to speak, merged into the top itself.

"A curious sight met our eager gaze as we passed the boundary line of the unknown; on all sides were grouped rocks of every shape unimaginable, weird, strange, and fantastic, first a row of huge oblong stones that looked like rude cannon placed there to guard the approach; further on another rock like a giant's umbrella on a short thick stem of about 4 ft. or 5 ft. in height, and others like miniature castles and ruins of old churches, leaning so much that had they not been solidly connected with portions of the enormous sandstone bed, they would have fallen. We saw no lake, however, but several pools of water here and there. The vegetation on the summit was extremely scanty and insignificant. There being no trees, only small bushes from 3 ft. to 6 ft. in height, growing at long intervals, and, with the exception of a few scrubby Orchids, two species of thick-leaved Ferns, and a variety of the red Utricularia from below, there was no other plant there, owing, no doubt, to the absence of soil; for it is not possible for earth to collect on the summit, as it would be almost immediately carried over by the rain-water, which finds its way over the edge of the enormous cliff soon after it has fallen in most splendid waterfalls, some of which have a clear fall of 1,500 ft."

FLOWERS.

Work in the Plant-houses.—Ferns: These will require to be gone through now, and many of them potted on into larger pots. In preparing the compost for any of the free-growing sorts of Pteris, a little artificial manure may be used with advantage; or where the plants are not to be potted on, a slight sprinkle on the surface of the soil may be applied if the pots are well filled with roots. Adiantum cuneatum should be grown where it can be well exposed, and if the watering is properly attended to it will only require a slight shading when the sun is very bright. If grown where it can be well exposed, and the size of the pots is limited, the fronds will not only be harder and stand better after they are cut, but will be of that pale green shade which is now considered so desirable.

Palms.—Although many species of Palms will grow in a low or intermediate temperature, and will stand a great amount of exposure to the sun, yet almost all of them that are to be grown on for decoration will make better plants for the purpose if grown on in a high temperature and kept well shaded, as under such treatment the leaves will become more elongated, thus giving the plants a more graceful appearance. Palms may be grown to a great size in comparatively small pots; in fact, we think that over-potting, and too much water at the root, is often the cause of failure in Palm-growing. A moist, humid atmosphere must be maintained; and the plants should be supplied with manure in some form or other from time to time; either liquid manure may be used, or any of the artificial fertilizers will be found very efficacious.

As a liquid manure for Palms we like that made from cow-dung and soot, and Standen's manure is one of the best artificial manures for the purpose. For syringing, pure rain-water should aways be used if procurable. Water that contains chalk should be avoided, as after frequent syringing this will leave a whitish deposit on the surface of the leaves, which will be very difficult to wash off. In selecting Palms for decoration care should be taken to use only those that have their leaves well developed, as those with young leaves will not only be more liable to get damaged, but the undeveloped leaves will not grow away again after being exposed.

Marguerites.—Of all the forms of Chrysanthemums that we term Marguerites, I think the very best is the old frutescens; the foliage is so elegantly cut, it is so free, and so easily managed. What an immense number of flowers a good-sized plant will supply! I have one in a 24-sized pot in my greenhouse, in the full glare of the sun, and I keep it standing in a pan of water. It is said by some not to be such a vigorous grower as some of the other forms, but in good soil and well tended it grows fairly vigorously and blooms abundantly. You can cut at a time nearly or quite fifty flowers, and others soon take their place. Halleri major and Halleri maxima are two forms of a vigorous growing type producing white flowers, both very free and of great value for cutting from; maxima is regarded as one of the finest of the group, the flowers being large and of the purest whiteness. Madame Farfoullion is a very dwarf and compact-growing variety, the flower pure white, and it is very useful for bedding purposes. Then there is what is known as the Hair-leaved Marguerite, C. pinnatifidum, so fine is the foliage; the flowers are pure white, and the plant has a very neat and graceful appearance. There are two yellow

varieties, viz., Comte de Chambord, the flowers yellow, small, but perfect in form, and freely produced; and Etoile d'Or, a very fine decorative plant, invaluable alike for pots and for summer bedding, the habit free and yet neat, and the shoots produce an abundance of soft yellow flowers. Do gardeners sufficiently realize the value of some of these Marguerites for summer bedding purposes? We occasionally meet with them, and when seen they are always objects of great decorative beauty, when managed well. As far as pot culture is concerned, I grow mine in a good loam, leaf-mould, and a generous supply of rotten cow-dung.—*R. D.*

Primula auriculæflora.—Amongst the many varieties of the Primrose family, there are few that can excel this sort for usefulness and effect in late spring bedding. The rich maroon and golden ground colours stand out so clear and distinct, whether planted singly among varieties of Polyanthus or used as an inner line or mass with an edging of the common Primrose. In this latter conjunction I think it has a remarkably telling effect, but I believe it is rather scarce, or at least not grown in such quantities as it deserves to be. Although not a first-rate flower from a florist's point of view, it is well worth growing by anyone requiring good spring-flowering plants.—*R. Stevens, Paston.*

Yellow Self Pansy, George Rudd.—I think this is in all probability the finest yellow Pansy yet raised. The flowers are large, stout, finely formed, smooth, and of a pale bright yellow colour, with a large and well-defined black blotch. It is an excellent grower, and very free of bloom; plants in pots and in the open air are alike finely in flower. I do not know who is the raiser of it, but I think the late Henry Hooper, of Bath.—*Quo.*

Single Dahlia, Paragon.—I wonder who raised this singularly distinct single Dahlia? It must be very old, for it was to be found in catalogues half a century ago. The wonder is that it was preserved so long, and it in all probability found a safe home in some botanical garden until it was unearthed a few years ago. I have seen seedlings of much the same character, but nothing so good as Paragon.—*Quo.*

Deutzia gracilis.—I much disapprove of the practice of some gardeners of placing their plants of Deutzias in the open air directly they have done flowering. It is a much better plan to keep the plants in a warm house until they have matured their growth of the current season, and then they may be placed out-of-doors to ripen the wood.—*D. E.*

VEGETABLES.

The Kitchen Gardener's Calendar.—Transplanting: Young plants of Broccoli, &c., should be pricked out in nursery beds, as soon as they are large enough to handle—at all events, before the plants become crowded in the seed-beds—preparatory to being finally planted out. The plants should be allowed sufficient room to develop themselves during the time they are intended to occupy the nursery beds. This is a procedure that deserves more practical attention and adoption than it always receives, for it not unfrequently happens that seedling Broccoli, Cauliflower, &c., are allowed to grow closely together in seed-beds until they are required for finally planting out; and under these circumstances, the plants, instead of making a stocky and consolidated growth, become lanky and weak.

General Work.—Early Peas, which are now podding, will be benefited by having an occasional soaking of weak liquid manure. Thin out successional sowings of Turnips and Spinach to 6 ins. or 9 ins. in the rows, and clear the ground of the winter crop of Spinach as soon as the spring-sown produce is fit for use, and get the ground manured and dug for other crops. Late plantings of Cauliflowers, Potatos, Brussels Sprouts, &c., will require attention in the way of earthing-up. Look over the crop of autumn-sown Onions, pinch the tops out of those showing a disposition to run, and bend the stems of the others (earliest sowing), not only with a view to reduce the chances of their running to seed, but to hasten the development of the bulbs. Use the Dutch-hoe freely among young crops, and let cleanliness and neatness, in addition to judicious cropping, be the order of the day.

Seed Sowing and Planting.—Continue to make small sowings and plantings of Cos and Cabbage Lettuces at short intervals, so as to maintain a regular succession of the same. Make another sowing of some approved variety of Cabbage (Carter's Heartwell Marrow and Wheeler's Imperial are two good varieties) to come in for autumn and winter use. Another sowing of Nantes Horn Carrot for drawing from, and Early Ulm and Dwarf Curled Savoys, and Early Snowball Turnip, should also be made. Plant out Cauliflower and Cabbage plants, including the Red Dutch Cabbage, in drills 3 ins. deep, 2 ft. asunder, and the same distance from plant to plant in the rows, and in quantity according to the demand. If transplanted during showery weather they will experience very little check.

Forcing Department.—Tomato plants in pots have ripened their fruits early and well this season. From the time the fruits set and the plants had been shifted into their fruiting pots, and the roots had pushed freely into the new soil, they have had frequent applications of tepid liquid manure at the roots, which, in addition to the shoots having been kept well stopped above each cluster of flowers on growths resulting from previous stoppings, and the large compound leaves well pinched, has enabled the plants to swell good crops of well-coloured fruit for plants growing under the shade of Vines. Successional plants should receive a like treatment to that here indicated.—*H. W. Ward.*

Out-door Mushroom Culture.—Having had a considerable amount of experience in the cultivation of Mushrooms, I send you a few remarks on the subject, for the benefit of those who may be only beginners. Many I know imagine that Mushrooms cannot be grown in the open air in winter, but my experience proves that they can—thanks to the practical hints published by your correspondent, Mr. Gilbert, of Burghley. I have a bed that was spawned on the 1st of September last, from which we have been gathering from November to the present time, notwithstanding that on several occasions in December we had to uncover the bed while the thermometer was down almost to freezing-point. We have a good mushroom-house, but the out-door buttons are the most appreciated at the table. A fortnight ago we thought our old bed was exhausted, and being able to let it alone for a time, we gave it a good watering with water heated to 80 degs., and now it is yielding a fine crop again. Another bed made in December is also showing a grand crop. This was made up of horse-droppings and leaf-soil in equal proportions, our idea in using the leaf-soil being to get the bed more quickly into a fit state for spawning. Many growers advise that the beds should be spawned when the temperature of the bed is at 70 degs., but I like to do it at 80 degs. or 90 degs., providing that the heat gradually declines from these figures. I attribute most of our failures to spawning the beds when too cool. I think it only fair to say that our spawn was supplied by Messrs. Cutbush, of Highgate, and Messrs. Vilmorin, of Paris.—*J. Spreckley, Worplesden, Guildford.*

Asparagus Culture.—I am an old practitioner, and in the cultivation of Asparagus I am deeply interested. When my employer comes round the garden about the time when the "grass" is on the start, I listen for the oft-repeated question, "Well, Loose, will you have any Asparagus as thick as my stick for me this year?" He knows that I never promise him anything I think or know I cannot accomplish, so I have replied again and again, "I hope it will be good." There is no denying it, that gentlemen—and ladies too—like large, thick Asparagus. They do not like thin heads, and my employer likes it blanched as well as large; and if any is sent to his table green, Loose will hear of it. But how to cultivate Asparagus is the subject now at issue. Beds have to be made every year to succeed those taken up for forcing, though if I could persuade my employer to put some hot-water pipes around certain of our beds this would in a large degree prevent the annual lifting of plants that have to go to the rubbish-heap after being forced in a frame. I made beds years ago, and sowed the seeds at equal distances apart in rows 1 ft. asunder, thinking that I could thin out the plants to a single one, and that by so doing the young plants would not receive any check, and would be fit to cut sooner than would be the case if transplanted. But I was deceived, and I do not practice this mode of culture now, for the reason that we cannot thin the young seedlings. They will not be pulled out, and consequently, instead of one plant having its allotted space to develop itself, there are several plants all throwing up thin "grass," with each crown struggling for the mastery, and the result is a failure. Afterwards I took to the plan of buying plants, either one or two years old, and planting them in beds that had been well prepared by having a good application of rotten manure, planting in rows 18 ins. apart and 1 ft. asunder in the rows. But this is too close, and we now plant 18 ins. from plant to plant, and the same from row to row. I like the bed system better than planting on the level, for this reason, that if beds are formed 4 ft. 6 ins. wide to hold three rows of plants 18 ins. apart every way, and the alleys or paths 6 ins. lower than the bed, there is a good deal of trampling up and down the sides of the beds to cut and clean the surface of the ground, and the paths save the trampling of the roots, and if the beds are higher than the alleys the warmth of the April sun permeates the bed, and is conducive to earliness. I have bought plants of the Reading Giant, and of Connover's Colossal, but as they grow in beds side by side I cannot see any difference between them. For blanching the "grass" we use small drain-pipes, which are placed over the largest heads when we see them peering through the earth, and nearly three parts filled with sifted soil, which we keep in a dry shed for the purpose. This blanching business causes a lot of trampling up and down the sides of the beds. Gardeners, as a rule, cannot make a speciality of everything, though everything is wanted perfect of its kind. No doubt, if the beds could be watered with liquid manure during a dry period they would be much benefited. We seldom water the beds, but we annually salt them in the spring, after the manure laid on in November has been forked in. When the cutting season is over, all thin "grass" should be pulled off the crowns, and the strong stems be encouraged to ripen off their growth well, for at the base of their stems are formed the buds that will produce the growth for the following year. We invariably now save our own seed in the autumn, place it in sand, and keep it until the following April; and the beds that were sown in the preceding spring we lift, pick out all the strongest plants, and plant, as I have before described, on beds very simply formed, by having as much manure as we can command worked in while deeply digging the ground. Beds so formed on our somewhat light soil take four years to come to maturity—that is, to produce "grass" as thick as one's thumb.—*T. Loose, May 9th.*

Asparagus.—This vegetable is held in so much repute, and so many gardeners experience a difficulty in growing it, that perhaps a short note on the plan which I have found to succeed best in meeting our wants may be acceptable to some of your readers. For several years I tried the system of buying plants, but always found them do so badly that I gave it up, and since then have grown our own supply. A bed is sown annually, the ground being trenched and well manured; in fact, being treated exactly as if intended for planting. Seed is sown at any time during the month of March, and as soon as strong enough the plants are thinned out to a regular distance of 1 ft. apart, and as the oldest bed is dug up as soon as another is ready to cut from, a distance of 15 ins. is quite sufficient between the rows. Three rows are sown in a bed, which is wide enough at 3 ft. 6 ins., as one can better reach the middle of it, and thereby avoid too near treading on the outside rows. From a bed sown in March, 1883, we are now cutting "grass" over ½ in. in diameter, the sort being the Purple Argenteuil. The only difference that I see between this and the older sorts is in its coming sooner into a bearing condition; I find it to be no earlier in season.—*R. Stevens, Paston.*

THE

Orchid Growers' Calendar.

Orchids at Kew.—Knowing no one at Kew Gardens, I have no one to praise or to blame there. I went there to look at the place, maintained at the expense of the public, and passed my opinion. I was not aware of the existence of Mr. Rolfe, and had no wish to reproach any official. Everyone knows that the officials cannot spend as much as they would like, and one must look higher before fixing the blame on any particular individual. However, Mr. Rolfe seems very angry, and challenges the accuracy of my statement, and I am bound to notice his "unofficial anger." I went to Kew on the afternoon of April 19th; there I was told to go to house No. 12 to find the Orchids. I entered house No. 12 (the number is written on the door), and in part of that house I found them: this part of the house may be called No. 14, but I certainly entered by door No. 12. I carefully noted down all that was in bloom, even when the flowers were nearly gone, and I positively saw only fifty-nine plants in bloom belonging to twenty-one genera. Mr. Rolfe on reading my letter, published fourteen days after my visit, says that he found more. I have no doubt he did, but they were not there on April 19th.

I was wrong in saying that *these* twenty-one genera were represented by one or two species, and my list shows it; I should have written "*most of these genera*." Mr. Rolfe tells me that there were 929 species of Orchids at Kew in 1882, and that now the number exceeds 1,000! I presume he is correct, but I did not see them. It appears they are in three other houses to which the "profanum vulgus" is not admitted. How could a visitor to the gardens know that? Let me assure Mr. Rolfe that I had no desire to mislead the Editor; I stated the facts, and I maintain every word I said. I am very fond of Orchids; I know something of them, and I have seen thousands of them, and I can but repeat that on leaving the house the word "rubbish" passed my lips. Go on April 19th of next year to the nurseries of Messrs. Veitch, Mr. Bull, or Mr. Williams, &c., and you will see a sight worth travelling for. The praises bestowed by some periodicals on the Kew Orchids tempted me to undertake the journey, and I was disappointed.

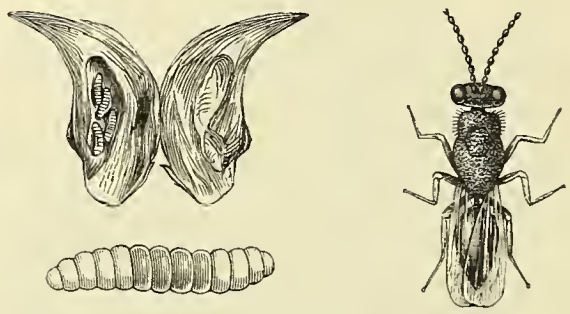
Your correspondent, Sir Charles Strickland, is not very polite in surmising that I have a vulgar taste, and I can assure him that he is mistaken. I can value little Orchids as well as large ones. I call a good Cattleya gigas, a good Vanda Sanderiana, &c., glorious flowers, but I like the Cirrhopetalum, Promenæa, Leptotes, Comparettia, Trichocentrum, &c. —they are very interesting little species. I have bloomed Cirrhopetalum picturatum with six spikes, a plant certainly more peculiar than Thouarsii, and I grow also fimbriatum, ornatissimum, and umbellatum of the same genus, and if next Spring Sir C. Strickland would like to see them in bloom, the Editor will no doubt tell him where to go. However, if Sir Charles always finds some interesting Orchids at Kew, perhaps he is privileged to enter the "sanctum," namely, the three other houses mentioned by Mr. Rolfe.—*A. F. L.*

The Cattleya Fly.—In 1883 I bought fifty plants of Dendrobium leucolophotum, just imported. They appeared to be alive, but none would start into growth. On examining them I discovered a number of little black spots on the whole length of the pseudo-bulbs. Splitting the bulbs longitudinally with a knife, I found out that the inside had been, and was being, eaten by a little grub, and the black spots were little apertures leading to the very centre. I even found some adult insects ready to emerge. It turned out to be a black weevil. Dendrobium undulatum, I found, had also been a great sufferer, but I could not discover the pest in any other variety.

The same year I bought several imported plants of Cattleya Eldorado. They grew weak and did not bloom. The following spring I observed that the eyes of these Cattleyas were very large, and growing almost spherical at the base. I was delighted at the prospect of strong bulbs. I was disappointed; the growths were small, and I had no bloom. Then I saw that other Cattleyas were following suit, but I was far from suspecting that any enemy was at work.

Several amateurs and a few nurserymen visited my collection, and I was simple enough to boast of the powerful growth of some of my Cattleyas. The amateurs opened their eyes, but the nurserymen smiled assent. Fortunately for me, Mr. Horsman, of Colchester, came to see my collection. He at once perceived these cono-spherical eyes, and made me aware that they contained some "grubs," by cutting one of them into two. He told me that Mr. Chamberlain had greatly suffered from them. I was told that the only remedy was to cut the growths and fumigate every fortnight so as to kill any fly coming out. I am sorry to say that I had to cut a hundred eyes. I have kept the pest under, but I have not yet succeeded in getting rid of it. This spring I have cut about a dozen injured plants. I send you the growth, containing the grub (sometimes one, sometimes three) and also the full-grown insect. It is very small, and as I never saw it before, I trust you may be able to identify the species. Perhaps some of your correspondents know more about it. I am glad to say that Cattleyas only were attacked; Lælias, Epidendrums, &c., seem safe.

This insect seems to be always at work and to ignore the seasons; spring, summer, winter make no difference. The fly deposits its eggs on the dormant eyes; they hatch, the grub gets in, eats the inside of the bulb when it starts into growth, and so on. There may be four generations in a year for what I know.—*A. F. L.*—[Mr. McLachlan, to whom proofs of the illustrations below were submitted, has kindly favoured us with the following note:—"There is, I think, no doubt your insect is the Isosoma orchidearum, of



ISOSOMA ORCHIDEARUM. MAGN. 7 DIAM.

which Prof. Westwood published a very long account, with figures, in *The Transactions of the Entomological Society of London*, 1882, p. 323. He also published some short notes on it in *The Gardeners' Chronicle*. There is some amount of mystery attached to it. The Isosoma belongs to a group of Hymenoptera, parasitic on the larvæ of other insects; but some maintain that in this case the habit is abandoned and that the Hymenoptera itself is the true cause of the damage. Since Prof. Westwood's paper was published, I have myself bred, from swellings on the roots of Cattleya, both the Isosoma and minute midges of the Dipterous family Cecidomyiidæ, hence I think it highly probable that Isosoma is really parasitic on the midge, and that it is the latter that does the damage. What was the colour of the larvæ figured? If reddish or orange, they are pretty sure to be those of the midge." The larvæ are not red, but pure white. We shall be obliged if any of our readers who have had experience of the enemy in question will tell us how far they have succeeded in exterminating it.—*Ed.*]

THE ORCHID CONFERENCE.

The promoters of the Orchid Show held at South Kensington on Tuesday last have much reason to congratulate themselves on the extent and beauty of the display, which, though disappointing in some particulars, was undoubtedly a fine one. We have no recollection of any Orchid Exhibition in this country of greater extent, or which included such a number of species and varieties as were brought together on this occasion. In this respect the display was unquestionably unique. With but few exceptions, however, the plants all ran on the small side, and, though it may be a vulgar taste, we cannot help expressing a sense of disappointment at the absence of those wonderful specimens from Lancashire and the North which in a week or two will doubtless figure conspicuously at Old Trafford. The absence of anything in the way of specimens above the ordinary run of the occupants of the Orchid-houses was one of the weak spots of the Exhibition. Another disappointing feature which was much commented upon was the comparatively poor show made by the large trade growers, who, with the exception, perhaps, of Messrs. Sander & Co., were very inadequately represented. It was an amateur's show, *par excellence*, and, as such, was a great success. We regret that the limited amount of space only that can be devoted to Orchids in our columns precludes the possibility of our giving anything like a detailed report, but we will endeavour to give in a brief form some idea of the extent and richness of this most interesting Exhibition.

Orchids in Flower.

The main stay of the Exhibition was undoubtedly the class for collections of Orchids in flower, to which no less than eighteen growers contributed. By far the largest groups very appropriately came from the President and Mr. Lee, but judged for quality and not for numbers, Baron Schroder's contribution was the most remarkable, comprising amongst others a fine piece of Cattaleya Skinneri nearly 3 ft. over. C. Skinneri alba, with six spikes; Cymbidium Lowianum, with six grand spikes; the lovely Lælia bella, with two fine blooms; three magnificent Odontoglossums, which were awarded First-Class Certificates, viz., O. crispum Veitchianum, the most beautiful form of all (figured by us at p. 37), with a spike of ten flowers; O. crispum Sanderianum, a grand and striking variety in the way of Veitchianum, but with large, dense blotches of rich rosy-red; and O. excellens, with broad sepals and petals, white, tipped with yellow. The new spotted Cypripedium Godefroyæ, and Maxillaria Sanderiana, a very distinct species, with large white and deep crimson blossoms, in the same collection, also received First-Class Certificates.

In the fine representative collection from Burford Lodge, the greatest novelty was a plant with two spikes of orange and red flowers of the rare and interesting Lüddemannia Pescatorei, to which a First-Class Certificate was awarded, and respecting which Professor Reicheubach sent a communication to the Conference. In Mr. Lee's grand group, the most remarkable plants were two enormous masses of Cattleya Skinneri, both about 4 ft. over, and imported in 1884, and now flowering in splendid style, with some two dozen spikes on each. Cattleya Mendeli Selborniensis, and a strong piece of Masdevallia Schlimii with five spikes, also claimed attention. A collection from Chatsworth, sent by the Duke of Devonshire, contained many good things, notably the Trentham and Chatsworth varieties of Cœlogyne cristata, and a fine plant of Renanthera coccinea, growing on a birch pole, and all showing that they have lost nothing in the hands of Mr. Owen Thomas. From S. Courtauld, Esq., Bocking Place, came a pretty little group, mainly of small Orchids, and rich especially in Masdevallias. H. M. Pollett, Esq., Bickley Park, and J. T. Peacock, Esq., Sudbury House, Hammersmith (Mr. Viccary, gardener), both had neat and interesting groups. Another pretty little collection was contributed by C. L. N. Ingram, Esq., Elstead House, Godalming (Mr. Bond, gardener). Other collections of great merit came from G. N. Wyatt, Esq., Lake House, Cheltenham (Mr. Simcoe, gardener); Mr. Cypher, of Cheltenham; Mr. Roberts, Gunnersbury; W. E. Brymer, Esq., M.P., Ilsington House, Dorchester (Mr. Powell, gardener); Mr. B. S. Williams, Holloway; A. H. Smee, Esq., The Grange Wallington (Mr. Cumming, gardener); J. Southgate, Esq., Selborne, Streatham (Mr. Salter, gardener); Messrs. Hugh Low & Co., Clapton; H. Little, Esq., Hillingdon Place (Mr. Hill, gardener); the Director of the Royal Gardens, Kew; J. C. Duke, Esq., The Glen, Lewisham, and Messrs. Sander and Co., who amongst other good things had some remarkably fine new white Cattleyas, four of which received First-Class Certificates, viz., C. Wagneriana, pure white, with lemon blotch in the centre; C. maxima peruviana, sepals and petals rosy-lilac, the lip rosy-purple, and prettily veined; C. speciossima Schroderiana, white, with a beautiful bright purple pencilling on the lip; and C. Bluntii, pure white,

with only a little lemon yellow on the wings of the labellum. The same firm had also a beautifully spotted variety of Odontoglossum Ruckerianum, named punctatissimum.

The second class was for species and varieties of Cattleya and Lælia, Odontoglossums, Masdevallias and Cypripedium. Of the first-named genera Messrs. F. Sander & Co. contributed the largest group, composed of C. Mossiæ and C. Mendeli, Lælia elegans and L. elegans prasiata, L. Schilleriana alba, &c. Good forms of C. Mossiæ and Mendeli also came from Mr. H. Little, and with one or two others, Mr. De B. Crawshay, Rosefield, Sevenoaks, had a C. gigas with five flowers on one spike. Of Odontoglossums, Messrs. Shuttleworth, Carder & Co., 191, Park Road, Clapham, had an exceedingly pretty group, well varied, and first class as regards the quality of the varieties, which included some fine natural hybrids. Messrs. Sander & Co. also staged a remarkable group of Odontoglossum hybrids, all different and all good. Nine species and varieties came from W. E. Brymer, Esq., M.P.; and from N. C. Cookson, Esq., Wylam-on-Tyne, came a very fine O. crispum, named Cooksoni, pure white ground, with large deep crimson spots and good broad sepals and petals. Of Cypripediums, Sir Trevor Lawrence contributed some twenty species, several of which were represented by exceedingly good specimens. Mr. Little also contributed a few.

The next class, which was for Oncidiums, Epidendrums, Dendrobiums, Vandas, Saccolabiums, Aerides, and Stanhopeas, brought out but a poor lot, the only exhibitors being Mr. Brymer and Mr. R. Whyte, Pentland House, Lee, and only a few plants were staged by each; but of single specimens there was a good display of interesting things, shown for the most part in a small state. The largest specimen shown was one of those immense examples of Dendrobium nobilis for which Chatsworth has been so long famous, the plant shown here being quite 4 ft. through about 2 ft. high in the centre, and well bloomed. Messrs. Sander & Co. showed in this section eight distinct varieties of Odontoglossum gloriosum, all distinct and showing a wide range of colour, size, and markings. From A. H. Adcock, Esq., West View Bank, Mount Adon Park, Lordship Lane, came a grand variety of Phalænopsis Luddemanniana, with good broad leaves, and exquisitely-coloured flowers, one of the finest forms we have seen. A very strong plant of Cymbidium Lowianum, with two spikes, one of them bearing thirty-two flowers, came from A. Borwick, Esq., Higham Hill, Walthamstow, who exhibited it to show the effects of Jensen's Fish-bone and Potash Manure, applied as a fertilizer. Mr. Princep, gardener to the Hon. Mrs. Portman, Buxted Park, Uckfield, sent another specimen of Dendrobium nobile, which had been grown on the pruning system, and a remarkable plant too for the number and quality of the flowers which it bore. A neat plant of Dendrobium cruentum came from B. D. Knox, Esq., Ardmillan, Caversham, Reading; and W. Cobb, Esq., Sylverdale Lodge, Sydenham, had Chysis bractescens with three spikes; the Rev. J. B. Norman, Edgware, Oncidium Kienastianum; Messrs. John Laing & Co., Forest Hill, a Cypripedium Lawrenciaum, with a second flower-bud on the same spike; W. Macdonald, Esq., Woodlands, Perth, a plant of Phalænopsis Stuartiana, with several young plants growing on its roots in the manner illustrated recently in these columns. R. Ewing, Esq., Burton Grange, Cheshunt, contributed the small white flower, Dendrobium Ffitchianum; and Messrs. Vervaet & Co., Mont St. Amand, Ghent, good forms of Odontoglossum Alexandriæ, Lælia Schroderi, &c.

Hybrid Orchids.

In this section, the President showed fine examples of Cypripediums, grande, lævigatum, Swanianum, Harrisianum, &c.; Masdevallias Veitchiana, Chelsoni, and amabilis, came from W. Vanner, Esq., Camden Wood, Chislehurst; Cattleya Mendeli and Od. Wilckeanum from F. A. Philbrick, Esq., Q.C Messrs. James Veitch & Sons staged fifteen distinct varieties, consisting of Aerides, Cypripediums, Chysis, and Masdevallia; and Mr. Bull had a fine Odontoglot of the Andersonianum type.

Orchids in Fruit.

A class for Orchids in fruit is an innovation, but an appropriate one for such an occasion as this. Solitary fruit-bearing plants are occasionally seen in public, but never before have we seen such a grand collection as that staged by Messrs. Veitch, and it may be some time before we see the like again. The species of Orchids bearing fruits in various stages of development that came from the Chelsea establishment was Angræcum sesquipedale, Dendrobium Findleyanum, Phalænopsis Schilleriana, Cattleya Trianæ, Vanda insignis, Chysis bractescens, Oncidium Forbesii, Cypripedium barbatum, Masdevallia Tovarensis, Lycaste Skinneri, Sophronitis grandiflora, Lælia anceps, and Cypripedium barbatum Warneri. Mr. A. H. Smee showed a plant of Lycaste Deppei, established and bloomed last summer in the open air, bearing one pod Lælia, albida, and Odontoglossum radiatum, the latter plant especially showing the exhausting effects which seed-bearing has on some plants. Returning more than once to Messrs. Veitch's group, one could but admire the dogged perseverance of Mr. Seden, which has led up to such a truly scientific display, and wonder how many then present would see the last plant flower that will be raised from the seeds obtained.

Cut-flowers.

This was not an extensive class—by no means so large a one as might reasonably have been anticipated, but it brought out some grand flowers from Scotland. Dr. Paterson, Bridge of Allan, sent three large Orchid pans, filled with sand and moss, and furnished with fine blooms of Odontoglossums, Oncidiums, Cymbidiums, Cattleyas, &c., some twenty-six species in all being represented. Messrs. Ireland & Thomson, Edinburgh, had an excellent representative collection, consisting of sixty-four species and varieties, and including all the leading genera. Messrs. W. Thomson & Sons, Clovenfords, contributed blooms of the leading varieties of Vanda tricolor and suavis, and, among other Odontoglossums, a superb variety of Pescatorei, named Thomsonianum. This is one of the prettiest forms of Pescatorei we have seen, the white ground being suffused or shaded with violet, and beautifully spotted with deep crimson. An excellent collection of spikes of various Odontoglots, beautifully staged in conjunction with Maiden-hair Ferns, came from W. Thomson, Esq., Walton Grange, Stone, and was much admired for its effective grouping.

Orchid Cultivating Requisites.

From the glowing colours of the Orchids it was a pleasant relief to get among the articles used in Orchid culture; and in this department it was abundantly shown that while in the manufacture of pots and pans, teak-wood baskets and rafts, &c., the march of improvement goes steadily on, we are worse off than ever for really good peat—the one thing of all others most necessary for the successful cultivation of these plants, but of which only a small quantity was here on exhibition. Mr. H. G. Smyth, 21, Goldsmith Street, had a good average sample on his stand, as also had Mr. John Kennard, Swan Place, Old Kent Road, and Mr. W. J. Epps, Ringwood Station, Hants, and both had excellent samples of sphagnum. Mr. Smyth had also a good display of such useful articles as Trug baskets, stakes and labels, raffia grass, tobacco rag, flower boxes for the Parcels Post, and those excellent cocoa-fibre scrubbing brushes which we are surprised are not more used by gardeners. Mr. Kennard showed an excellent sample of Orchid pans and pots, with and without perforated sides, teak baskets and rafts of a very neat and substantial character, an excellent sample of tiffany, zinc and terra-cotta labels, &c. Orchid baskets, rafts, and cylinders made of the best teak, and showing admirable workmanship in their construction, were exhibited in numbers by Mr. J. E. Bonny, Downs Park Road, Hackney; Mr. W. Gordon, Twickenham, and Mr. Sydney Williams, 21, Farringdon Road, E.C. Orchid baskets of maple wood, as well as very neatly made hanging pots and pans in earthenware, were shown by Mr. John Martin, Blockstow, Woodmancote; and of the famous Weston ware Mr. John Matthews had a large display of articles of a useful and ornamental character, all finished in a style that always claims admiration. The Liverpool Horticultural Company also showed some well-made earthenware Orchid pots and pans. To Messrs. Vervaet & Co., Mont St. Amand, Ghent, we are indebted for a display of substitutes for peat used by the Belgian growers—dressed and undressed roots of Polypodium vulgare, rotten wood from the heads of Willow-trees, &c—but which, in the presence of the genuine thing, failed to find any admirers.

Portraits of Orchids were a conspicuous feature, and lent much interest to the Exhibition. Mr. Henry Stevens, King Street, Covent Garden, sent five of those marvellously beautiful photographs of Odontoglossums, &c., for which he has become famous, and which it is needless to say were universally admired. Mr. Dominy, Chelsea, contributed eleven very fine portraits, mostly by Chandler, of hybrid Orchids raised by him in the Chelsea Nursery, including Cattleyas and Lælias, Dendrobes, Calanthe Veitchi, &c., and Nepenthes Dominiana, the first hybrid pitcher plant raised in this country. Miss Woolward, 74, Longridge Road, Earl's Court, sent several very fine paintings of Orchids, somewhat stiff, it is true, but with the floral details beautifully and faithfully rendered. Dr. Paterson also sent a couple of Orchid subjects, studies in his houses at Bridge of Allan, by Miss Shearer, Ben View, Stirling; and Mr. B. S. Williams showed an admirable series of illustrations from his *Orchid Album*.

The Conference Banquet.

On Tuesday evening about fifty gentlemen met at the Albion, Aldersgate Street, to celebrate the Conference with a banquet, under the presidency of Sir Trevor Lawrence, Bart., M.P., and a very enjoyable evening was spent by all present. The usual loyal toasts having been put from the chair, and responded to in the usual enthusiastic manner, Professor Michael Foster, in a humorous speech, proposed "The Orchid Conference and the Conference Committee," which, after some remarks of an historical and interesting character from Mr. James Bateman, was responded to by Mr. William Lee. Mr. Harry Veitch proposed "Horticulture," and in so doing alluded in feeling terms to the sad loss which horticulture had sustained by the death of Mr. Charles Turner, a man universally respected and not to be easily replaced. Mr. Veitch coupled with the toast the name of the President, whose health was drunk with musical honours, and who replied in suitable terms. "The Press" followed, proposed by the Hon. and Rev. J. T. Boscawen, and responded to by Dr. Hogg; and "The Visitors," proposed by Mr. Brymer, was responded to by Mr. Holbrook Gaskell.

The Conference.

Punctual at 10.30 a.m. on Wednesday, the Conference Committee, and a considerable number of amateur and professional Orchid-growers met in a room in the Albert Hall. Sir Trevor Lawrence, who presided, opened the proceedings with an address in which he dwelt on many topics of interest to Orchidologists, and then read some observations on the proliferous roots of Orchids, and on Lüddemannia Pescatorei, communicated by Prof. Reichenbach. Mr. Harry Veitch next read his paper on "The Hybridization of Orchids," which proved of a singularly interesting character, and which, with Prof. Reichenbach's paper, we hope to be able to publish shortly. The President next announced that the three Gold Medals given by the Trustees of the Veitch Memorial Fund had been awarded to that most distinguished authority on Orchids—Prof. Reichenbach; to the Rev. Mr. Parish, than whom no man not in the trade had been more successful in collecting Orchids; and to Mr Seden for the remarkable success he has achieved in the raising of Orchid hybrids. Mr. Bateman proposed and Mr. Day seconded, a vote of thanks to Mr. Veitch for his paper, and in acknowledging the same, Mr. Veitch remarked that nothing had given him greater pleasure than that one of the medals which commemorated the memory of his father should have been awarded to Mr. Seden, who for twenty-five years had rendered his firm faithful and valuable service. Mr. James O'Brien next read a paper on "The Cultivation of Orchids," a portion of which will be found in our present issue. The meeting then adjourned for one hour; and on its resumption a brief discussion took place on the question of the nomenclature of Orchids, and on the application of manure to Orchids, in which Mr. Borwick, Mr. J. James, and Mr. Heath, Cheltenham, took part, and a hearty vote of thanks to Mr. Lee, who was in the chair, brought the proceedings to a close.

ANSWERS TO CORRESPONDENTS.

Names of Plants.—*J. M.*—1. Cerasus vulgaris flore-pleno. 2. Prunus Padus, the Bird Cherry. 3. Kerria japonica, commonly called Corchorus japonica. 4. An Anemone without flowers. 5. Not recognized. 6. Specimen insufficient.—*J. McP.*—1. Appears to be a Rhamnus, but we have failed to identify the species.—*W. D. Marks.*—1. Oncidium unicorne; 2. Oncidium pulvinatum.—*G. E. P.*—Lycaste Harrisoniæ.—*A. Chalmers.*—1, 2, and 3. Good varieties of Cattleya Mossiæ; 2 and 3 the best. 4. Dendrobium aggregatum.—*W. Smith.*—1. Pyrus Malus. 2. Iris Germanica var. 3. Acer polymorphum. 4. Alchemilla sp. 5. Not recognized, specimen insufficient. 6. The White Woodruff, Asperula odorata.

Asparagus.—*Novice.*—We do not know of anything you can do now beyond blanching in small drain-pipes, as mentioned by a correspondent on p. 587. The sea-weed dressing was too much even for such a salt-loving plant as the Asparagus. It would have been better had you cleared it all off in April.

Fungus.—*W. Sills.*—The fungus sent is the true Morel, Morchella esculenta, and the bothy woman is quite correct in saying that it is esteemed a great delicacy. It is used by cooks in either a fresh or a dry state for flavouring soups and gravies.

A Vote for the Bothy.—*W. Sills.*—Not being quite sure whether either the foreman or any of the journeymen living in a bothy can claim a vote under the new Act, we put the question to Mr. W. S. Caine, M.P., who kindly replies—"The general impression is that your 'bothy friends' cannot qualify, but it is a point for the decision of a revising barrister." Our advice, therefore, is that all persons who have inhabited bothies since July 1st, 1884, and who are above twenty-one years of age, should apply to be put upon the register. They can do this through the agents of the respective political parties. Under the Service Clause of the Franchise Bill they can no doubt make out a good case, but, as Mr. Caine states, so much depends upon the revising barrister.

Communications Received.—A. H. K.—H. T.—W. T., jun., many thanks.—M. D.—M. T.—W. B. G.—R. B.—J. D.—R. Markland.—E. R. C.—R. D.

Trade Catalogues Received.

William Bull, 536, King's Road, Chelsea, S.W.—New, Beautiful, and Rare Plants.

W. E. Boyce, F.R.H.S., 87, Yerbury Road, Upper Holloway.—Descriptive Catalogue of Choice Fuchsias, with Cultural Directions.

LONDON SEED TRADE.

May 14th, 1885.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report the demand for Agricultural Seeds to be gradually falling off, and with the exception of some backward northern districts the sowing season may be regarded as past. Stocks of Clovers on hand, which appear to be generally small, are held for full rates, and speculators do not feel inclined to operate, consequently very little business is now being done. Supplies from Continental sources are still being offered, and should these have to be realized, it is doubtful whether present values will be maintained, although the tone of the market is now very firm. Perennial Rye Grass still in demand, with an upward tendency in values for the heavier weights. Rape and Mustard are meeting with more general inquiry. Linseed and Bird Seeds slow at last week's prices.

COVENT GARDEN MARKET.

May 14th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6- 6 0	Pine-apples, Eug., lb.	1 0- 2 0
— Nova Scotian, per barrel	15 0-21 0	—St. Michaels, each	3 0- 7 0
Grapes, New, per lb.	4 0- 7 0	Kent Filberts and Cobs, per 100 lb.	-
Melons, each	2 0- 3 6	Strawberries, per lb.	1 6- 5 0
Peaches, per doz.	21 0-		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Asparagus, English, per bundle	8 0	Horse Radish, bundle	3 0- 5 0
Beans, French, per lb.	- 2 6	Lettuces, Cabbage, per dozen	2 0-
Beet, per dozen	2 0- 3 0	— Cos, each	0 6-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	-
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lily of the Valley, French, per bunch	0 9- 1 6
Anemone, 12 bun.	2 0- 4 0	Marguerites, 12 bun.	3 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Narcissus, various, doz. bun.	2 0- 6 0
Azalea, 12 sprays	0 6- 1 0	Pelargoniums, per 12 sprays	0 9- 1 0
Bourvardias, per bun.	0 9- 1 6	—scarlet, per 12 sprays	0 4- 0 6
Camellias, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 0- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun.	-
— large, 12 blooms	-	Pyrethrum, 12 bun.	-
Cyclamen, doz. blooms	2 0- 4 0	Rhodanthe, 12 bun.	6 0- 9 0
Cineraria, per bunch	0 6- 1 0	Roses (coloured)	2 0- 6 0
Epiphyllums, 12 blms.	-	Roses, indoors, p. doz.	1 0- 3 0
Eucharis, per dozen	3 0- 6 0	Roses (French), per doz.	0 6- 0 9
Gardenias, 12 blms.	1 0- 4 0	Spiræa, 12 bun.	6 0- 9 0
Heliotropes, 12 sprays	0 6- 1 0	Stephanotis, 12 spr.	2 6- 4 0
Hyacinths, Roman, doz. sprays	-	Tuberoses, per dozen	1 0- 1 6
Lapageria, white, 12 blooms	2 0- 3 0	Tulips, per doz.	0 3- 0 5
Lapageria, red, 12 blms.	1 0- 2 0	Violets, doz. bun.	0 4- 0 9
Lilium candidum, 12 blooms	2 0- 3 0	— French, per. bun.	-
— Longiflorum, 12 blooms	4 0- 8 0	— Parma, per. bun.	3 0- 4 0
Lily of the Valley, doz. sprays	0 6- 1 6	White Jasmine, bun.	0 6- 1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Foliage Plants, various, each	2 0-10 0
Arum Lilies, per doz.	9 0-18 0	Genista, per dozen	6 0- 9 0
Azalea, per doz.	18 0-42 0	Heaths or Erica, var., per doz.	12 0-42 0
Begonias, per dozen	4 0-12 0	Hyacinths, doz.	-
Bouvardias, dozen	9 0-18 0	Hydrangea, per doz.	9 0-18 0
Calceolarias, per doz.	6 0- 9 0	Lilium, various, per doz.	-
Cineraria, per dozen	6 0-12 0	Lobelias, per doz.	4 0- 6 0
Cockscombs, dozen	-	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargonium, per doz.	9 0-21 0
Deutzia, per dozen	-	Pelargoniums, scarlet per dozen	3 0- 9 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	6 0- 9 0
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	-	Rhodanthe, per doz.	6 0-12 0
Evergreens, in var., per dozen	6 0-24 0	Spiræa, per dozen	12 0-18 0
Ferns, in var., dozen	4 0-18 0	Tropæolums, per doz.	4 0- 6 0
Ficus elastica, each	1 6- 7 0		
Fuchsias, per doz.	6 0-12 0		

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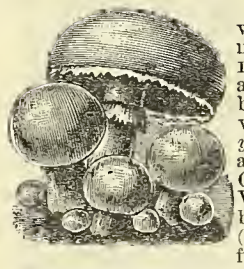

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N.B.—The above sent carriage free. Dozens may be divided at the same price, but no order for less than 1s. sent free.

Asters, Stocks, Phlox-Drummondii, Zinnias, Golden Feather, Everlastings, Marigolds, &c., &c., of the best-known varieties, to be had in season.

NOTICE.—Please mention this Paper when ordering. Post Office Orders payable at **Whittlesea.** Cheques crossed "National Provincial Bank."

STEVENS & CO.'S
AMORTISER
(NON-POISONOUS).

1s., 2s., and 3s. per Bottle.

Observe the Company's Signature round the Cork, without which none are genuine.

BEWARE OF SPURIOUS IMITATIONS.

THE AMORTISER we particularly recommend for Greenhouses, it being so pleasant for use and for its perfume. Its properties for destroying insect pests, &c., is equal to our Carbon Paste. We guarantee, if used as per directions, it will not injure the most delicate foliage or blooms any more than water.

P.S.—We highly recommend "BRAY'S" Spray for light work; it is a cork spray and will fit any bottle. It sends a very fine spray about 4 feet, and if the rose is removed will send it 12 feet with the greatest ease. This is the most useful spray we have ever seen, and may be used for many purposes; it requires no strength, and a child can use it.

STEVENS & CO.'S
CARBON PASTE
(NON-POISONOUS).

Four Gallons for One Shilling.

Will destroy in a few moments the Larvæ of the Aphides, Hop-Flea, Green and Black Fly, Mealy Bug, Thrip, Red and White Spider, Brown and White Scale, American Blight, Woolly Aphis, Ants, Mildew, Ear-Wigs, Caterpillars, and all insect pests.

1-lb. Tins, 1s.; 3-lb., 2s. 6d.; 7-lb., 5s. 6d.

TO HOP AND FRUIT GROWERS, FLORISTS, FARMERS, &c. IT IS INVALUABLE.

STEVENS & Co.'s CARBON PASTE is a most wonderful and economical preparation, and is certain destruction to every kind of Insects that infests Trees and Plants, and we guarantee, if used as per directions, it will not injure the most delicate foliage or bloom any more than water.

Manufactured only by

STEVENS & CO.,
CHEMISTS,

67, HIGH ST., BOROUGH, LONDON.

RETAIL OF ALL CHEMISTS AND SEEDSMEN.

Special Quotations for large quantities. Sample sent for 1s. 6d.

SHE, The Enthusiast—

Oh! tell me why my flowers droop,
Why leaves and blossoms fade,
Although the Florist sent them home
In gorgeous bloom arrayed.
I 'tend to them with constant care,
And water them each day,
They have sunshine and purest air,
And yet they fade away!

TRADE MARK.

HE, The Philosopher—

Fair Maid, your plants shall bloom again,
But first I'll tell the cause;
They pine for want of nourishment—
Rich Chemical Manures.
You foolishly but water gave,
The Florist he was wiser;
He gave them food as well as drink—
Use TOBIN'S FERTILIZER.

TOBIN'S MAGIC FERTILIZER

Is a highly concentrated Chemical Manure, and a small teaspoonful sprinkled over the surface of the soil ACTS LIKE MAGIC, changing weak and straggling stems into sturdy and vigorous growth and wealth of blossom. It is equally invaluable for Rose Culture, the Hot House, Conservatory, Window or Kitchen Garden.

Sample 3d., 6d., and 1s. size, sent free for 3d. extra; 1d. size, 2d. extra.

TOBIN'S MAGIC FERTILIZER

Is sold by Grocers, Oilmen, Seedsmen, Florists, Corn Chandlers, and Ironmongers all over the Kingdom, at following prices:—

Per Packet.	s. d.	In bags.	s. d.
Sufficient for 12 Plants	1	10 lbs.	2 6
,, 36 ,,	3	28 ,, ...	6 0
,, 72 ,,	6	50 ,, ...	10 0
,, 150 ,,	1 0	1 cwt.	18 0

ADDRESS—TOBIN'S CHEMICAL MANURE CO.,

19, Aldersgate Street, London, E.C.; Works, Wood Green, London, N.

AGENTS WANTED. TRADE SUPPLIED. LIBERAL TERMS.

Most attractive Show Cards (samples free on application). Selling in Thousands all over the country.

GARDEN NETTING, GREENHOUSE BLINDS, AND OTHER SHADING.

EXCELSIOR SHADING.—This shading is stronger and more durable than Frigi Domo, and from its make being principally manufactured cotton and wool it keeps the morning frost off and the heat in, as well as forming an efficient shade from the burning sun, 36 ins. wide, 1s. per yard.

SCRIM CANVAS.—An efficient, durable, and strong shading, very much used by Orchid growers, 6 ft. wide, 6d. per yard run.

SCRIM CANVAS metallized by the Willesden process, 36 ins. wide, 10½d. per yard run.

GARDEN NETTING for protection of Fruit Trees and Seed Beds from Birds, 2d. per yard run of 2 yards in width.

Prices for Tennis and other Nettings on application.

THE TRADE SUPPLIED.

All Communications and Correspondence to be addressed to

WM. GORDON,
THE NURSERIES,

AMYAND PARK ROAD, TWICKENHAM, MIDDLESEX,

And not to City Office, 10, Cullum Street, London, E.C.

WHAT IS IT?
WHY, A FACT, THAT

"HEAPS' FOOD FOR PLANTS"

Is destined to become a lasting boon to the

GARDENING WORLD.

All using it are delighted.

Sold everywhere, boxes 2d. each. Try it.

Manufacturers, HEAPS & SON,

LORDSHIP LANE, LONDON, S.E.

List of Wholesale Agents will appear in this paper on May 30th, 1885. AGENTS WANTED.

GARDEN REQUISITES.

TWO PRIZE MEDALS.

Quality, THE BEST in the Market.

(ALL SACKS INCLUDED.)

PEAT, best brown fibrous, 4s. 6d. per sack; 5 sacks for 20s.
PEAT, best black fibrous, 3s. 6d. ,, 5 sacks for 15s.
PEAT, extra selected Orchid, 5s. ,,
LOAM, best yellow fibrous .. ..
PREPARED COMPOST, best ..
LEAF-MOULD, best only .. ..
PEAT-MOULD, ditto ... ...
} 1s. per bushel (sacks included).
SILVER SAND (coarse) 1/3 per bushel, 12/- half ton, 22/- ton.
RAFFIA FIBRE, best only... ... 1s. per lb.
TOBACCO CLOTH, finest imported 8d. per lb., 28 lbs. 18s.
TOBACCO PAPER, ditto (Spécialité) 8d. per lb., 28 lbs. 18s.
MUSHROOM SPAWN (finest Milltrack), 5s. per bushel.
SPHAGNUM MOSS, all selected, 2s. per bushel, 6s. per sack,
COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1s. each; 10 sacks, 9s.; 15 sacks, 13s.; 20 sacks, 17s.; 30 sacks, 25s.; 40 sacks, 30s. Truck-load, loose, free on rail, 25s. Limited quantities of G special quality, granulated in sacks only, 2s. each.

TERMS, STRICTLY CASH WITH ORDER.

(The Trade Supplied.)

CHUBB, ROUND & CO.,
West Ferry Road, Millwall, London, E.

SMYTH'S GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE.

4d. per bushel; 100 for 25s.; truck (loose, about 2 tons), 40s.; 4-bushel bags, 4d. each.
LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks for 25s.; sacks, 4d. each.
BLACK FIBROUS PEAT, 5s. per sack; 5 sacks, 22s.; sacks, 4d. each.
COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton; in 2-bushel bags, 4d. each.
YELLOW FIBROUS LOAM, PEAT MOULD, and LEAF MOULD, 1s. per bushel. SPHAGNUM MOSS, 8s. 6d. per sack.
MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c.

Write for Free Price List.

PURVEYOR TO HER MAJESTY.

21, GOLDSMITHS' STREET, DRURY LANE,

LONDON, W.C.

This Advertisement appears alternate weeks.

Hooper's
The Covent Garden Seed Warehouse

Splendid Seeds and Bulbs at low prices

Catalogues free to Buyers

COCOA-NUT FIBRE REFUSE.

ONE BAG, 1s.; 10 bags, 8s.; 15 bags, 12s.; 20 bags, 16s.; 30 bags, 22s. No charge for bags.

Cart and Van loads, at Works, from 3s. to 7s. 6d., according to size. Truck loads, containing upwards of 2 tons weight, 25s.

FREE ON RAIL.

TERMS—STRICTLY CASH WITH ORDER.

BULBECK & SON, Manufacturers,

SUFFOLK PLACE, Snow Fields, Bermondsey, S.E.

SKIPPERS AND SHELLBACKS,
BY JAMES RUNCIMAN,

NOW APPEARING IN

THE WEEKLY DISPATCH,

Sent post free: 3 months, 1s. 8d.; 6 months, 3s. 3d.; 12 months, 6s. 6d.; single copy, post free, 1½d.

JOHN P. FULLER,

19 & 20, Wine Office Court, Fleet Street, London, E.C.

SAMPLES AND PRICE LISTS POST FREE.

CAMBRIC POCKET HANDKERCHIEFS.

Children's, 1/5 Ladies' .....2/6 Gents' .....3/8 per dozen

Hemstitched. Ladies' ..3/11 Gents' ...6/9 per dozen

ALL PURE FLAX.

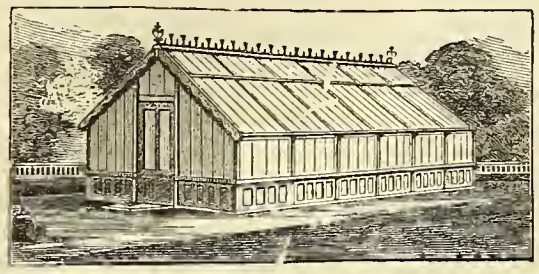
By Appointments to the Queen and Crown Princess of Germany.

"The Cambrics of Robinson and Cleaver have a world-wide fame."—*Queen.*

ROBINSON and CLEAVER, BELFAST.

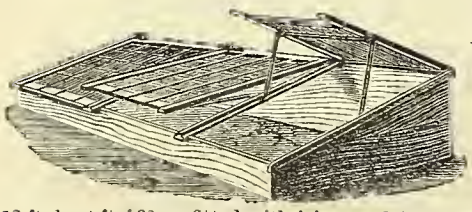
C. G. FRAZER,

Horticultural Builder, Norwich.

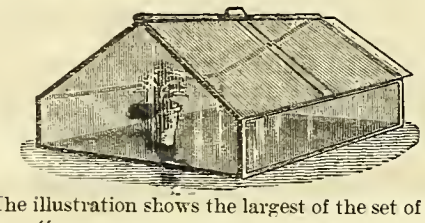


Span-roof Greenhouses, fitted complete, made in lights, glazed with 21-oz. glass, and painted 3 coats of good oil color. Tenant's Fixtures, 12 ft. by 8 ft., £22 13*s*. For Brickwork, £16

Three-quarter Garden Frame, with (registered) set-opes lights, 2 ins. thick, glazed with 21-oz. glass, and painted 4 coats, 4 ft. by 6 ft., £2 17*s*.; 8 ft. by 6 ft., £4 10*s*.; 12 ft. by 6 ft., £6 5*s*. 6*d*. Cases, 6*s*.



Cheap Cucumber Frames, with sliding lights complete, glazed with 21-oz. glass, and painted 3 coats, 8 ft. by 4 ft. £1 11*s*.: 12 ft. by 4 ft., £2, or fitted with joints and (registered) set-opes (as shown above), 8 ft. by 4 ft., 11*s*. extra, and 12 ft. by 4 ft., 15*s*. extra. Cases, 5*s*.



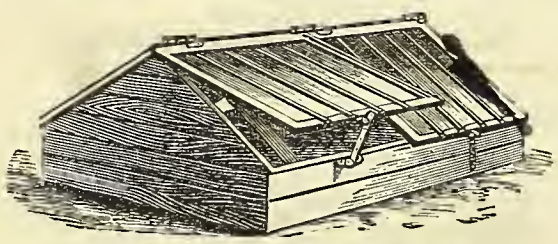
The illustration shows the largest of the set of six

NEW "IMPROVED" HANDLIGHTS.

Made diminishing sizes, covers 17 square feet; painted three coats, and glazed with 21-oz. glass; per set, £2 7*s*. 6*d*.

Carriage paid to any Railway Station in England and Wales; also to Edinburgh, Glasgow, Dublin, and Belfast.

Illustrated Catalogues, post free, two penny stamps.



PORTABLE PLANT FRAMES.

The above are without exception the most useful kind of frames for plant growing, and every one with a garden should possess one. The sashes turn right over one on to the other, and the boxes are put together with wedges, and can be taken apart in a few minutes. Sizes and prices carriage paid to any station in England, ready glazed and painted :—

				£	s.	d.
6 ft. long,	4 ft. wide	...	Packing cases free.	2	15	0
12 ,,	4 ,,	...		4	15	0
6 ,,	5 ,,	...		3	15	0
12 ,,	5 ,,	...		6	10	0

The glass is nailed and puttied in.

THE GARDENS, BURGHLEY, STAMFORD, September 11th, 1884.

GENTLEMEN,—I have received the Garden Frames, and I am quite delighted with them. They are really well got up, well timbered, and the sides and ends being grooved, will prevent that objectionable swaging so prevalent in these kind of boxes. I shall certainly recommend them to my brothers in the trade.—R. GILBERT, Head Gardener to the Marquis of Exeter.

R. HALLIDAY & Co.,

Hothouse Builders and Engineers,

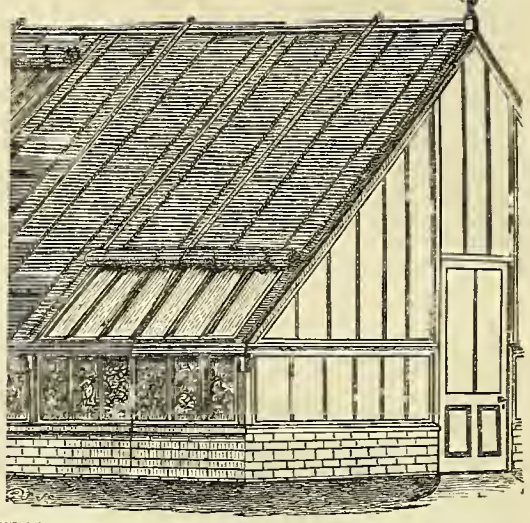
Royal Horticultural Works, Middleton, Manchester.

GREENHOUSES FOR EVERYBODY.

TO all who are about to Buy, call and see the Little Gems, Span-roof, 75*s*.; Lean-to, 65*s*.; a perfect novelty, not to be believed until seen. Also Cucumber Frames, glazed and painted, from 20*s*. Send four stamps for the Photo. of the Little Gem, and see what you are buying for yourselves. Call or write for OGDEN & CO.'S Special Price Lists for 1885. Post free, two stamps, at the Alexandra Palace Horticultural Works, Wood Green, London, N.—*Copy of Testimonial*: "To Messrs. Ogden & Co., Gentlemen, I have now got the Little Gem Greenhouse I had from you fixed up, and think it but right to tell you that it gives me every satisfaction. Many of my friends have been to see it, and they all agree as to its being a marvel of cheapness. It would have cost half as much again if made locally.—I am, faithfully yours, T. LLEWELLYN, Ogmore Vale, March 9th, 1885."

PARISIAN GREEN-HOUSE BLINDS.

Made of Wood and Zinc only.



AWARDED 33 PRIZE MEDALS SINCE 1860.

SOLE AGENTS FOR GREAT BRITAIN,

W. RICHARDSON & CO.,

North of England Horticultural Works,

DARLINGTON.

THE CELEBRATED

IS unrivalled for Gardeners', Forresters', Farmers', Joiners', and Amateurs' use. It requires no oil. Sharpen with a spittle or water. Puts on a keen sharp edge; no humbug about this. Cut in Hones for Axes, Hedge Knives, Razors, Penknives, and Plane Irons, &c. Honourable mention Paris Exhibition, 1878; and Bronze Medal London International Exhibition, 1884. Ask your ironmonger or other retail house to get you one, and give my address; if he won't, drop me a note.

JOHN C. MONTGOMERIE, Tam O'Shanter Stone Hone Works, Dalmore, Tarbolton Station R.S.O., Ayrshire.

BEESON'S MANURE

Is the best for all Horticultural Purposes.

Sold in Tins at 1s., 2s. 6d., and 10s. 6d. each; also in sealed air-tight Bags, containing 1 cwt., 13s.

The 10*s*. 6*d*. Tins serve as a strong substantial receptacle to re-fill from the 1-cwt. bags.

Supplies can be obtained through all respectable Nurserymen, Seedsmen, and Florists in the kingdom; or in districts where no agents reside, carriage paid for cash with order, direct from the Manufacturer,

W. H. BEESON, Carbrook Bone Mills, Sheffield.

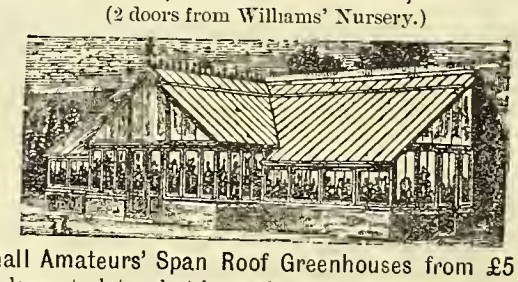
Testimonials from the Rev. Canon Hole and most of the leading gardeners free on application.

GEO. DAWSON,

Horticultural Builder, &c.,

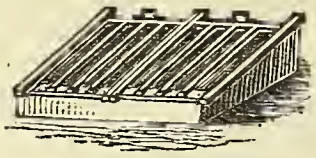
HIGHGATE HILL, UPPER HOLLOWAY, LONDON, N.

(2 doors from Williams' Nursery.)



Small Amateurs' Span Roof Greenhouses from £5 5s.

A large stock to select from, also every description of heating apparatus.



Cucumber and Melon Frames from 25s.

Conservatories built to any design, full particulars and illustrated Catalogues, post free. Experienced Workmen sent to all parts of the Kingdom.

YOU CAN IMMEDIATELY

Destroy all Insects

And PARASITES that infest Trees and Plants (whether at the roots or on the foliage) by using

FIR TREE OIL

INSECTICIDE (SOLUBLE IN WATER)

Green Fly Black Fly Woolly Aphis Grubs Ants Worms	From Garden, Greenhouse, Orchard, or Vinery; these and all Insect pests are speedily cleared by the use of Fir Tree Oil. Effectual, Economical, and Safe. It does not injure Flowers, Foliage, or the bloom on Grapes, Stone Fruit, &c.	Mealy Bug Thrip Red Spider Caterpillars Mildew Scale, &c.

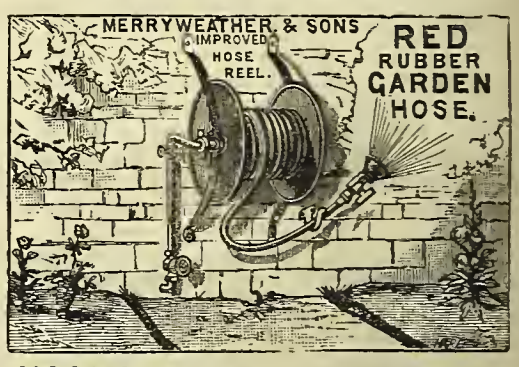
FIR TREE OIL destroys Lice and Fleas on Animals; it will cure Ringworm and all Skin Diseases produced by Parasites, and is perfectly harmless to the Hands & Skin.

Sold by Seedsmen and Chemists, 1/6, 2/6, and 4/6 a Bottle. Per post 3d. extra. Per gallon 12/6, or less in larger quantities.

A Treatise on FIR TREE OIL, as an INSECTICIDE, its application to Plants and Animals, sent Post Free, on receipt of address, by the Manufacturer,

E. GRIFFITHS HUGHES, Manchester,

Wholesale:—HOOPER & CO.; CORRY, SOPER, FOWLER AND CO.; C. E. OSMAN & CO.; and from all the London Seed Merchants and Wholesale Patent Medicine Houses. New York:—ROLKER & SONS.



HOSE! HOSE!! HOSE!!!

PATENT ANTIMONIAL RED RUBBER GARDEN HOSE.

For watering Gardens, Parks, Lawns, Terraces, Conservatories, &c., our Antimonial Red Rubber Hose is rapidly replacing every other kind of Garden Hose, because it neither blisters, cracks, or decays. Is wonderfully light in weight, exceedingly clean and strong, and a pleasure to use. Customers say they are fifty per cent. in pocket and spared the inconvenience and annoyance they used to experience. Catalogue of Hose, Patent Reels, Engines, and Fittings, free. Beware of common quality hose, *coloured* red, and order any length direct from

MERRYWEATHER & SONS,

FIRE ENGINE AND HOSE MANUFACTURERS,

63, LONG ACRE, LONDON, W.C.

NICOTINE SOAP.

As an Insecticide, has been proved to be completely destructive to insect life, without affecting in the slightest degree the most delicate plants.

Prices, 1*s*. 6*d*., 3*s*., 5*s*. 6*d*., and 15*s*. 6*d*.; 28 lbs., 25*s*.; 56 lbs., 50*s*.; 112 lbs., 95*s*.

To be obtained of all Nurserymen and Seedsmen.

SOLE MANUFACTURERS:

CORRY, SOPER, FOWLER, & CO.

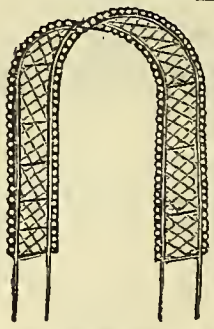
(LIMITED),

18, FINSBURY STREET, E.C.

E. J. PIKE,

HORTICULTURAL WIRE WORKER,

Denmark Hill Wire Works, Camberwell, S.E.



Specialities straight from the Manufacturer. Galvanized Arches, 7 ft. high, 4 ft. span, 1 ft. deep, 9*s*. 6*d*. each, with twisted borders. Pea Guards, galvanized, per doz. 6*s*. Diamond Trellis, galvanized, 3-in. mesh, from 3*d*. per sq. foot, for training Creepers, &c., made to any required dimensions. Straight Lattice Work, for protecting glass houses, &c., ½-in. mesh, galvanized, from 5*d*. per sq. ft. Light Iron Poultry Fencing, 6 ft. high, 6 ft. long, 1½-ins. mesh, bar iron frame with prong feet, 1½ ins. by ¼ in.; upright rods, ¼ in. thick, 7*s*. per yard. Chicken Coops, with box, 3 ft. run, from 6*s*. 6*d*. each.

Estimates free for every description of Iron and Wire Work.

Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex, Saturday, May 16th, 1885.

THE GARDENING ILLUSTRATED WORLD

No. 38.—1885. SATURDAY, MAY 23RD. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

ASPARAGUS.—This delicious Vegetable does not require half the expense often incurred; for directions see Seed List, free. Strong Roots, 2*s.* 6*d.* per 100; extra strong ditto, two years old, 3*s.* 6*d.* per 100; forcing, 12*s.* 6*d.* per 100.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

CLEMATIS, 12*s.* to 24*s.* per doz., strong plants in pots. List, containing descriptions of best singles and doubles of every shade from white to dark purple (some of the flowers of which become 10 ins. across), free.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

ROSES IN POTS, "New of 1885," 30*s.* and 36*s.* per doz. "Teas," Noisettes, &c., 18*s.*, 24*s.*, and 30*s.* per doz. Very strong H. Perpetuals for forcing, 24*s.* to 30*s.* per doz.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

NOW IS THE TIME TO TRANSPLANT HOLLIES and many other choice Evergreens. For prices of beautiful specimens at very low price, see "Special Offer of Surplus Stock."—RICHARD SMITH & CO., Worcester.

HERBACEOUS AND ALPINE PLANTS.—Catalogue of 50 pages, containing full information as to colour, height, situation, time of flowering, &c., free on application. A capital collection for Rocks, Stumps, and Borders, from 25*s.* per 100, or 4*s.* per doz. Most of the plants being in pots may be despatched at any time, or by Parcels Post when fit.—RICHARD SMITH & CO., Worcester.

GRAPE VINES.—IRELAND & THOMSON beg to announce that their stock of the above is this year specially fine and now ready for present planting. All the ready sorts from 3*s.* 6*d.* to 5*s.* each.
Nurseries: Crayleith, Comley Bank, and New Golden Acre, Granton Road, Edinburgh.

POT ROSES.—IRELAND & THOMSON have a splendid stock of all the best H.P. and Tea Roses for conservatory decoration or for planting out, from 18*s.* to 36*s.* per dozen.
Nurseries: Crayleith, Comley Bank, and New Golden Acre, Granton Road, Edinburgh.

BEDDING PLANTS.—IRELAND & THOMSON have a very large and fine stock of all the leading varieties of Geraniums, Dahlias, Pansies, Violas, Lobelias, Verbenas, Tropæolums, Calceolarias, &c., &c. Price List on application.
Nurseries: Crayleith, Comley Bank, and New Golden Acre, Granton Road, Edinburgh.

6 CAMELLIAS or AZALEA INDICA, full of buds, 10*s.*, large healthy plants of either in 5½ pots, all different choice sorts and colours. Packing gratis, and extra plants for carriage.—E. VAN DER MEERSCH, Queen's Nursery, Selhurst, S.E.

"YE NARCISSUS OR DAFFODYL." An interesting history of the Daffodil, covering a period of the 300 years, with its poetry, and notes on hybridization, with many illustrations. Price one shilling, published by BARR & SON, 12 and 13, King Street, Covent Garden, W.C.

PURE WHITE GERANIUM, "NIPHETOS."—A hybrid nosegay, of a purer white than any we are at present acquainted with. It differs from all other white varieties in that it remains pure white to the very last, and never under any circumstances becomes tinted with pink, or any other colour. The trusses are of immense size, producing in nearly every case upwards of a hundred flower pips each. It is of a strong, robust, dwarf habit, free flowering, and whether for Winter or Summer flowering, or for cultivating indoors or out, will be found invaluable. Price 6*s.* per doz.; Cash with order.—H. LEANEY, Upton Nursery, Forest Gate, Essex.

HARDY AQUATICS.—Finest collection in the country, Herbaceous, Alpine, and old-fashioned border plants, from per doz. in 12 sorts, 4*s.*; from per 100 in 50 sorts, 30*s.* Catalogue on application to J. VANDER REES, Exotic Nursery, Tooting, S.W.

Laing's Prize Begonias

JOHN LAING & Co.

GOLD MEDAL Prize Plants. Now again in bloom, presenting an unrivalled floral display.

Visitors are cordially invited.

Frequent trains from the City and from the West End to Catford and Forest Hill Stations.

Begonia Growers, Forest Hill, S.E.

1885. Scotch Florists' Flowers. 1885.

R. B. LAIRD & SONS (successors to Downie & Laird), will have much pleasure in posting their new Catalogue of the above.
OUR COLLECTION has been well known for many years to be the largest and best in Scotland.
ROYAL WINTER GARDEN, EDINBURGH.

DON'T FORGET to plant a few SUMMER BLOOMING CHRYSANTHEMUMS, as no garden is complete without a few of these; they bloom from July till November; 6 varieties 1*s.* 3*d.*; 12, 2*s.*; single varieties (very useful for cut bloom and decorative purposes) bloom well out-doors, and can be had in bloom from October till January; 6, 1*s.* 6*d.*; 12, 2*s.* 6*d.*; large flowering and Japanese varieties, 12, 1*s.* 6*d.*; 24, 2*s.* 9*d.*; all correctly named. Cuttings of above, 1*s.* a dozen.
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Sales Next Week.

MESSRS. PROTHEROE & MORRIS beg to announce their Sales for next week, which will take place as follows:—

WEDNESDAY, May 27th.—Sale of Carnations and Picotees from Mr. Ware, Greenhouse Plants, Tea Roses, Anemones, Pansies, &c.

FRIDAY, May 29th.—Sale of Imported Orchids from Mr. F. Sander.

SATURDAY, May 30th.—Sale of 15,000 well-grown Bedding Plants at the Nursery, Latimer Road, Forest Gate, by order of Mr. S. Hill.

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MESSRS. PROTHEROE & MORRIS beg to announce that in consequence of the Whitsun holidays, their next Special Sale of Orchids in flower will take place on TUESDAY, June 2nd, for which they will be glad to receive notice of entries as early as possible.

THURSDAY NEXT, SALE No. 6,916.

Imported Orchids.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY next, May 28th, at half-past twelve o'clock precisely, by order of Messrs. F. Horsman & Co., an importation of Orchids just arrived in grand condition, consisting of extra large masses (large bulbed) of Odontoglossum Rossi majus, Epidendrum vitellinum majus, Cattleya citrina, Lælia albida. Also fine masses of the beautiful Schomburkia, Tibicina, Acineta species, probably new, &c., &c. Also a valuable lot of Imported Orchids from Messrs. Shuttleworth, Carder & Co., to be sold without reserve.

On view morning of Sale, and Catalogues had.

THURSDAY NEXT, SALE No. 6,916.

Importations from Brazil. Received direct.

MR. J. C. STEVENS will include in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY next, May 28th, an importation of Orchids received direct from Brazil, comprising an enormous specimen of Cattleya crispa, strong plants of C. bicolor, C. Harrisoniana, Lælia Perrinii, Leptotes bicolor, Miltonias, Oncidinms, Sophronites, &c., &c.

On view morning of Sale, and Catalogues had.

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"AMONGST THE CATTLEYA."

OUR MR. EDWARD WALLACE having collected some magnificent Cattleya Trianæ in flower in the best localities of the interior of Colombia, escaped with his plants down the river in a canoe, and having passed safely through the contending forces, sent on his cases to us, and proceeded to collect Cattleya Mossiæ in flower. He is now (D.V.) on his way home, having had the rare luck to obtain, amongst other fine forms, two most magnificent Cattleyas—the finest plant of the rare C. Reichiana ever seen, and a specimen plant of C. Wagneri with over 100 bulbs. Both were seen and collected in flower, and their blooms were very large and beautiful. These with his other plants will be offered for sale by auction immediately on his arrival in England (middle of June). Further particulars later on.

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CHEAP ORCHIDS.—In consequence of having received large importations, I am able to dispose of my stock of plants received last year, now nice established plants, at very low prices; all are healthy, and those who prefer it can have this season's imported pieces. Growers of Orchids would do well to order at once, as many fine gems are contained in the numerous importations received, which are mostly unflowered. Established plants which have flowered and are flowering can also be had if required, but many growers prefer unflowered plants, because there are frequently valuable varieties which well repay the purchaser, shillings well invested being quickly converted into pounds.—Apply to W. GORDON, The Nurseries, Twickenham, Middlesex.

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12 DAHLIAS of any class, Show, Fancy, Bedding, Boquet, or Single, 3*s*.; 50 varieties, 12*s*. 6*d*.; 100 varieties, 25*s*.
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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, MAY 23RD, 1885.

Our Woods and Forests.—The appointment of a Committee of the House of Commons on the motion of that able and intelligent member, Sir John Lubbock, with a view to a searching inquiry into the present condition of our forests and woodlands, and the possibility of rendering them more remunerative, is an event that calls for notice. We are not of that school of political economists who are eternally demanding Government patronage and supervision for everything. There are myriads of industries in this kingdom which need neither Government inquiry nor control, whilst there may be some few which now and then need such form of attention. Our coal deposits, for instance, are of such vast importance to the nation, that under no circumstances should they be left to haphazard proceedings, which may exhaust as much through waste and neglect as through actual consumption. The coal-fields, iron deposits, and indeed all our subterranean wealth should have belonged to the State, and have been held in trust for the benefit of the nation. Such, however, is not the case, and we are but just now realizing that our present system of land-ownership has given rights to individuals that practically belonged to the kingdom.

With respect to the products of the surface of the earth private ownership naturally stands to the nation in diverse relations, because the skill, labour, and capital of man employed on the earth's surface should return to him who expends it fair and profitable remuneration. But even in this respect there seems to be some possible limit, and that may be found in the forests and woodlands of the kingdom, because these are not only of a permanent and enduring kind less affected by ordinary capital and labour than are ordinary landcrops, but they are in a score of ways of the very first importance to the health, wealth, and general good of the nation at large.

Knowing what we do of the vast importance of large trees to us, whether individually or in masses, we may well consider what would be the distressed condition of the country at any time should folly in any one or two generations of the human family proceed so far as to absolutely ignore planting of permanent or enduring trees. It is a far cry to some 100 or 200 years hence, but the generation which at any time omitted to discharge its duty to posterity would be guilty of a national crime. It may not be that Sir John Lubbock, or those who favour his proposed committee of inquiry, feel the force of this reasoning or even at present see cause for it. They may, however, hold diverse views after their proposed inquiry has been instituted, and then, perhaps late, though it may be hoped not too late, realize that planting for posterity has been too much neglected from selfish motives, and that our energies have been bent only upon present gain.

It is in relation to this peculiar fact, that plenty of trees can hardly be productive of gain to the planter, that we find our woods and forests standing in relation to Governmental control so diversely from the planting and cropping of agricultural and garden land, which gives back to the cultivator at once increase and wealth for his labour and his outlay. That State control which it is absolutely essential should exist over our sources of mineral wealth, it is as absolutely essential should exist in connection with our timber supplies, for a permanent store of wood for all purposes and uses is as essential to the future welfare and prosperity of the nation.

We have a department in the Government which holds control over those woods and forests which legally belong to the State. It is in no sense a school of forestry, and its forests are in the hands of foresters certainly not more capable than are those of private persons. Even the State itself, with all its legal responsibilities to the State forests, has never, as far as this country is concerned, made forestry a speciality, or held it in high esteem. As far as our great dependency of India is concerned, happily, such neglect has not been permitted, and the School of Forestry associated with the Indian management is of the greatest value and importance. Mr. Gladstone, whose knowledge of and interest in woods and forests is second to that of no man, holds that the Indian Forestal School might even now be to some extent utilized for home forestal purposes, and perhaps out of the committee's report may come some proposition that the present colonial school may become transformed into one in which students may acquire knowledge of forestry as applicable to home, India, the rest of the colonies, and indeed to all timber-producing countries.

To no one has more obloquy been given than to Mr. Gladstone because of his noted fondness for tree-felling, and it was but natural that the right honourable gentleman should take advantage of the discussion which followed Sir John Lubbock's motion in the House of Commons to show that more trees were spoiled for want of proper thinning than were wasted in the felling. As to that there can be little doubt, and much as landowners may pride themselves upon their ancient specimens and aged tree landmarks, yet it is certain that big trees which stand simply to decay give no profit to the nation, and displace or perhaps ruin others that in time might make valuable timber. Of course, in the matter of forestry, all is not to be made subservient to utility, but the plea advanced in enforcing the need of the proposed committee of inquiry is that woods and forests now are too materially made subservient to sport and pleasure and not sufficiently to use and profit.

Without doubt, any national school of forestry must have utility for its main object, whilst picturesqueness and beauty would not be disregarded. Indeed, the very essence of the establishment of such an institution must be the good which it might create for the nation. We have thousands of acres of land lying waste that draining and some simple cultivation might convert into profitable woodlands, giving in time good pecuniary returns, and also much valuable labour. We do not want to see the surface of the kingdom all arable and pasture, woodland is essential to profit, to health, and to beauty, and if Sir John Lubbock's committee should end in the popularizing of forestry, the result will be national gain.

Exhibiting—The desire to excel in the cultivation of certain objects, and an honest and generous rivalry in so doing, are laudable reasons why a man should desire to be a successful competitor at horticultural exhibitions. A pure love for gardening, and a desire to honestly exhibit, should always be the standing ground which an exhibitor should hold. The numerous and widely-spread floral exhibitions throughout the country, especially in the Midland and Northern Counties, are perfectly marvellous in their number, and the influence they exercise. Not only do we find horticultural societies in the towns, some of which put out schedules ranging from £50 to £200, and occasionally more, but a very large number of villages also have good exhibitions, which would surprise many unacquainted with their doings. It is impossible to get any reliable information regarding the amount of money annually distributed in prizes at flower shows in Great Britain, but we think it would certainly exceed £50,000.

There is, however, one feature connected with exhibiting which cannot be too strongly condemned—dishonest showing. It is a practice with many to beg, borrow, or steal for the occasion. It is, we fear, a common practice with some to do so, and with such not a love for gardening and a desire to show honestly exists, but a foul and greedy desire to win money. It is of no use for such men to say they show merely for honour, for they do not possess it, and do not know its value. Committees should do their utmost to stay so pernicious a practice; still, with the exhibitors themselves the remedy rests to a very great extent. We have known members of committees not nearly so honourable as they might have been; and when this happens the results are lamentable. The rules of most societies state a certain period, ranging from one or two weeks to two months' possession, to constitute ownership; and so far as plants are concerned, the rule cannot be so easily evaded as with cut-flowers. Here lies the great difficulty, for flowers are easily obtained, and it is difficult to prove that a fraudulent exhibitor has not grown them. We repeat the remedy to a great extent rests with the exhibitors, for if a stand is suspected with good reason, a written protest should be handed to the committee before the judges make their awards, and the complaint should at once be inquired ito.

The fact that these malpractices do exist has a deterrent effect on honest exhibitors, and they refrain altogether from exhibiting. We are thankful to say that many societies do all they can to purge themselves of this plague, and we are glad to know the evil is not so great as it was. We believe a higher order of morality is taking the place of a lower one. If only committees, and especially the leading exhibitors, will set themselves against the practice, a great deal can be done in the way of restricting its operations.

The Season's Variations.—English weather aspects are peculiarly versatile. To-day it is bitterly cold, to-morrow delightfully warm; the next day raining in torrents, and perhaps followed by a variation to frost. Thus it comes about that, because of this uncertainty and comparative novelty of action, the weather ever must be a favourite topic of conversation. Were our seasons of ordinary accuracy in character, long spells of heat and drought alternating with other spells of rain or of frost, the ordinary references to the weather made from day to day would soon become monotonous and absurd. As it is, the singular uncertainty which in our clime pertains to all that is meteorological, is a characteristic which very probably to no inconsiderable extent impresses itself upon our national character, and renders us ever alive to eventualities and ready to act under varying conditions. But recently we found it pleasant to congratulate our readers upon our escape from that too commonly dangerous season for the early fruit-bloom—Blackthorn winter. This week we can as readily and as sincerely congratulate gardeners upon the grand rains which have fallen, and have proved so valuable to the country. It is true some of the showers, or perhaps storms, were cold. In

that respect we cannot choose our visitations, though preferring rains of a more pleasant kind. In any case a day or two of warm sunshine soon puts all right, and if the ground has been unduly chilled with the cold rainfall, it is soon again heated to its wonted temperature. Such rains as marked the beginning of this month were not only very substantial in character, but they were general, and the whole of the country seems to have benefited by them. We now enter upon the summer with its probable heat under very diverse conditions from those which faced us last year, when at this season the ground was already singularly dry. As a result of present moisture we see pastures rich in verdure, and the promise of the hay-crop as fine as could be desired. The field-crops look as well as can be hoped for, and the fruit-trees of all kinds, laden with blossom and fruit-germs, have had such a cleansing as cannot fail to be of the greatest value to the welfare of the coming crops.

The Land and the People.—The promotion of a company by various large landowners, the object of which is to enable small plots, holdings, or farms to be brought within the reach of real workers, such as labourers and men who desire to live from out of the land, marks an important phase in our social history. A scheme of this kind, promoted by men of purely visionary ideas and actuated solely by humanitarian motives, may well have been regarded with doubt and suspicion, but when the owners of land themselves, having found out how injurious to their welfare, as also to that of the land and the community at large, large farms have proved, desire to re-introduce the class of small owners and holders, in fact, to re-create the ancient yeomen of our rural life, it becomes obvious that something of a truly commercial nature is purposed, and that the basis of the proposed Land Company is essentially of a practical nature.

We regard the objects of the Company, *viz.*, the purchase of large breadths of land in suitable places, and the re-sale or letting of these breadths subdivided into small holdings of some three or four acres up to thirty acres as calculated to accomplish a national good. We look from out of this proposal for much popularity for good gardening, because it is obvious that only cultivation on purely garden principles can render the holding and working of small plots profitable. The man who trenches his ground, digs and forks it deeply, employs the hoe liberally to keep his soil clean, and thus utilizes his own strength and labour to the very best advantage, becomes not only a benefactor to himself, he is a benefactor to humanity. Such garden farming as he engages in, allied as it must be to the production of eggs, milk, and probably fruit, will assist to develop his intellect and his energies, and make of him and his fellow cultivators a reading and educated race of men. Our farming has been of far too mechanical a kind, and too dependent upon horses and machinery. Gardening, on the other hand, calls out the full powers of the cultivator, mental and physical; hence the hope of better things when the operations of the new Land Company shall have become almost universal.

New Azaleas.—At the last meeting of the Floral Committee, M. Louis Van Houtte, Ghent, exhibited some fine new Indian Azaleas, two of which were selected for the award of First-Class Certificates. These were Princess Victoria, a beautiful flesh-coloured double flower, with crimson spots, and Princess Baudin, a very striking single variety of a bright crimson colour. Among the other sorts staged, Miss E. Jarrett, a very fine white with conspicuous lemon spots; John Lyall, semi-double, deep salmon-red in colour; and Louis Lubbers, bright crimson with carmine blotch, may be mentioned as being of excellent quality.

Gardening Miscellany.

Flower Shows for Next Week.—From Monday till Friday the Great Exhibition in the Botanical Gardens at Old Trafford, Manchester, will be open.—On Tuesday there will be an exhibition of Pot Roses and Azaleas, &c., at South Kensington, in conjunction with the meetings of the Fruit and Floral Committees.

To afford a signal commemoration of the success which has attended the effort to increase the pensions of the Gardeners' Royal Benevolent Institution, a strong representative committee has been formed, with Mr. John Lee, in London, and Mr. Bruce Findley, in Manchester, as Honorary Secretaries, to raise a substantial testimonial to Mr. Cutler, who for forty-four years has been the indefatigable Secretary of the Institution, and to whose zeal and energy its present satisfactory condition is undoubtedly in a large measure due. Through good and evil report, Mr. Cutler has served the Institution with a fidelity that should meet with substantial recognition.

Messrs. F. Sander & Co.'s fine specimen of Cattleya Skinneri alba changed hands at the late Orchid Conference, the purchaser, a well-known Cheshire grower, giving, we hear, 215 guineas for it.

The Ramsbottom Floral and Horticultural Society will hold its second Chrysanthemum Show on November 14th. The Society had the satisfactory balance of £19 16*s.* 6*d.* in hand at the end of its first year's work, and for its second show offers £30 instead of £25 in prizes.

We hear that Mr. J. Batten, one of the pensioners of the Gardeners' Royal Benevolent Institution, died last week at Dalston. Some thirty years ago deceased carried on the business of a florist in Brook Street, Clapton, and was well known as a successful grower of Fuchias, Verbenas, Tulips, and Dahlias. His Clapton Hero Fuchsia will doubtless be remembered by many old florists.

At the last meeting of the Chambre Syndicale des Horticulteurs held at Ghent, certificates of merit were awarded to the Compagnie Continentale d'Horticulture for Vriesia hieroglyphica, Lælia purpurata alba, Alocasia imperialis, Gymnogramma schizophylla var. gloriosa, and Cattleya nobilior; and to Mr. Aug. Van Geert, sen., for Lælia purpurata var.

Mr. W. H. Massie, who for some years past has been connected with the firm of Messrs. Little & Ballantyne, of Carlisle, will shortly join the old-established firm of Messrs. Dickson & Co., nurserymen, of Edinburgh.

Mr. James Bridger, proprietor of the famous Lavender grounds at Mitcham, Surrey, died on the 4th inst., at his residence, the Manor House, Mitcham.

The floral decorations at the new Hotel Métropole on Monday evening last, on the occasion of the Royal Military Concert in aid of the Egyptian War Fund, were entrusted to Mr. T. A. Dickson, of Covent Garden, and the manner in which the work was carried out elicited the warmest admiration. The cut flower arrangements proved especially attractive, and exceedingly so in the oak saloon in which supper was laid for the Royal visitors.

Mr. James Don, seedsman, 20, Chapel Bar, Nottingham, died on the 6th inst., aged thirty-five years. Mr. Don, who was with Messrs. Barron & Son, Elvaston, for several years, was widely known and much respected, and especially among the members of the Notts Horticultural and Botanical Society, of which he was one of the founders, and also one of the honorary secretaries.

Mr. Garnet, St. John's, Wakefield, read an able and interesting paper on "How Plants Grow," before the Sheffield and Hallamshire Gardeners' Mutual Improvement Society, on Wednesday evening, the 13th instant.

It may interest our bothy friends in those establishments, trade and private, where cricketing is encouraged—and we are aware that there are many of them—to know of the publication of a new penny weekly paper devoted to cricket and football lore, and which makes a strong point of inclusion in its pages of a complete weekly record of matches played. The new venture has a terrible title, but here it is—*The Cricket and Football Challenge and Club Notice Gazette*, and its publisher is Mr. R. Sumner, 145, Fleet Street, E.C.

SARRACENIA COURTII.

Among the novelties of the season now being sent out by Messrs. James Veitch & Sons, this handsome hybrid side-saddle plant takes a prominent position. It was raised in the Chelsea Nursery from those well-known species S. purpurea and S. psitacina, the former being the seed-bearing parent, and received a First-Class Certificate from the Floral Committee when first shown in 1881. It partakes of the characteristics of both parents, of which it is nearly intermediate in form, but with the pitchers more regularly disposed than in either. It has the deep wing of S. purpurea, and the concave, cowl-like lid peculiar to S. psitacina, while the colour, a rich crimson-purple from the middle upwards, in the young pitchers changes to deep red with age. It is veined and reticulated in a very handsome manner, and the whole contour of the plant is of a very ornamental character. We are indebted to the Messrs. Veitch for the opportunity of illustrating this sterling novelty in our pages.

HERONSGATE.

A large and influential meeting was held a few weeks ago at Willis's Rooms, with a view of launching the National Land Company. The names of the Committee—a body of gentlemen of all shades of political opinion—furnish abundant proof of its *bonâ fides*. It is thirty-eight years ago since Fergus O'Connor, M.P. for Nottingham, attempted to establish in various parts of England his scheme of a peasant proprietary. One of the localities chosen was Heronsgate. Perhaps a brief sketch of the settlement may be of interest to the reader. The Company, owing to bad management and probably something worse, soon collapsed, the estates were thrown into Chancery, and all except the fortunate few who succeeded in the early ballot, lost the money they had invested in the Company's shares.

The scene of Mr. Fergus O'Connor's first experiment lies two miles south-west of Rickmansworth. The estate comprises 103 acres, and is divided into thirty-six plots, varying in area from two to four acres. Each holding has a semi-detached cottage with from three to five rooms. The rentcharge is £6 10*s.* for the two acres and cottage, £8 8*s.* for three, and £10 10*s.* for four acres. The original allotment was by ballot, the shares being 25*s.*, each representing an acre. The little estates are all occupied, and they not unfrequently change hands, the purchase-money varying from £250 for the smaller to £500 for the four-acre plots. There are several estates, some more extensive than Heronsgate, in Lancashire, Yorkshire, Worcester, Gloucester, and Oxford.

My informant is one of the two first tenants at Heronsgate, and was successful in the first ballot out of 70,000 shareholders. He and his wife rode up in a carriage with the redoubted Fergus to take possession. The estate lies along the crown of a hill on the west side of Rickmansworth and Mill End, the village adjoining it. A narrow belt of woodland, Lady Wood, protects it from the east winds. The soil varies considerably, poor and hungry where the gravel subsoil overlies the chalk several feet, but better where the latter is nearer the surface. A chalk-pit adjoins the estate, and is frequently resorted to for dressing the light lands. Towards the middle of the estate the land is tolerably good, but the greater part seems to be of a poor, light quality, capable of appropriating an unlimited supply of manure, an expensive article on account of the cost of cartage from Rickmansworth, 5*s.* a load. Nearly all the tenants, however, keep a little stock on this account. Several keep a cow and pigs, and most of them fowls.

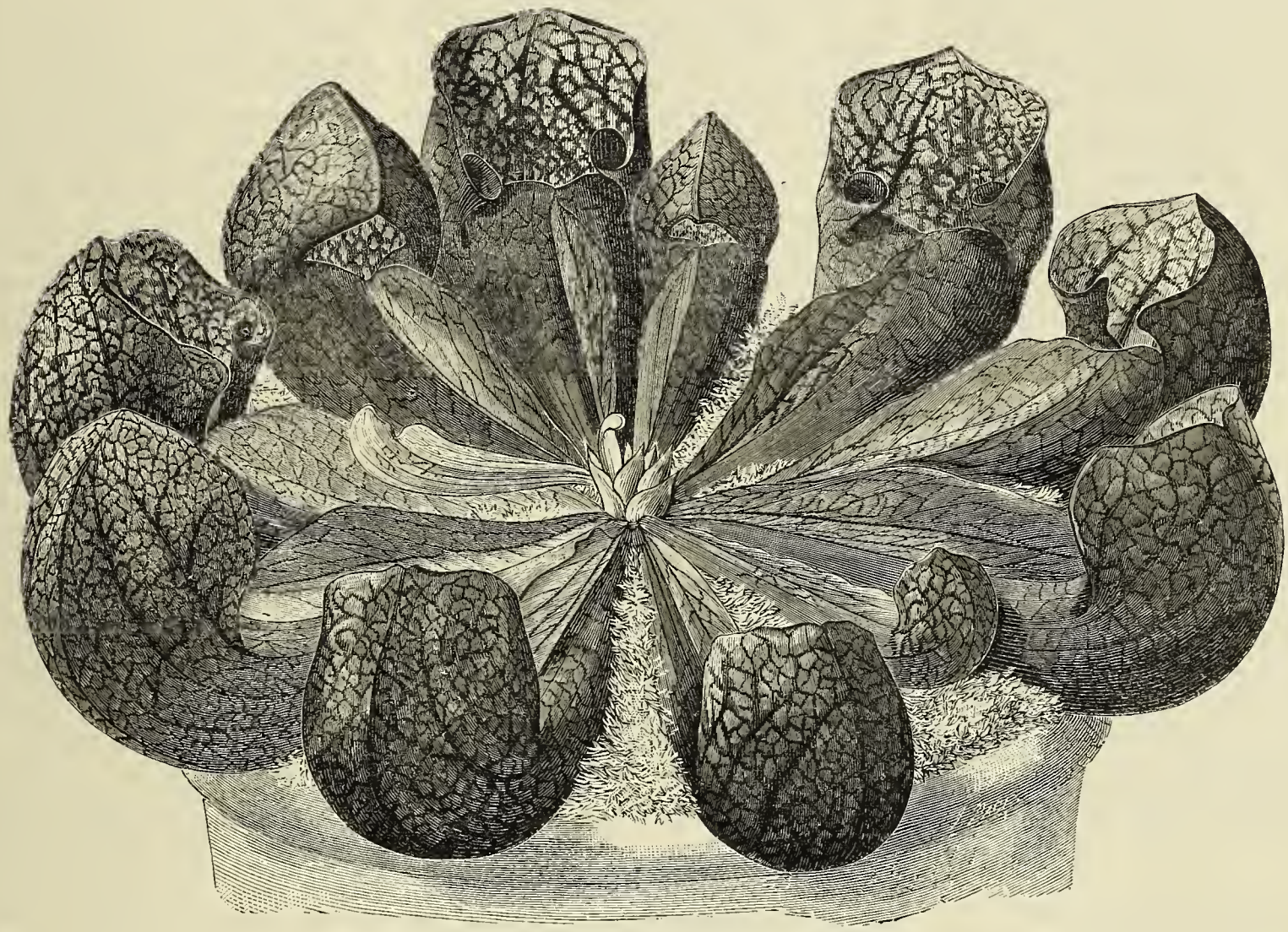
About half a score out of the thirty-six tenants are entirely dependent upon manual labour for their support; and of these all have occasional employment, either among their co-tenants or on neighbouring farms. The greater part of the remainder are retired tradesmen or persons of small means who live at a cheap rate, and find in the occupation of gardening or the care of a little live-stock, just the recreation they desire. A few of the cottages and plots are the properties of tradesmen who send their families to reside there during the summer months. The site is a remarkably healthy one. There is a post office with daily delivery, a grocer's shop, a chapel of ease, and

Dissenting chapel. There is no public-house on the estate.

My informant and his wife, a staid and elderly couple, have resided at Heronsgate for thirty-eight years. He is sixty-seven, and was originally a farm-labourer, but had been employed in nurseries occasionally, and also in gardens. Industrious, frugal, and healthy, he was just the type of peasant proprietor likely to succeed, a man who might have been wealthy ere this had he emigrated to New Zealand or Canada. His plot consisted of four acres, about two-thirds of which grew Barley and Oats. He had a pony, several pigs, and a score head of poultry. The remaining third of the four acres was cultivated as a market garden early Potatos and Peas being his principal vegetables. But an important source of income was his Cherry grove; this consisted of a score fine trees of Bigarreau and "Croons," now literally smothered with pendant blossoms. There were also Apples and Pears, all worked by his own hand; Black Currants, Gooseberries, Raspberries, and Strawberries.

Until lately my informant spent half of his time on neighbouring farms, and after a hard day's work, as his wife said, he would frequently set to work on his little estate and continue at it till midnight. "Afore I came here there was a beautiful orchard on this spot, and it was all grubbed up, a pictur' of desolation." Why was this we ask? "Because all should share alike," was the reply. "I wished myself home again many a time," said the wife. "What about ploughing?" we inquired. "Oh, there's no difficulty here; there are two or three small farmers always willing to come and do a little carting. We get ploughing done at 12*s*. an acre." "What is your fellow-tenant who came with you?" "He's a sawyer, and does a bit of carpentering. Nobody could get a living here without something else to fall back on." Years ago, there was only one greengrocer in the town, now there are twenty.

A matter of the first importance with regard to the success of a peasant proprietary is the proximity and ease of access to a manufacturing town, where the produce of the little farms would be likely to find a ready sale. Next to this consideration a wise discretion must be exercised in the choice and proportion of the various crops to be grown. The tenant must not expect to compete with the farmer in growing cereals or raising stock. Butter, milk, poultry, and eggs, are always in demand; so, too, are early vegetables and bush-fruit, and there is a constantly increasing demand for hardy flowers. A conclusive proof that the supply of garden produce is inadequate may be gathered from the fact that upwards of £6,000,000 worth are imported yearly from the Continent. The launching of the Company under such highly promising auspices is one of the most hopeful and encouraging signs of the times. We wish it every success.



A NEW SIDE-SADDLE FLOWER: SARRACENIA COURTII.

NOTES FROM IRELAND.

Gardening Weather.—I cannot remember more unseasonable or more ungenial weather than that with which we were blest or—— during the past ten days of the—"merry," shall I say?—month of May. Well, we must take the goods the gods have given! But are these good? Is there a bright side, from a gardening point of view, to such May weather as pitiless, pelting hail showers, often lasting a quarter-of-an-hour, with the "hail-stones," veritable *stones*, going right through tender leaves, and making "mince-meat" of Apple, Pear, Plum, and Cherry blossoms? Snow on the hills around, and Potatos (early) planted in the open badly burned! Another very remarkable circumstance I noticed at Birdhill a week ago was the early Strawberry fruit-buds blackened and frost-bitten through. Plainly, there is no bright side to that; but look further. No slugs and no aphis!

I asked you recently, would the visitation we are having of the bad weather above referred to explain the absence of the customary Rose maggot, and the as constant green-fly plague on the Rose-bud? You thought not; so I must direct the attention of some of your thinking correspondents to those negative bright spots on a dark ground of the above picture, and ask them the reason why those plagues have ceased their troubling so far—at least around here? From long experience I am well aware that slugs bury themselves from snow and hail.

Giant Anemone Coronaria.—What would you say to a bed of seedling Anemones in which the blooms were so large and so numerous as to utterly hide the foliage? This was literally a sight several of your readers, as well as I, observed at Mrs. Gough's garden at Birdhill the other day. Here is the secret, and it may interest others as well as Messrs. Gilbert and Dean, as you never seem to have them 5½ ins. in diameter in England and Scotland. Grow them as annuals; sow when the seed is ripe in a bed made of rich fresh loam, 2 ft. deep—they are voracious feeders—and rub sand in along with the seed; no transplanting on any account; select seeds of only the largest flowers and best colours; and lastly, never use the same soil or same roots a second year. Mr. Burbidge sows now in prepared beds, in sunny borders, with the view of having them in bloom next winter. I am making a bed with the same view to-day. It was, however, to see some five dozen monster plants and monster blooms of Calceolarias (Carter's strain) that we went to Birdhill, as well as a consignment of imported Orchids, sent to Mr. Gough by his relative, General Gough, from India direct; but of these more anon.—*W. J. Murphy, Clonmel.*

The damage caused in Kent by the frosts of last week has been very serious in respect to Gooseberries and Black Currants in exposed situations, and also to the most delicate descriptions of Cherries. It is found, however, upon a close examination that the injury inflicted generally among the fruit orchards and gardens is not of so severe a character as the earlier reports represented.

SCOTTISH GARDENING.

On the publication of the first number of The Gardening World in September last, no one was more surprised than its Editor at the warmth of the reception which it met among practical men in all parts of the country, and especially among gardeners beyond the Tweed. Congratulatory letters poured in from all quarters—some from friends of long standing, others from writers unknown to us either by name or repute, but all containing expressions of good will for the success of our venture, and hailing with pleasure, as many put it, the publication of a paper "sound and practical in its teaching from beginning to end, at a price that places it within the reach of thousands of gardeners whose scanty pay precludes the possibility of their obtaining the higher-priced periodicals." Many good friends—known and unknown—have rendered us valuable service in bringing the paper under the notice of others interested in gardening pursuits, thus helping us in the most effective manner to largely increase its sphere of usefulness, and to one and all of them we take this opportunity of tendering our grateful and hearty thanks.

By several esteemed correspondents we have been urged to devote some portion of our space weekly to Scottish gardening; that is to say, to subjects of a practical character and matters of general interest in which Scottish gardeners are more interested than, by reason of their geographical position, they can be expected to be regarding subjects more closely identified with the South. In many respects the conditions under which our northern friends labour, and especially in the all-important matter of climate, are widely different from those which obtain in the South, and Scottish gardeners do undoubtedly labour under a great disadvantage in being unable to gain much practical information of a character specially applicable to their circumstances, since no gardening periodical is now published in that part of the realm. To meet this want in some measure, we have decided to open our columns in the manner suggested, and are gratified to be able to announce that in this department we shall have the valued assistance of one of the best practical gardeners in the country, who has been a contributor to periodical horticultural literature for several years, and whose familiar initials will doubtless at once be recognized by many. Others equally well known to fame have kindly promised to contribute articles on subjects of general interest to the same department, and we shall gladly welcome contributions from other readers who may be in possession of useful information bearing on the interesting topics which we hope from time to time to introduce for discussion. At the present moment a seasonable subject is found by our correspondent in:—

DISBUDDING FRUIT-TREES.

There are few who attempt to deny that disbudding during the growing season is of much advantage to trained fruit-trees, or to others which have to occupy a limited space. The extension system is a sound one for growing trees vigorous and healthy, but there are only a few who can afford to cover an extensive amount of wall space with single trees. The chief reasons for growing small trees are to enable us to obtain a variety of kinds and a succession of fruit, lengthening out the season with early and late sorts. With trees extended over a large area one must have a large supply of fruit all at once, probably accompanied with waste, and enjoy but a short season of plenty.

The manipulation of the growths so as to put them in their proper positions requires, under the usual practice, early and frequent attention. Some leave the young wood till it is of considerable length, so that it might give shelter to the newly set fruit by warding off frosts, and in this there is some amount of wisdom. With fruits trained under glass we fail to see the propriety of waiting till the growths are of much length, or of any length at all. We hold that the younger and smaller the buds are when disbudding is performed the less likely is the tree to suffer. On the other hand, the longer the growths are the more likely is the tree to experience a check.

Our practice (especially with Peaches, Nectarines, Cherries, Plums, and Apricots) under glass, extending over a period of more than twenty years, has been to pick out the wood buds as soon as they are perceptible, leaving only those which are likely to be of use for filling up the vacant spaces on the tree where the supply of fruit is to be had. The fruit-bearing shoots are stopped just about the length to which they are to be cut back next season, and a shoot is left at the point of last year's wood to draw up the sap which supplies the fruit of the present season, while another shoot is left as near as possible to the base as the fruiting one for next season. The method of managing trees in this way reduces the work to great simplicity, and economizes much labour by only having shoots tied in which are really wanted, and the appearance of the trees is much enhanced by the thin orderly appearance of the wood.

We never could see the propriety of nailing or tying in great numbers of growths, which, in a short time, have to be removed with the knife. Trees in good healthy condition, Peaches especially, may have the fruit buds judiciously thinned (we always do it when time permits), leaving the best placed buds to set fruit, which at the proper time may also require thinning. Notwithstanding the bud thinning we seldom have to omit fruit thinning too. The fact that the best buds are left, those too which are most favourably placed where they can expand their blossoms to the full, is a guarantee of a good set of fruit.

We are speaking now, of course, of trees with ripened growth. Those which are not so ripe should have timely attention at the roots, removing tap roots and cutting in a few which may be drawing up sap in such quantity that creates growth which cannot be ripened. I do not remember ever having a scarce crop of Peaches which flowered at any period of the season, especially in January. We always have provided a very firm, well-rammed soil, and lift the roots when necessary during summer.—*M. T.*

THE YELLOW BANKSIAN ROSE.

When looking through the grounds of one of our large mansions a few days ago, among many objects of interest one of the most attractive was a large specimen of the Yellow Banksian Rose, of great age, that must have been planted many years ago, as could be seen by the size of the trunk; the branches had covered a great space of wall, and it was blooming very freely indeed. It was in a warm corner, having a south-west aspect, and in such a place it was not to be wondered at that this Rose did so well. Its roots were evidently in a soil that was thoroughly congenial, and I was told that every year saw this fine plant laden with blossoms.

The Banksian Rose is said to be of Chinese origin, and it has a very Chinese complexion and constitution. "It is almost spineless, very smooth in leaf and stem, in growth a climber, blooming most profusely, the flowers occurring in large clusters, very double, and agreeably scented." It is some eighty years ago since this Rose was first introduced, and it was in due time "dedicated" to Lady Banks by the late Robert Brown, of the British Museum, a botanist who did the State some service, and was but poorly appreciated in his day.

A calcareous soil appears to suit this Rose well. In some of the south-eastern districts, where the soil is of a chalky nature, it can be seen growing in great perfection. It is a tender Rose, and therefore it should have the protection of a wall, and arid, dry warm soil. Mr. William Paul states that it may be grown in a soil composed of equal parts of loam, peat, and leaf-mould. This Rose requires but little pruning; the mere tips of the shoots should be taken off.

What an amount of lore has gathered about the Rose! The "bed of Roses" is not altogether a poetic fiction. In ancient days the Sybarites used to sleep upon mattresses that were stuffed with Rose-leaves. A similar luxury was afterwards indulged in both in Greece and Rome. Men would sit at their meals upon cushions, and sleep by night on beds of Roses. The tyrant Dionysius had couches stuffed with Roses, on which he lounged at his revels. Verres used to travel on a litter reclining on a mattress stuffed with Roses. He wore, moreover, garlands of Roses round his head and neck, and had Rose leaves intertwined in a thin net, which was drawn over the litter. It was a favourite luxury of Antiochus to sleep in a tent of gold and silver on a mattress stuffed with Roses. We are wiser in this generation, and utilize our Rose-leaves for distilling rose-water and other purposes, and our rulers rest and sleep on something more luxurious than a "bed of Roses."—*R. D.*

THE WHITE MARGUERITE.

A short time ago Mr. Dumper wrote in high terms of the value of Chrysanthemum frutescens Etoile d'Or, the Golden Marguerite, and I quite agree with him as to its usefulness. But I think C. frutescens is equally worthy of notice, and perhaps many would give it the preference. It certainly possesses one advantage over its rival in being more compact in habit of growth, and consequently better adapted for growing into specimen plants. Well-grown plants of it in 5-in. or 6-in. pots, when covered with their white starry flowers, are really beautiful objects at this season of the year for all kinds of decorating, and its flowers are most useful, when cut, for using with others to impart elegance and grace to the arrangements.

Cuttings rooted in a handlight early in August, and potted on as required in a compost of two parts of loam to one of well-rotted manure, will, if well attended to, make nice plants by this time next year. In potting, the soil should be firmly rammed down, in order to secure sturdy growth. The shoots may be stopped till the end of December, and after that have the flowers picked out till the shoots have become strong. Like all other Chrysanthemums, this is a gross feeder, and should have an abundance of water as soon as it is well-rooted, with an occasional dose of soot-water, to give the foliage a deep green hue, and manure-water two or three times a week as soon as the flower-buds appear.

After flowering, the plants should be pruned back in the same way as a Pelargonium, and as soon as young shoots are formed, be planted out in a rich border, lifted in September, and grown on in vineries or other cool houses during the winter months. Treated in this way, they will speedily form fine specimen plants, but if large plants are not required they can be thrown away after flowering, and fresh ones be struck each year.—*H. Dunkin.*

THE CULTIVATION OF ORCHIDS.

(Paper read at the Orchid Conference on May 13th by Mr. James O'Brien. Concluded from p. 583.*)*

On Potting Orchids.

And now it will be well to notice a few matters connected with the potting and materials used. For growing the epiphytal Orchids in the early days of Orchid culture, blocks or logs of wood were largely used, with, in many cases, wire baskets for the more spreading kinds. These baskets were first made of iron wire, but this being found to be objectionable on account of its rusting, copper wire was substituted. Soon it got found out that Orchid roots and young growths did not like metallic substances, and slate was employed to make baskets of different shapes, which were fitted with wire suspenders. Later on the designs were very varied and fanciful, baskets being made of scollop-shells, Cocoa-nut husks, rods of Hazel, Oak, and Maple, all of which were found objectionable for some reason or other.

During all this time the ordinary flower-pot was making way, disguised to meet the case by having holes and slits to accommodate the air roots. This fashion of flower-pot at length became extensively used, but as it was alleged against it that it harboured insects, it had to give way to the plain, common garden pot, which is now doing such great service. But I am sure that we have allowed the common flower-pot to encroach too far, and that while we beat our predecessors with Odontoglossums, Masdevallias, and many other things which do perfectly well in pots, we have certainly lost ground with Saccolabiums, Aerides, and plants of that nature; so much so, that they are but poorly represented in many otherwise good collections. My own opinion is that it is solely through potting them instead of basketing them, and that in pots the chances are against them on many points. Their large fleshy roots do not get the air in pots that

they do in baskets, and when potted they are generally placed on the stage too far from the glass, and retain the water given them longer than these plants like.

Against these arguments it is said, with much truth, that it is impossible to suspend everything, and that when baskets are used they are dangerous to the plant when decaying. To this it may be answered that if it is for the benefit of the plant, some means of raising it to a fair distance from the glass should be found, and that if the Saccolabiums and Aerides have done well in baskets, which would have done badly in pots, the trouble of removing the old basket and replacing it with a new one ought not to be considered. The specimen Saccolabiums at Mrs. Lawrence's, that with twenty spikes at Mr. Blandy's, and all the others in those days, were in baskets, and I do not think their equals will ever be found in pots.

The Orchid baskets, too, are so much improved in the present day that all objection to them has been removed, and I venture to predict a great future for them. Those made by Mr. J. E. Bonny, of Downs Park Road, Hackney, are well finished, and the superior teak of which they are made will cause them to last for years. Those of Mr. Wm. Gordon, of Twickenham, too, are excellent, being made of teak and well put together; and I should like those who are not satisfied with their Saccolabiums, Aerides, and smaller Vandas, to try them in baskets, using plenty of crocks and charcoal where obtainable, and only a little sphagnum moss.

In growing this class of plants, if the growers would but take the hint from the Dendrobes, which grow with them in their native habitats, and make the growing-time of the Saccolabium to correspond with theirs, they would give their plants less heat and water in winter and more in spring and summer, and a better condition would come upon them. The excessive heat which is often given to Saccolabiums and Aerides, and given, too, in winter, and while they are so far away from what little light there is, stunts them, prevents their flowering, and makes it hard work for them even to live.

Materials for Potting.

Now as to materials for potting. Good living sphagnum for Saccolabiums, Aerides, Vandas, Phalænopsis, Angræcums, and others of like growth, and the fibre of peat composed of Fern root alone for Cattleyas and Lælias has always been considered the best. Unfortunately, much of the peat of late years has been of Grass and Heath root, which is liable to rapid decay, and consequently to cause injury to the plants. Various materials, such as cocoa-nut fibre, have been advanced to supersede peat, but none have proved acceptable. I therefore recommend all who wish their plants well to keep to the sphagnum moss and the best peat they can get, using the less of the latter when it is not good, and to leave experiments to others. There are always plenty ready to try new things, and curiously enough it is never the learner who carries the experiments to a serious conclusion, but the well-tried old hand, who, having done all that is good and reasonable, goes in for a new idea on a large scale.

I can call to mind several unaccountable instances of this kind, in one of which I remember a clever grower in the north, who had for years grown his plants to perfection, suddenly became possessed with the idea that chopped sphagnum, and what appeared to me to be road-grit, was the proper thing for all Orchids, and forthwith he proceeded to pot them in it. In another case I found that a previously well-grown collection had been potted in sphagnum moss and what I was told was prepared cocoa-nut fibre. How effectual the preparation was in getting the plants ready to depart this life I need not say.

Above all things, a steady perseverance in what others have found to be a correct method of treatment answers best, and it is better to leave doubtful experiments to their originators until they are proven. The worst of it is that wonder-workers are never tired of getting others to injure their plants by trying their schemes, and hence much mischief occurs. For my part, I have generally found that the extreme practices which we hear of from time to time in the end only go to prove the extraordinary tenacity of life in Orchids, and their adaptability to the different kinds of treatment they must necessarily receive at different hands.

Shading and Heating.

Next comes the shading and heating of the Orchid-house. With respect to the shading, I am convinced that all Orchids should be shaded against the direct rays of the sun, and that the shading should, where possible, be varied in thickness according to the plants contained in the house. Some of those very thin materials we see exhibited, when strengthened with webbing, do admirably for Lælias and other Mexican and Brazilian plants; the medium textures for Cattleyas, and the thickest for Cypripediums, Masdevallias, and all cold-house plants, all East Indian Orchids, and all terrestial Orchids, such as Calanthe veratrifolia, Phajus Wallichii, &c. These grow in dense jungles, and bright sunlight dwarfs them and altogether spoils them.

I saw a remarkable instance of this recently in a garden where a Calanthe veratrifolia had been kept in a sunny house for years, and had always been a miserable and stunted object. At length it was placed out of the way on the centre bed, and underneath the tall plants, which effectually hid it from view. In a very short time it became a robust, free-flowering plant. I have seen many similar cases where excessive sunlight under glass has had much the same effect as excessive cold would have done. I therefore assert that although most Orchids require a clear light, yet when grown under glass all of them should be sheltered from the unbroken rays of the sun from the time it gets the power to injure until its power wanes. For Orchids in flower a thick shading is absolutely necessary, as the flowers last twice as long shaded, and draw on the strength of the plants much less than they do when exposed to the sun. As regards the heating of Orchid-houses, I early found that it was necessary to have some plan, and to adhere to it, checking it by the thermometer. I therefore compiled the following scale for the whole year:—

Table of Temperatures for Orchid-houses.

Months.	Warm House. East Indian.		Cattleya, or Intermediate House.		Cool, or Odontoglossum House.	
	Day. Degrs.	Night Degs.	Day. Degrs.	Night Degs.	Day. Degrs.	Night Degs.
January	65—70	60	60—65	55	50—55	45
February	65—70	60	60—65	55	50—55	45
March	65—70	60	60—65	55	55—60	50
April	65—70	60	60—65	55	55—60	50
May	70—75	65	65—70	60	60—65	55
June	75—80	70	70—75	65	60—65	55
July	75—85	70	70—80	65	60—70	55
August	75—85	70	70—80	65	60—70	55
September	75—80	70	70—75	65	60—65	55
October	70—75	65	65—70	60	60—65	55
November	65—70	60	60—65	55	55—60	50
December	65—70	60	60—65	55	50—55	45

Degrees Fahrenheit. The higher day temperature to be attained by Sun heat when possible.

This scale cannot, of course, be followed to the letter, neither is it necessary that it should be; it is intended rather to give a basis on which to operate, to enforce a strict guard over the regulation of the heating, and to the preserving of that lower night temperature which is of such vital consequence to the plants, and which should in all cases be insured by night ventilation and by every other means at command. In summer the prescribed temperature will often be exceeded, but it hardly matters by how much if the extra rise is due to sun-heat, and the houses in which the plants are are properly shaded and kept moist.

Arrangement of the Plants.

And now the manner of the arrangement of the plants in the houses demands attention, as I am bound to confess that in all ages of Orchid culture, even down to this day, a great mortality has always prevailed among small growing plants; this arises probably, in many cases, from excessive heat and too little air, but in by far the greater number of cases by the lesser plants being made to occupy the front portions of the graduated stages, thus reversing the proper order of things and placing the strong plants near the glass and the weak and dwarf ones the farthest from it. From this cause I am sure the periodical scarcity of the Ionopsis, Trichocentrums, Comparettias, Barkerias, and such-like frail things may, in a great measure, be attributed to the distance they are grown from the glass. Indeed, it is of the highest importance that in general practice some attempt should be made to arrange the plants with relation to the distance from the glass of the roof according to their height and general growth. Hence, the very smallest should always be grown on blocks, rafts, or in baskets or shallow pans, and the others arranged according to their heights, as nearly as the necessity for occupying all the staging will permit.

Allowing 1 ft. from the glass as the safety line, a good rough rule may be laid down that every small or medium-sized true epiphytal Orchid will do best if brought to within its own height of that line; thus, if a plant is 12 ins. high it should be brought to within 2 ft. of the glass of the roof; if 1 ft. 6 ins. to 2 ft. 6 ins., and so on until the larger and stronger growing kinds which will do in any position are reached.

The rule should be approached as nearly as possible with small things, but with large ones a distance of 3 ft. from the glass is a convenient and good one. Of course, this rule, like every other in such an elastic matter as Orchid culture, cannot be adhered to in all cases, but if steadily kept in mind and followed where practicable, it will be found of the greatest service in preserving the delicate subjects. Cypripediums, Masdevallias, cool-house Orchids generally, and terrestrial Orchids, although requiring some consideration in the same way, are not included in those which it is absolutely necessary to arrange after some modification of the before-mentioned plan.

And now after I have endeavoured to gain converts by showing that Orchid culture is a pleasant occupation to those who possess some skill and much diligence, and who are willing to observe nature and follow her dictates in the culture of their plants, demanding of them only twelve months' work in a year, exercising their judgment in all cases to the best of their ability, and maintaining the most scrupulous cleanliness in houses, plants, and everything around their plants, let me finish with a few observations as to the cost of the plants.

The Cost of Orchids.

On this head it may safely be said that never were good showy Orchids to be obtained at more convenient prices, and that the present regulation of supply and demand, while presenting to the wealthy collector rare plants for which he must pay well, at the same time offer to him who finds a congenial pastime in tending his one or two little houses of Orchids, plenty of beautiful things as well within the reach of his purse as any ordinary plant would be. Indeed, good things are cheaper now than ever they were, and with the exception of a few very high prices, those realized now-a-days are not the outcome of a new Orchid craze, as a comparison with former prices will prove.

Rare things, according to the esteem in which they are held in their day, have always commanded good prices. In March 1846, at a sale of Guatemalan Orchids at Stevens's, Cœlia macrostachya realized £10 to £12 10*s.*; Barkeria spectabilis, £5 to £17 each; Epidendrum Stamfordianum, 5 guineas; Lælia superbiens, £13 to £15; Mormodes and Epidendrums, 5 to 10 guineas each, and Arpophyllums, £10 to £15 each; the 168 lots realizing £600. In 1845, D. aqueum fetched £10 a plant, and later on D. formosum 15 guineas, other Dendrobes, £10 to £12 each; Oncidium macranthum, £5 to £8 each. In 1847, the imported plants of Vanda Lowii fetched from £10 to £25 each; Aerides maculosum, £20; A. crispum, £21; A. odoratum, £16, and others equally high prices; Mrs. Lawrence, the Earl of Derby, Mr. Rucker, and Mr. Schroder being the principal buyers. Notes taken at the same period also tell us that errors of description were more frequent in former times than in ours. Ansellia Africana is described as having immense sprays of handsome flowers each as large as a Tulip, and in another case the auctioneer is entrusted with the sale of a bright scarlet Vanda!

It will, therefore, be seen that ever since Orchids were introduced they could command prices according to their beauty or rarity, and so no doubt it will continue to be. Let us hope that the now great facilities for obtaining handsome things, formerly very expensive, may with the aid of the display of their beauties that is Conference, induce many new growers to commence, each according to his means, for out of such ranks our great Orchid-growers of the future will be recruited.

The Amateurs' Garden.

THE GREENHOUSE.

To keep the Greenhouse gay up to this period, when there are so many spring-flowering plants available, is easy enough, but after these are over, the thing becomes somewhat difficult, unless a certain amount of foresight is exercised to provide some of the annuals that come in during the summer, among which may be named the Balsams, Celosias, Torenia Fournieri, Browallia elata, Salpiglossis, and Schizanthus, as well as getting up a stock of Fuchsias, Zonal Pelargoniums, Tuberous Begonias, Single and Double Petunias, and plants of that class. Any or all of these will now do well in frames, the Balsams, Celosias, and Torenias being the only ones among them requiring artificial heat, which may be afforded them by fermenting material, and in this they should be plunged thinly, with their heads well up to the glass, to keep them dwarf and sturdy, a condition they will remain in if they have full light upon them.

Azaleas that have gone out of bloom ought to have the seed-pods picked off at once, and the plants placed where they can be kept close and syringed once or twice a day to assist them in their growth and keep them free from thrip, an insect that is sure to assail them if the air of the house or pit they are in remains dry. Any that are pot-bound will need a shift into pots two sizes larger, and these must be well drained by having about 1½ in. of small crocks, besides the large one put over the hole. For potting them in, there is nothing like tough, fibry peat, which should be used rather rough, and rammed very firm, as the balls of these plants cannot be made too compact.

Chrysanthemums will also require repotting, the soil best adapted for these being good loam mixed with a little rotten manure, and as soon as the plants are potted they should be plunged in some sheltered sunny spot, to prevent a too rapid drying at the roots, which is sure to take place if the pots stand exposed. For plunging them in, half-rotten or short straw is as good as anything, as it is non-conducting, and keeps the soil cool.

Zonal Pelargoniums, Fuchsias, and Petunias, also do well out-of-doors plunged in the same way, and any so treated generally flower much better than those kept under glass.

THE FLOWER GARDEN.

Spring Bedding-plants.—The time has now arrived when beds must be cleared of spring-flowering plants, that they may be prepared for their summer occupants; but in doing this, it is necessary to bear in mind that next season has to be provided for, and, therefore, every care should be taken of the plants removed by replanting them in some spare piece of ground, where they can complete their growth, and form and set blooms for a future display. The way to treat Pansies and Daisies is to divide them, which may be done by pulling them apart, when they should be put in in rows, the most suitable place for them being a shady situation, where they can be supplied during summer with plenty of water, and have a soaking or two with liquid manure, when they will make fine plants by the autumn.

Violets require treating in a similar way, as they cannot be got to flower freely after they have been standing some time in one place; but by dividing them, and replanting the finest runners or crowns in fresh ground, they grow strong and bloom profusely after, if their leaves are kept free from red-spider during the summer; this may be done by frequently sprinkling the plants overhead, as red-spider does not like wet, and only flourishes when the air is dry, or the Violets are in that state at the roots.

Bedding-out.—Although the month is far advanced, frosts and cold winds have continued, and it is only safe to bed out the more hardy of the plants, beginning first with the Calceolarias and others that have been exposed to fit them for the change, as though they may escape actual frost, sun and wind will brown or discolour the leaves, and this gives a check from which the plants are slow in recovering. The first week in June will be quite time enough for Asters and Zinnias, and to grow these well, the beds should be manured and deeply dug, and the same for Stocks, as all these annuals like rich soil, and only send up fine flowers when they can get their roots down and find the rich food they require. For Pelargoniums, the soil cannot be too poor, and it is a good plan in the management of these to drop them in the beds just as they are, in their pots, as then, instead of going to leaf, they make short-jointed growth, and bloom with the greatest of freedom.

Roses.—The season seems to be favouring these, as they are looking well, but they need close watching, as this is just the time the maggot gets to work and does the most mischief by eating out the buds, and thus destroying the flower. To prevent this, the plants should be gone over two or three times a week, and have any curled leaves slightly squeezed, as it is in them the maggot lurks, and pressure between the thumb and finger will smash them up without hurting the foliage. If green-fly is showing itself, that must be dealt with in a different way, the quickest and most effectual being to dip the points of the shoots in tobacco-water, which, as they are long now, may easily be done by having the liquid in a bowl, or other vessel, and with the right hand bringing the shoots down into it till the whole have been immersed, after which they should be syringed to wash the dead insects off and make the plants clean. To have them vigorous and healthy, mulching is of the first importance towards securing that end, and when the weather is dry, sewage or liquid manure is the thing, as fine Roses cannot be had without liberal feeding, and on gravelly or well-drained land it is almost impossible to keep the plants too wet at the roots.

The Lawn.—Without this receives unremitting attention it soon gets out of order, as the grass not only becomes long, but when it is cut the surface presents a shabby appearance, instead of which if the mowing machine were run over it at least once a week it will assume a velvet-like look, and set off the beds and borders to the greatest advantage.

Box Edgings.—If not already done, the clipping of these should be no longer deferred, or they will not have time to break again before hot weather sets in, and it becomes too late for them to make any growth.

Walks.—Grass and other weeds are now growing apace in these, and must either be pulled out and the gravel rolled down, or watered with hot salt water, but if this is used care must be taken to keep it from the sides, where it would damage the edging.

THE FRUIT GARDEN.

The Vinery.—The temperature of the vinery should now be kept regularly at 60 degs. by night, and 70 degs. to 75 degs. by day, allowing an increase of 10 degs. or so by sun heat when the house is closed in the afternoon, which it may be by three or four o'clock, according to the aspect it stands in, as after that time there is no fear of the foliage being scorched, if the floors and other surfaces are well damped down, so as to throw out plenty of moisture. It is the practice with some to syringe the Vines, but though this answers very well up to a certain period, it should never be done after the berries are set, for however clear the water may appear, it is almost sure to leave a deposit, which quite spoils the bloom. Of humidity in the atmosphere it is almost impossible to have too much, especially during hot days when the ventilators are wide open, and to counteract the aridity of the air then the pathways should be frequently sprinkled by using a fine-rosed pot.

If the border is inside the house it will be necessary to give a good soaking, which will be sufficient till the Grapes are stoned, when another heavy watering will be required to carry them through to the finish. With regard to the treatment of the Vines, the thing is to keep all laterals or shoots that show below the bunches rubbed out, and others above stopped to one leaf, as it is useless having more foliage than can be fully exposed to the light and sun without the leaves over-lapping each other, although every part of the roof should be covered.

The way to manage young Vines that have been recently planted, as regards air, heat, and atmospheric moisture, is just the same as that touched on above for those established, but after pinching back all laterals to one leaf for about three parts of the distance up the rafter, those that form above should be allowed to run, as the more liberty they have at top the more root will they make, which will cause the rods to swell to a large size and give them strength to come quickly into bearing.

Raspberries, Gooseberries, and Currants.—Raspberries will now be in active growth and sending up quantities of suckers, all of which should be pulled up or cut off, except four or five of the strongest and best situated round each of the stools, which it is necessary to leave for bearing next year. In some gardens the Gooseberry caterpillar gives much trouble, and as this insect makes its appearance about this time, the bushes will need watching, that the caterpillars may be picked off before they devour the foliage and thus spoil the fruit. Currants are only subject to green-fly, which get on the tips of the young tender shoots, but by nipping the points of these off and carrying them away, all further mischief is stopped.

THE VEGETABLE GARDEN.

Tomatos have become such a favourite esculent of late years that almost everyone uses them now, and many essay to grow them, but fail through not getting their plants strong and forward before putting them out, which is the great secret towards success in obtaining a crop of ripe fruit. For planting Tomatos there is no place equal to a south wall or fence having the same aspect, as they like great heat and all the sun they can get, but those who have not the convenience of such a situation may do very well with them on any warm border or other sheltered, sunny part of the garden where the plants can be trained and tied up to stakes. When first put out, whether on walls, fences, or in the open, it is a good plan to shelter them by sticking in a branch of evergreen at their sides or behind them to break the wind and prevent any check till they get a fair start.

Spinach.—As this is a vegetable that runs to seed quickly, small sowings should be made frequently, the best situation for it after this season being a north border, where it will get a little shade and be in a cooler position than if growing in a bed in the open, and the same with Turnips and Radishes, which, if subjected to much sun, taste strong and become hard and stringy in the flesh before they reach a size fit to use.

Lettuces should now be sown where they are to stand, as in hot, dry weather it is impossible to transplant them without entailing such a check as to prevent them attaining much size or causing them to run up to seed. To have the Lettuce with fine large hearts, and crisp and good, the land for them must be rich and firm, and it will be a great help to the plants if they now and then get a soaking of liquid manure.

A NEW FLOWER BASKET.

Among a host of pretty things in the florist's way to be seen at Mr. William Gordon's, 40, Duke Street, St. James's, are some new baskets for plants and cut-flowers combined, which should take the fancy of all who wish to combine elegance and usefulness with economy. As will be seen by the accompanying illustration, the baskets are made of teak, like those for Orchids, but taller (12 ins. high), and smaller in the middle. When being planted, from four to six earthenware tubes, 3½ ins. long, for holding cut-flowers, are inserted at intervals. The Palms, Ferns, and Selaginellas with which the baskets are planted form beautiful permanent objects, the appearance of which can be varied at pleasure by the addition of fresh cut-flowers. The basket illustrated contained a nice young Palm, about 20 ins. high in the centre, with such Ferns as the Maiden-hair and Pteris cretica, mixed with Selaginella Kraussiana at the base. In the tubes were cut blooms of the Pheasant's-eye Narciss, and of a ruby-red-coloured Ixia. Other examples we noticed for their exceedingly chaste character contained Daffodils of various sorts, and lovely spikes of Odontoglossums. Such baskets as these can readily be made up by anyone possessed of taste, and even when not in full plumage they are objects to admire.

ON POTTING PLANTS.

The act of potting is one of considerable importance in its bearings on the welfare of plants, and it may be said with truth that when plants are grown in pots they may be considered to be placed under unnatural circumstances. The difference that exists between a plant in a pot and one growing in the free earth is, that in the former case its roots are subject to a much greater variation of temperature and increased evaporation than in the latter, whilst they are also circumscribed or limited in their extension by the confined space afforded by the pot. Variation in the temperature of the soil takes place much sooner and to a considerably greater extent in a pot than in the natural free soil of the garden, for this reason, that the bulk being limited and exposed on all sides to the action of the air and currents, so small a body is heated and cooled (within certain limits) with considerably greater facility than in the other case, where the temperature is much more uniform at a given depth from the surface than in the other. Evaporation also, which has a great influence on temperature, as well as on the state of dryness or moisture of the soil, is constantly going on more freely than in the garden border, for the whole body of the soil is parting with its moisture from the surface and circumference of the pot; porous materials being generally made use of for garden pots, much facilitates this.

Of course, so far as relates to temperature and evaporation, these remarks do not apply to plants that have their pots plunged in the open ground, &c., in which condition they differ from other plants merely in their roots being confined to the pots, but without being allowed to ramify beyond it. In consequence of their position, therefore, plants grown in pots are constantly liable to have their roots cooled, scorched, and dried by the action of the atmosphere. To obviate these disadvantages attendant on so convenient a method of growing his favourites, requires the constant skill of the cultivator. By well-considered treatment, plants may be grown to a high state of perfection in pots; indeed, in some cases more so than in free soil. In order to do this they require proper attention to watering, to suitable quantities, and at the right time. It is well-known that if there be imperfect drainage, so that the water is allowed to stagnate, or to become "soured," as it is termed by gardeners, the plant will sooner or later become diseased; therefore sufficient drainage is also a matter of the greatest importance for superabundant moisture.

To prevent the sides of the pots becoming heated by the sun is not so easily effected, unless they be plunged, surrounded with some such material as moss, or placed so closely as to shade each other. To grow plants too closely together is, however, a practice to be condemned, especially with specimens. Different kinds of plants require more or less drainage, as well as of shade. As instances of this may be mentioned succulents, Orchids, and plants with hair-like roots, as Heaths and many others, which require a very free drainage; all plants that require rich moist soil, as many of the vigorous tropical herbaceous plants, not so much, and should have their pots plunged in soil, tan, &c., or be surrounded by moss or other imperfectly heat-conducting materials.

A NEW FLOWER STAND.

I have often thought of the method of potting nearly forty years ago, when I went into a garden for the first time. There was a house of very mixed plants growing on an abruptly sloping stage, and the gardener had not the slightest idea of growing one of them into a bush or specimen shape. They were in the main hard-wooded plants, tied up to a tall straight stick, the tallest plants on the lowest shelves, the shortest on the highest. In this way ascending lines of pots were mainly exposed to view. One kind of compost was mixed for the whole of them, and there was a general potting day or two at the end of the summer. One object sought by the arrangement was to present to view an even face on the stage, and I have heard Mr. John Lee say that years ago he knew gardeners who would take a pair of shears and go over the plants, cutting away any shoots to creepers or growths to bushy plants that interfered with this even surface. I can quite believe that.

In potting plants several particulars should be attended to: it is very desirable the pots should be clean and dry; if not, and particles of soil adhere to the inside, the fresh earth put in will become so fixed as to prevent the ball being easily turned out, when the plant requires shifting, without injuring tender or fibrous roots. The same will occur when a plant is put into a wet pot, which will sodden or sour the new soil by closing up the pores of the sides. When newly-rooted cuttings, layers, or young plants are to be potted, it is the practice to put them at first into small pots, the size depending mainly on the bulk of the plant, and the vigour of the growth or power of forming roots. The hole in the pot is first covered with broken crocks, one being first placed over the hole with the concave side downwards; over this it is well to place a layer of moss, or coarse leaf-mould, or crocks broken up very small, so as to prevent the soil being washed down among the drainage. Some soil is put over this, and on this the roots are carefully spread out, and the pot filled up with soil to within ½ in. of the rim. It is there consolidated by a few taps on the potting-bench, and made firm round the sides by the pressure of the thumb. Some amateurs frequently fill their pots with soil quite up to the rims, and so no room is left for watering the surface. The proper depth to place the plant in the pot is just so far as that the collar, or place where the roots join the stem, be just beneath the surface of the soil.

Some plants, as for instance Heaths, do best when potted with the soil slightly elevated in the centre of the pot, whilst others do equally well in the ordinary way. Plants of larger size, without balls of earth to the roots, are potted in exactly the same manner as smaller ones, excepting that they require larger pots in proportion to their size. Plants with balls of earth, such as are taken up out of the border, and potted at the end of autumn, as Zonal Pelargoniums, Fuchsias, &c., require pots of suitable size to admit the roots without having to break the balls of earth. It is a good plan, adopted by some in cases where the plants have grown vigorously, to cut the roots all round, at some distance from the stem, a short time before taking them up, by which the plants receive a check before, that prepares them for the still greater check which they will unavoidably receive afterwards when potted. This process is advisable in the case of strong-growing plants.

After being newly potted, all plants should receive

a sufficiency of water to moisten uniformly the whole of the soil in the pot, but it is well not to give it for a day or two; also, until they begin to form fresh roots, or become established in their new quarters, they should be shaded from the sun. In shifting plants into a larger-sized pot, it is generally advantageous to select one that is about one, or not more than two, sizes larger than the old pot, as the production of rootlets is considered to be much encouraged by their being nearer the sides of the pots. Much injury is sometimes inflicted by careless shifting. It will frequently occur, especially when the operation has been too long deferred, that a mass of closely-bound roots will be found enclosing the crocks or draining material, in endeavouring to free which, as well as in loosening the soil outside the ball of earth, many of the roots and tender rootlets are seriously injured, from the effects of which the plant is sometimes a long time recovering.—*Quo.*

ENTOMOLOGICAL NOTES.

The Codlin Moth Caterpillar.—This does much harm in some years by feeding within the growing Apples, until the destruction of the centre of the fruit causes it to fall to the ground. The simple plan of having the small fallen Apples (which are quite worthless) gathered up as soon as possible, and destroyed before the caterpillar has left the fruit, is the best method of prevention. The caterpillar usually leaves the Apple soon after it has fallen, and crawls up the tree to turn to chrysalis, or in some cases hybernate in caterpillar state under rough bark or other shelter. If, therefore, the grubs can be prevented crawling up the stem by a band of any sticky composition being smeared round the lower part of the trunk, much of this attack would be prevented. For present prevention (even as late as the next week or two) it would be worth while, in the case of choice trees which are suspected of being infested, to scrape off any rough bark, and rub and brush soft soap well into any forks or rifts where the chrysalids, or even hybernated caterpillars, may be sheltering.

It has been found in Germany and in California, though I am not aware that it has been reported in England, that the caterpillar sometimes winters beneath the surface of the earth, close to the trunk of the tree, or in decayed roots. I therefore advise turning the soil back, just round the stem, to a depth of about 6 ins., and replacing it with a little fresh soil and quicklime. In my own garden I have had the ground, for about 1 ft. round all the trees, soaked on the surface with paraffin and water.

The first attack of the season comes from the moths, which will soon be appearing (unless prevented as above) and laying their eggs on some part of the blossom or embryo fruit, whence the caterpillars eat into the young forming Apple. Later on, if a second attack occurs, the caterpillars eat their way into sound formed fruit. This attack needs watching, for the "codlin moth" (Carpocapsa pomonana) is very hurtful to American fruit, and the amount of injury may prove to be increased by imported Apples. Where packing-cases or baskets have held grub-infested fruit, they should be disinfected by thorough scalding, or any other treatment that would kill the grubs.

Bean Caterpillars.—In regard to the Bean caterpillars, inquiry was sent early in March respecting "earth grubs," which were then destroying winter Beans, by gnawing their stems through underground. About two acres of the twenty-acre field attacked were then considered to be past hope. The caterpillars were about 1 in. long, creamy-white, more or less dotted with black, with brown horny heads, and brown mark on next segment, and agreed with the figure and description given by John Curtis of the caterpillars of the garden swift moth, the Hepialus lupulinus, of which he said that the "destructive qualities were scarcely to be equalled by the surface grubs."

They feed on the roots of a great variety of plants, but especially on those of Grass in meadows and on couch Grass; but as far as is known are not like the allied kind, the Hepialus humuli, hurtful to hops. The caterpillars sent from Beans did well in earth containing only Grass roots. The chrysalids are to be found in the ground in May. The moths are upwards of 1 in. across in the spread of the wings, and very variable in colour, but commonly the upper wings of the male are of a tawny or clay colour, with a few white lines making a short stripe down the middle of the wing, and a kind of narrow band within the hinder margin and extremity. The females are more dusky. The hind wings are brown or greyish. The moths may be seen in large numbers at evening time towards the end of May, and in June, in meadows and hovering over grassy banks; and the caterpillars are especially named as having been observed in the roots of common couch Grass.

All the measures found serviceable in breaking up pasture land, or Wheat stubble, relatively to clearing out wireworm or daddy long-legs grubs, would act equally well to destroy these swift moth caterpillars, which are to be found in these localities, and which, being soft and much more liable to injury, would be more readily acted on by the regular dressings and treatment than the above-named hard or tough grubs. Where the moths have been seen in large numbers over Wheat stubbles late in the summer, or on fields foul with couch Grass, it would be desirable to skim, and collect, and burn the roots. The bad attack mentioned above was after wheat.

When a growing crop is infested, hoeing as much as possible amongst the plants may do good, likewise applications such as nitrate of soda, or guano and a little salt, or paraffin in ashes; but autumn prevention is the best remedy. From specimens sent in previous years I believe this attack to be not uncommon.

The Bean-seed Weevil.—Samples of Bean seed infested by Bruchi, the common "Bean-seed weevil," were forwarded with inquiries, to which I replied—that this attack seldom affects the germ, so that the Bean is not prevented from sprouting, but it weakens the growing power of the young plant at its first start in proportion to the amount of the cotyledons (or first leaves in embryo state) eaten away within the seed; that the beetle, in whatever state it may happen to be, if alive in the seed at the time of sowing, will not be killed by being buried, but will in due time come out, to lay eggs in the very earliest stage of the forming pod; that to avoid this, seed should be rejected of which the sample is obviously infested, by showing round perforations from which the beetle has escaped, or (what is much worse) round depressions in the skin, which show that the insect has not yet thrown off the end of its gallery, and is still harboured within.

Much of this attack of Bean or of Pea-seed weevil might be avoided, and it is avoided in some instances, by seedsmen being careful not to purchase seed imported from districts in America or Southern Europe which are known to be infested.—*From Miss Ormerod's Report to the Royal Agricultural Society.*

THE LATE MR. TURNER.

Our late friend, Mr. Charles Turner, occupied a very prominent position among the pioneers of floriculture, and the immense strides that have been made during the last half century, all must admit, are largely due to his sound judgment and constant devotion to the cause of floriculture. I first became acquainted with Mr. Turner when he was at Chalvey, about forty years ago, when I was honorary secretary to a gardeners' association, and I well remember receiving from him a very fine box of Pansies, which were placed on the table for inspection. The blooms sent were of the leading varieties grown at that time, many of them seedlings raised by himself, and I have by me now the report of that meeting, and the names of all the Pansies staged.

Subsequent to the period mentioned, I have had business dealings with him, and have no hesitation in saying that a more honourable man I never was acquainted with; and when I tell you that my gardening career commenced in 1832-33, it may be inferred that my knowledge of men who have contributed so much to the advancement of the profession is by no means of a limited character. I have been on familiar terms professionally with very many who have long since passed away, but there is no one whose memory I esteem more highly than that of our valued florist-friend, the late Mr. Charles, Turner.—*Man of Kent.*

FRUITS.

Fruit Culture under Glass.—Strawberries: These we grow chiefly on a series of shelves suspended from the rafters on either side of the ridge, in a low span-roofed range of Cucumber and Melon-houses, and every morning those plants the fruits on which are approaching maturity are shifted into the early and second early Melon-houses in which the fruits are ripe and ripening, to fill the space vacated by plants from which the crops were taken the previous evening for dessert. The somewhat dry, warm, and airy atmosphere necessary to give flavour and colour to the Melons is alike suitable for Strawberries in this stage of growth, as also is the atmosphere—as regards moisture, the reverse of that indicated above—maintained in Cucumber and Melon-houses in which the plants are swelling their fruits congenial to the requirements of the Strawberry plants in a like stage of development. These, in order to secure the best possible in the shape of large, well-flavoured fruits, should be given copious supplies of tepid diluted liquid manure at the roots until the fruit begins to colour, when clear water only should be given. The plants, too, should be well-syringed overhead morning and afternoon when damping the Melon and Cucumber plants, surface of the beds in which they are growing, pathways, &c., as much with a view to promoting a growing atmosphere as to keep the plants free from the ravages of red-spider.—*H. W. Ward, Longford Castle.*

Cox's Orange Pippin Apple.—Among the many things that can be placed to the credit of the late Mr. Charles Turner, is that of having done a great deal to popularize this very fine and useful Apple. He was a great admirer of it, and appeared to care more for it than any other variety, if not for any other fruit, and when it was in season he invariably carried some about with him in his pocket. He became strongly impressed with the value of this Apple about thirty years ago, and one means adopted to make it known was that of figuring it in *The Florist* for November, 1858, which Mr. Turner then edited. This number contains an admirable and truthful represention of this Apple, made by the late James Andrews, of Walworth, one of the best, if not the best, floral artist of his day.

In 1858, Cox's Orange Pippin Apple was by no means new, for it was "raised in 1830 by R. Cox, Esq., of Colnbrook Lawn, Bucks, from seed of the Ribston Pippin; and from a pip of the same batch Cox's Pomona also originated, being rather a singular circumstance that two good Apples of very opposite characters should have sprung from a sowing of nine seeds, while some years ago the late T. A. Knight, Esq., at one time planted thousands of seedlings, out of which the Downton Pippin was the only Apple worthy of note." Cox's Orange Pippin passed into the hands of Mr. Small, a nurseryman of Colnbrook, the raiser of Small's Admirable, by whom it was propagated and sent out, but years elapsed before the merits of an Apple possessing such excellent qualities came to be properly known and appreciated.

It was in 1854 that this Apple came prominently before the public. In 1857, at a great fruit show held by the Royal Horticultural Society, it was tested against and placed before that old English favourite, the Ribston Pippin. This brought it prominently into notice, and from that time came a great demand for it. Our London fruit-growers planted it largely, among them Mr. Francis Dancer, of Little Sutton, Chiswick, but he was disappointed with it as a cropper, and a few years ago dug up many of his trees and replaced them with Stirling Castle. One of our best authorities on Apples speaks of it as "a weakly grower, and requiring to be grown on rich light ground, in a sheltered situation, as the leaves are tender and apt to be mildewed by early spring frosts, or cutting winds in May." It would appear

that the tree does better upon the Paradise Stock than upon the Crab.

What is the origin of the term "Pippin," and why is it applied to the Apple? A "Pippin" has been denominated a tart Apple, but I doubt if this is the full meaning of the term in its present relation.—*Quo.*

FLOWERS.

Work in the Plant-houses.—Cinerarias: It will now be time to sow the Cineraria seeds, and as the plants are subject to so many kinds of insect pests, care should be taken from the first that they are not placed near any other plants that are likely to introduce them. If the seed is sown now it may be placed in the coolest position available, such as a frame under a north wall. Where only a limited number of plants are required, the seed may be sown in pans or boxes, but where larger numbers are grown it is better to prepare a frame by putting in a little fresh soil, and sow the seed thinly over the surface; if done this way it will save the trouble of pricking off, as the plants may remain until they are large enough for potting into small pots. As soon as the seeds begin to germinate, careful watch must be kept for snails and slugs, which will often carry off a crop before one is aware that the seed has begun to germinate.

Tree Carnations should now be ready for potting-on into 48-sized pots, and if the plants have been hardened off they may be placed out-of-doors after potting. They should, however, have a sheltered position, or, where convenience will allow, it is as well to have them in pits or frames, where they can be protected from heavy rains. Stopping should not be done at the time of potting, but where the plants have not already been stopped, they should be allowed to stand until they have rooted into the fresh soil. Where the plants are to be placed out-of-doors they should each have a stick and one tie at least, to prevent the wind from twisting them about.

Drawing-room Bouquets. — White flowers seemed the favourites for bouquets at a late "Drawing-room," and of these, Lilies of the Valley were the most numerous, their large full bells, a score perhaps on one stem, proving the care expended upon the cultivation of this sweetly perfumed little flower. A bouquet of white Rose-buds and Lilies of the Valley, with only the young leaves of the Roses for relief, was one of the most beautiful that appeared at the Drawing-room. Another consisted of yellow Roses and Marguerites of precisely the same shade. An enormous bouquet of white blooms with a fringe of Cyclamens of every shade was carried with a dress of palest water-blue. Nothing could have been happier than the union of colours. A large bunch of the softly-tinted Nice Azaleas was tried with moss-green velvet ribbons matching the train, while the flowers themselves reproduced the colours of the brocade that lined it. In another bouquet Orchids played the principal part, and a costly cluster of the same lovely flowers was fastened upon a corner of the train. The brilliant tints of a large posey of double variegated Tulips accompanied one of the numerous dresses in which gold brocade was freely used. A beautiful contrast was produced by grouping together scarlet Anemones and yellow Marguerites, but the blooms scarcely looked as though they would survive the hour. One lady made a great success with a bouquet of pink and white flowers. Her dress was white, her train cloth of silver brocaded with pink, and in the flowers these component colours were repeated. Another displayed a bunch of rare exotics of a brilliant scarlet tint, which almost "killed" the rather fainter colours of her dress. A bouquet of red, white, yellow, and pink Roses, tied with ribbons in which all these shades were echoed, once more proved the title of the Rose to be called the Queen of flowers. A bouquet of white Lilac was arranged with exquisite skill, the sprays bending outwards from the centre with the most perfect symmetry and yet a compactness that made the fragrant burden, exaggerated as was its size, comparatively easy to handle and to carry.—*Daily News.*

Eucomis bicolor.—A decided acquisition among the members of this genus is figured in the May number of *The Botanical Magazine.* It was sent from Natal, and flowered for the first time in this country in the autumn of 1878 with Messrs. Veitch & Sons. The drawing is made from a plant sent by J. M. Wood, Esq., of Inanda, Natal, to Kew, where it remained in flower for a long time during the winter of 1883-4 in the Cape House. The leaves are about 1 ft. long, also the peduncle; the racemes are dense, 3 ins. to 4 ins. long, and the flowers very pale green, with bright purple margins. Like the other members of this singular genus, the raceme is terminated by a tuft of small leaves.

Euphorbia Bojeri and E. splendens.—Notwithstanding that these two plants were introduced into this country upwards of half a century ago, we rarely meet with the former. The bracts of Bojeri are by far the deepest scarlet in colour, though hardly so large as those of splendens. It is needless to comment upon the merits of these charming plants, for splendens is to be found in nearly every collection of stove or greenhouse plants, being alike useful for ornamental purposes in the form of plants, or for cut-flowers where they are in demand. If Bojeri had the name of splendens, which it truly merits, undoubtedly we should meet with it oftener in cultivation. Both these plants were found by Professor Bojer growing on the borders of fields in Madagascar, and are known to the natives by the name of Soongo Soongo. They are not particular as to what mixture of soil is given them to root into, but we find that our plants root freely in loam, with a little peat and sand mixed together. The most essential point in their cultivation is plenty of sunlight and heat, and where they can get both, they flower freely, more or less, throughout the year.—*H.*

Fuchsia Mr. Stephens.—From Mr. W. E. Boyce, 87, Yerbury Road, Upper Holloway, we have received some flowers of this new variety, which he is now sending out. They are of medium size, with the tube and sepals a rich coral-red, and the corolla rosy-purple. In themselves they would not attract much attention, but combined with a very free and robust habit of growth, and a tendency to produce flowers in profusion at all seasons, we have a variety which is worth looking after. It is stated to be a very free winter-blooming sort, and certainly is a good one for cutting. It ought to make a capital plant for training under a conservatory roof, or growing against a wall.

VEGETABLES.

The Kitchen Gardener's Calendar.—State of the Crops: All kitchen garden crops except Potatos, which have been nipped by the frosts of the 7th and 11th inst., are very promising and forward considering the lateness of the season. Peas in every stage of haulm development are, as might be expected during a season like the present one, making a sturdy growth. Sutton's American Wonder and Sutton's Bijou—the former being the earlier of the two—are yielding nice gatherings of well-filled pods under glass in a cold pit. These supplies will be supplemented by gatherings from Day's Sunrise, William I., Sutton's Ringleader, and Webb's Wordsley Wonder, growing in warm borders out of doors.

Broccolis.—Cooling's Matchless, Cattell's Eclipse, Richmond Late White, Model, and Ledsham's Latest of All are, as they have been for several weeks past, abundant and good.

The same may be said of Dean's Early Snowball and Early London Cauliflowers (which until recently had the protection of handlights), and Wheeler's Imperial Cabbage. Queen and Early White Naples Onions are turning in well. So also are sowings of Turnip—Extra Early Milan, Strap-leaf, Early Purple Top Munich, and Early Snowball—which were made on March 6th last. Lettuces—Cooling's Leviathan Brown Cos, Hick's White Cos, and Lee's Immense Hardy Cabbage, raised from seed sown early in August last, are also plentiful and good, the heads being firm and well blanched.

Plants of Paris White and Paris Green Cos, and Grand Admiral and All the Year Round Cabbage Lettuces, which were raised in heat in January and subsequently treated as set forth from time to time in your columns, will make a good succession to the autumn-raised plants. We have recently made plantings on Celery ridges of plants from the nursery-beds, taking them up with nice moist balls of earth attached to the roots, and planting them carefully with a garden trowel, so as to subject the plants to as little check as possible in the process of being transplanted; they then had sufficient water to settle the soil about the roots.—*H. W. Ward.*

REVIEWS.

Ros Rosarum ex horto Poetarum.—By E. V. B. London: Elliott Stock, 1885.

The authoress, well known in the columns of our contemporary, *The Gardeners' Chronicle*, for many charming descriptive papers, gives the following second title to her book, "Dew of the Ever-living Rose, Gathered from the Poets' Gardens of Many Lands," thus translating with some addition the romantic title first given in Latin. In reading the book we cannot help feeling what a delightful task it must have been to write it! "To seek my sweets," says the writer in her preface, or rather in the "Epistle to the Gentle Reader," for there is nothing in this very original compilation so commonplace as a preface, "I have travelled to many distant lands, and gone back to the furthest past in which, so far as is known to me, the Rose was ever named."

The list of poems, and fables, and romances in prose and verse, which will make the book a treasure to all Rose lovers who possess it, commences with ancient Rose lore, such as "I am the Rose of Sharon and the Lily of the Valleys," from Solomon's Song, and ends appropriately with "The Funeral of the Rose," by Herrick, when—

> "The Rose was sick, and smiling died;
> And, being to be sanctified,
> About the bed there sighing stood
> The sweet and flowery sisterhood."

It seems to us that the Rose was buried by one of the sweetest poets who have sung for love of her, from Pindar to Robert Browning. We turned with eagerness to see what poor Clare said of the Rose, he being Nature's own poet. It is too long to quote, but his simple verses brought us into the midst of the English poets, who occupy—thanks to the writer, and may her good taste and discernment of excellence obtain a large circulation for the book—more than half the volume. So they ought, for what can foreign writers say to stir home memories, fond remembrance, and poetry in an English breast? What can they say like this?

> "Oh, my Luve's like a red, red Rose
> That's newly sprung in June:
> Oh, my Luve's like the melodie
> That's sweetly played in tune."

Or this?

> "Oh, sweet is she that lo'es me,
> As dew i' summer weeping
> In tears the Rosebuds steeping."

Or this?

> "I'll pu' the budding Rose, when
> Phœbus peeps in vain,
> For it's like a balmy kiss o' her sweet mou'.

And more of the like. These verses all harp on one string, no doubt, but it is Burns who harps, and on that string who can play so well as he? We should like to quote from Byron, Thomas Moore, Chaucer, Cowper, Shakespeare, and twenty more, indeed from all the heavenly choir that have chanted the Rose. But we must forbear, and without revealing more, we intend to keep the book close at hand and dip into it often, like a schoolboy with a cake in his locker—only we have here poems that will last for ever.

Throughout the book are scattered quaint little pictures and vignettes, illustrating the subject in a very original style, by the authoress's own pencil.

THE

Orchid Growers' Calendar.

Proliferous Roots of Orchids.—There have been various records of buds originating on the roots of Orchids lately, as in the instances quoted by Messrs. Lendy and Salter. I have long since attached great interest to such cases, but I made only a few observations, only one plant having often shown me this method of propagation. It is the Bird's-nest Orchid, Neottia Nidus-avis, which very often perishes after having flowered, while in other cases it produces fresh shoots from the axils of certain sheaths. In some instances it produces a fresh plant at the top of a root-fibre. I saw this in 1849, when I observed the fact at Tharant. I learned afterwards that it had been observed before by T. P. E. Vaucher, in 1841. After Vaucher and myself it was seen by Irmisch, Prillieux, Hofmeister—who got it from me; then it was formerly denied by Drude, and re-observed and neatly described by Eugène Warming, the excellent Scandinavian botanist.

The second case was observed in my Phalænopsis deliciosa, gathered in 1843 by Zollinger. My specimen shows a young plant on a root having just emitted a small rootlet of its own as described by Mr. Salter. This specimen can be seen in my herbarium.

The third case is a sad one. A Cyrtopodium (if I remember rightly a savannah plant from Venezuela) gave a fine shoot from a root in Consul Schiller's collection, under Mr. Schmidt's able management, I believe, in 1867. I watched it carefully. Finally a young assistant gardener broke it accidentally, and threw the shoot and part of the root away, hoping that the loss would never be remarked.

The last case is of Saccolabium micranthum, Lindl. Director Lucien Linden sent me lately a fine Cochin-Chinese plant, with a young two-leaved shoot on a root. The whole plant was boiled and carefully dried. It can be seen in my herbarium.—*Communicated by Professor Reichenbach to the Orchid Conference.*

Orchids at Kew.—One or two of the remarks of "A. F. L." in your last issue seem to require a reply from me. First, "A. F. L." assumes that I am "very angry." He is mistaken; but as I have nothing whatever to do with the Orchids, except occasionally to provide them with passports—as the process has recently not inappropriately been termed—I can afford to let this pass. But what is this "sanctum" into which the foot of the "profanum vulgus" may not enter? Simply three small houses filled with plants which the other houses cannot possibly contain; feeders, if you like, for as the plants come into bloom they are taken into the other houses. "A. F. L." makes a great point of this "sanctum," but my additional list was not made there. I admit that in thirteen days (May 2nd, my visit was made) a few species *may* have been brought out of it, but I have not inquired if this be so or not. In my previous letter, instead of saying "some of the above-mentioned," I should have said "some of the 1,000 species," with the explanation that they were brought out as they came into flower. "A. F. L." now says, "I positively saw only fifty-nine plants in bloom." Then why does he enumerate sixty-one species? But he did *not* "carefully note down all that were in bloom," for Epidendrum evectum is a large plant with a permanent position, and was in bloom long before April 19th, and will be long after. I can give more examples if necessary, and I myself overlooked a small unnamed Acampe and Sarcochilus Berkeleyi. "A. F. L." assures us that he "entered house No. 12, and in part of that house found" the Orchids. No doubt he did enter No. 12, which is the cool Economic-house; thence he entered No. 11, the warm Economic-house; thence No. 10, the Victoria Regia house; thence he entered No. 13, the warm Orchid-house, out of which he went into No. 14, the cool Orchid-house. After this, he may have gone into the open air from No. 14, or returned to No. 12; or, after passing through three long houses, which form the long side of the T range, have emerged by this exit. But surely "A. F. L." does not mean to call this range only a "house." As well call one side of a street a "house," if the houses are continuous. "A. F. L." presumes I am correct about the number of Orchids at Kew, but adds, "I did not see them." Perhaps not, though he might have seen over half of that number. Let me add, that no ill-feelings prompt this letter. I am very fond of Orchids, and frequently visit this collection; and when anyone writes about it, let them keep to facts.—*R. A. Rolfe.*

Oncidium Jonesianum.—We are informed, on good authority, that the beautiful Oncidium Jonesianum, a few plants of which Mons. de St. Légere collected last year, and which made such a favourable impression on flowering, has just been collected again by M. de St. Légere. The plant bears handsome flowers, somewhat resembling those of Odontoglossum Rossi majus, and is only found in certain parts of Paraguay. It is very rare, and a great deal of care is needed to find it in the less sheltered spots of elevated forests. In these places, the thermometer, we are told, often falls below freezing point. Some of the flower spikes give from twenty-seven to twenty-nine blooms. M. de St. Légere, the discoverer, has placed all the plants collected in the hands of Messrs. Fred. Horsman & Co. for disposal, together with some other new Orchids.

Dendrobium Phalænopsis.—This is a very handsome Australian Orchid, closely allied to D. bigibbum, D. superbiens, and D. Goldiei, all natives of the same botanical region. Mr. Fitzgerald regards this as the finest of Australian Orchids. The species is a native of Northern Australia and New Guinea. A figure is given in the May number of *The Botanical Magazine* of a plant obtained by Mr. Forbes in his recent expedition to Timor-laut. It is referred to the above species, though it is pointed out that the flowers are pendulous, while the Australian plant has them erect. This would seem to indicate that the two are not quite identical. The plant represented flowered at Kew last September. The flowers, as the name implies, are much like moths, or at any rate much like the genus Phalænopsis, 2 ins. in diameter, the sepals very pale pink, the petals rose-red, and much larger, and the lip dark purplish blood-red, tongue-shaped, and with two large incurved, rounded lateral lobes. The pseudo-bulbs are 1 ft. to 1½ ft. high, nearly as thick as the little finger; the leaves 6 ins. to 8 ins. long, lanceolate, and dark green, and the raceme of six to ten flowers is borne from the summit of the young pseudo-bulbs.

Lælia anceps alba: Orchid Shading.—Very many points of interest to Orchid-growers are touched upon in your "Notes" published on p. 556, and therefore I would fain ask for space to make a few comments thereupon. Giving precedence to your own request for information as to the measure of success which has attended growers' efforts to establish the recently-imported white varieties of Lælia anceps, unfortunately I can answer only for myself. The number of plants I possess is small, being little over a dozen, but of these the majority are rooting and breaking freely, while those which have not yet moved are plumping up their bulbs and seem fairly healthy. They stand on the staging amongst the Cattleyas, potted only in crocks.

Mr. Cummins, in his note replying to Mr. O'Brien's query, expresses an opinion that the best material for shading Orchid-houses is the French. As I have no personal experience of these wooden blinds, perhaps I ought not to condemn them. But after seeing them tried at Mr. Sander's wonderful nursery at St. Alban's, I came to the conclusion that they are a delusion and a snare. At the time of my visit I was much amused to observe how difficult it is to obtain concurrent testimony on any subject. While going round the houses, I casually asked how they liked the new wooden shading. "We don't like it at all," was the foreman's reply. Soon after, in the course of conversation, I ventured to repeat my question to Mr. Sander himself. He said, "We like it very much, but it is too expensive!" It was difficult to repress a smile on hearing such divergent views. But one fact came out pretty clearly, which was that they did not intend to order any more of these blinds. My own observations made on that occasion led me to believe that the laths are too far apart, consequently too large a proportion of direct sunlight passes through. If Mr. Cummins wishes for shading of this kind, he should try to obtain some of the cane-blinds commonly used at Malta, and, I believe, all over the Levant. They are made from the stems of a species of Bamboo, split into lengths about ½-in. wide. These are securely fastened together with string, in such a manner that the laths slightly overlap, which enables these blinds to repel the fierce sunshine of the South, and yet enable light and air to pass freely through them. They can be made of any reasonable length, are extremely cheap, and, owing to their lightness and flexibility, very easy to handle.

Last but not least, I observed that Mr. Woodbridge had succeeded in flowering Cyrtopodium punctatum at Syon House. I confess to my heart being filled with "envy, hatred, and malice," as I read of the plant bearing a "strong spike of yellow blossoms, &c." I dare say there are many who, while sharing these feelings, would also like to know by what treatment Mr. Woodbridge has secured so desirable a result.—*B. D. Knox*, 17, *Gloucester Place, May 6th.*

Orchid Shading.—At Mr. Wm. Gordon's Nursery, Twickenham, where Orchid requisites and shadings are a speciality, a new kind of webbing may be had, which, when used as directed with the thin materials requisite for light shading, makes the blinds last as long as though they were of stout material, and makes them last quite as long again as they would if not strengthened. The webbing is of the texture of light tacking, and is very strong.

New Orchids.—Odontoglossum Brassia.—This has the straight shape of the sepals, petals, and lip of a Brassia. The lateral sepals are very stiff, linear lanceolate, as also is the upper sepal. The lip is deltoid, cuspidate, and has at the base five keels with two anterior projecting ones. The wings of the column are rather poor, lacerate, the whole flower sulphur-coloured. Upper sepal with one, lateral sepals with several, lip with one horse-shoe like purple spot. It might be regarded as extended Odontoglossum deltoglossum. I had a fine raceme of thirteen large flowers from Mr. F. Sander, and the plant is in Mr. Lee's collection.

Aërides Ortgiesianum.—This looks like a smaller Aërides quinquevulnerum, Lindl., though its growth is said to be more slender and its leaves are narrower. The sepals and petals have the usual purple blotch towards the apex, some small ones being scattered on the surface, and some light purple warts also. The side laciniæ of the lip are sulphur-coloured, the mid-lacinia white, the spur green—all with small red dots and bars. The mid-lacinia is blunt, bilobe, not serrate at all. In the front part of the spur there stands one horn-like process, at the back there is a triangular callus, and this induced me to regard this recent introduction of Mr. F. Sander as a novelty.—*Prof. Reichenbach, in Gard. Chron.*

HORTICULTURAL EXHIBITIONS.

Royal Botanic, *May 20th.*—With a first summer show of a much better average quality than we have seen at Regent's Park for several years past, it is much to be regretted that, owing to bad weather, so many visitors should have been kept away. Bad days at "the Park" are not at all unknown, but Wednesday was an exceptionally disagreeable one. The show was an all round good one, but as usual some things of a higher order of merit stood prominently forth, and amongst these must be named a magnificent group of nine Clematises from Messrs. G. Jackman & Son, of Woking, all of even size, large, and superbly bloomed; the large specimen Roses of Messrs. Paul & Son, Cheshunt; the smaller but splendidly bloomed plants from Mr. Turner and Messrs. William Paul & Son; and the flowering stove and greenhouse plants from Mr. J. Cypher, of Cheltenham. It was indeed "Mr. Cypher's day," for he brought up a considerable number of plants, and was successful in securing first prizes for twelve and six flowering plants, for six fine foliaged plants, and twelve Orchids, an achievement of no mean order. His dozen flowering plants were a very fine lot, composed of large and well-bloomed specimens of Erica Cavendishiana, a splendid example;

E. depressa, Franciscea eximea, Pimelea Hendersoni, Clerodendron Balfourianum, Darwinia tulipifera, Bougainvillæa glabra, Pimelea spectabilis, Anthurium Schertzerianum, &c. In the amateurs' classes, that veteran grower, Mr. Chapman, gardener to J. Spode, Esq., Hawkesyard Park, Rugeley, was first for ten and six plants respectively, his plants being in excellent condition—finer than usual we thought. In the amateurs' class for fine-foliaged plants, Mr. C. Rann, gardener, Handcross Park, Crawley, was well first, showing, amongst others, well-coloured examples of Crotons Hendersoni and undulatum, but for brightness of colour, nothing could exceed the beauty of a plant of C. Queen Victoria in Mr. Cypher's group. Immense bushes of Azaleas from Mr. G. Roach, gardener to R. Thornton, Esq., The Hoo, Sydenham, Mr. Turner, and others, provided a wealth of colour that is always welcome at a May show. The bank of Orchids, though containing nothing special in the way of specimens, was unusually attractive, so bright and gay was the display of these singularly beautiful flowers. The leading exhibitors here were Mr. Cypher, Mr. Catt, gardener to W. Cobb, Esq., Sydenham, Mr. H. James, and Messrs. Jackson, of Kingston. The Heaths from Mr. Cypher, Show and Fancy Pelargoniums from Mr. Turner and Mr. Hill, gardener to H. Little, Esq., and Ferns from Mr. Butler, all of which secured first prizes, materially helped in the creation of the "grand display." The miscellaneous groups on the isolated banks flanking the centre were exceptionally well-filled, handsome contributions being furnished by Mr. B. S. Williams, Messrs. John Laing & Co., Messrs. W. Cutbush & Son, and Messrs. E. G. Henderson & Son; while in other parts of the exhibition we noted a choice lot of new plants from Messrs. Veitch & Sons, hardy herbaceous plants from Messrs. James Carter & Co., Messrs. Paul & Son, Cheshunt, and Mr. Vander Rees, Tooting; Daffodils, Ixias, &c., from Messrs. Barr & Son; Calceolarias from Mr. H. B. May, of Edmonton, and Mr. Howard, of Isleworth; Orchids from Messrs. Hugh Low & Co.; Roses from Mr. Rumsey, Waltham Cross, &c., all of which claimed a large share of admiration. A number of new plants were certificated, a notice of which we are compelled to defer till our next issue.

Bath Spring Floral Fête, *May 13th.*—The Bath Floral Fête and Band Committee's Spring Show took place in the Sidney Gardens on Wednesday week, and, favoured with brilliant weather, a goodly number of visitors were present, to inspect the contents of the three large tents, which were well filled with attractive exhibits. Stove and greenhouse plants were in strong force, their richness and profusion of bloom being alike captivating to the eye and indicative of good cultivation. Although foliage plants were somewhat weaker than on previous occasions, they were more than counterbalanced by the superb Ericas and greenhouse Azaleas, in company with a large collection of choice Orchids. Mr. F. Tugwell (a new exhibitor), Col. Landon, and Mr. J. Cypher were the chief exhibitors, and had in their collections some of the most highly prized varieties. The brightness of the display of Pelargoniums, Calceolarias, Cinerarias, Bouquets, Epergnes, and cut-flowers generally has never been excelled. Exotic Ferns were worthy of note for their many good points. Some dishes of Strawberries of large size called for special mention, as also the plants in pots, which were but little less inferior. A large collection of vegetables of fair quality was also staged.

THE PARIS EXHIBITION.

We learn from a British juror at the great International Horticultural Exhibition opened in Paris on Wednesday, that the display of plants is a very fine one. The flowering plants are arranged in beds in the centre of the building, and an irregular-shaped border round the sides is well filled with groups of Palms and other fine foliaged plants. The most striking features of the display are magnificent groups of Indian Azaleas, for which M. D'Haene, of Ghent, takes the Gold Medal; beds of Pelargoniums, Calceolarias, and Caladiums; one of seedlings of Anthurium Schertzerianum; others of Rhododendrons, Begonia Rex varieties, and Crotons, which are admirably represented. A magnificent plant of Odontoglossum vexillarium, in the finest possible health, is exhibited by Mr. Bergman, gardener to Baron Rothschild; and fine banks of Orchids are contributed by M. Truffaut, of Versailles, and M. C. Nilsson, Paris. M. Royer Fils, of Versailles, has a bank of Azaleas forty yards long and five yards wide, all in splendid condition. In a long supplementary tent, the centre beds are filled with Standard Roses fairly in bloom, and the side beds with dwarfs. At one end M. M. Vilmorin & Co. have a striking bed of annuals and Calceolarias, and M. Blue exhibits some beautiful new Caladiums. The Exhibition was opened by the President of the Republic, and promises to be a great success.

Obituary.

We have to announce the death of another well-known and much-respected horticulturist—Mr. Edwin Cooling, of the Mile Ash Nurseries, Derby—at the age of seventy-seven, and which took place on the morning of Tuesday, May 12th. A son of Abraham Cooling, an enthusiastic gardener and florist of the grand old gardener type, who died full of years and honours at the age of eighty-seven, some twenty years ago, Edwin Cooling was born at Beeston Field, Notts, in 1808. When, and under what circumstances, he commenced his career as a florist we have no means of knowing, but in 1838 he commenced business in Derby, growing florists' flowers, and especially taking a delight in Carnations and Picotees, with which he was a successful exhibitor, making a name both as a clever grower and a renowned prizeman. He was associated with Mr. E. S. Dodwell and others in founding the Midland Horticultural Society, which proved highly successful, and held extensive and high-class spring and summer exhibitions. The collection of Ferns at the Mile Ash Nurseries is a special feature; it is large and representative, and probably one of the best in the trade, the late Mr. Cooling being a great admirer of these popular plants. In addition there is an extensive nursery stock, all well maintained and highly creditable.

To his well-known character as a keen and successful horticulturist, Mr. Cooling added that of an earnest student in science. He had a great liking for scientific pursuits, and was a member of the British Association for the Advancement of Science, and the Royal Geographical Society, and had been for some years a Fellow of the Royal Horticultural Society. As a member of the Derby Chamber of Commerce, he took a keen interest in all matters affecting the welfare of that important town, while subjects of a more moral and social character found in him a warm supporter. He lived like one who finds himself surrounded by much that is wrong that it is needful should be set right, and he worked unceasingly for this end. Educational matters found in him a warm friend; and he was one of the earliest promoters of the Railway Servants' Orphanage.

For some years past his failing health compelled him to seek quiet, and for months he was confined to his room, waiting for the inevitable end, which he met with fortitude and an unfaltering trust, passing away in peace. We believe that his son succeeds him in the business, and so hands down to another generation a name highly respected in the town.

ANSWERS TO CORRESPONDENTS.

Green-Fly on Carnations.—*A. W.*—If you have only a few plants, sprinkle a little snuff or tobacco-powder on them while damp. If you have a good stock, use Fir-tree Oil or Stevens' Amortiser, according to the directions given with them.

Evergreens.—*Ignoramus.*—If the weather continues showery, and the shrubs have not made much new growth, you may remove them yet, but it must be done quickly.

Names of Plants.—*J. Brown.*—Darwinia tulipifera, generally called in gardens Hederoma tulipifera.—*C. J.*—Dendrobium chrysotoxum, and Masdevallia Harryanum.—*J. Harris.*—Saxifraga granulata.

Creeper.—*W. A. S.*—If the Virginian Creeper is too strong a grower for the position, try the much neater and more close-growing Ampelopsis tricuspidata, or, as some call it, A. Veitchii. If the front of your house is south, the foliage will assume a lovely colour in the autumn. The common Blue Passion-flower, Passiflora cœrulea, if kept neatly trained, would perhaps do as well.

Hollyhock Disease.—*T. T.*—Many things have been tried for killing the fungus which during the last dozen years has proved so destructive among Hollyhocks, but none, so far as we know, can be relied upon to produce the desired effect in all cases. The best plan is to systematically pick off and burn the affected leaves, but if you are troubled with it to any extent, burn the lot and give up their cultivation for a year or two.

Communications Received.—H. T.—W. S.—E. B.—A. F. L.—A. E. S.—T. W.—J. L.—W. S.—W. H. T.—R. McL. (many thanks).—J. F. M.

LONDON SEED TRADE.

May 21st, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small consumptive demand for Agricultural Seeds and values all round very firm. There appears to be a slight inclination to speculate in Clovers for holding over, but sellers will only deal at full prices, which in most cases prevents business being done, as would-be buyers anticipate a turn in their favour. Perennial Rye Grass dearer. Trefoil firm. Mustard and Rape are being inquired after for sowing, and values have an upward tendency. Spring Tares quiet. Linseed and Bird Seeds steady at last week's quotations.

COVENT GARDEN MARKET.

May 21st:

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6- 6 0	Pine-apples, Eng., lb.	1 0- 2 0
— Nova Scotian, per barrel	15 0-21 0	—St. Michaels, each	3 0- 7 0
Grapes, New, per lb.	3 0- 6 0	Kent Filberts and Cobs, per 100 lb.	-
Melons, each	2 0- 3 6	Strawberries, per lb.	1 6- 4 0
Peaches, per doz.	21 0-		

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Asparagus, English, per bundle	8 0	Horse Radish, bundle	3 0- 5 0
Beans, French, per lb.	- 2 6	Lettuces, Cabbage, per dozen	2 0-
Beet, per dozen	2 0- 3 0	— Cos, each	0 6-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	2 6-
		Turnips, per bunch	0 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lily of the Valley, French, per bunch	0 3- 0 9
Anemone, 12 bun.	1 6- 4 0	Marguerites, 12 bun.	3 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Narcissus, various, doz. bun.	2 0- 6 0
Azalea, 12 sprays	0 6- 1 0	Pelargoniums, per 12 sprays	0 9- 1 0
Bourvardias, per bun.	0 9- 1 6	—scarlet, per 12 sprays	0 4- 0 6
Camellias, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 0- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun.	-
— large, 12 blooms	-	Pyrethrum, 12 bun.	-
Cyclamen, doz. blooms	2 0- 4 0	Rhodanthe, 12 bun.	6 0- 9 0
Cineraria, per bunch	0 6- 1 0	Roses (coloured)	2 0- 6 0
Epiphyllums, 12 blms.	-	Roses, indoors, p. doz.	1 0- 3 0
Eucharis, per dozen	3 0- 6 0	Roses (French), per doz.	0 6- 0 9
Gardenias, 12 blms.	1 0- 4 0	Spiræa, 12 bun.	6 0- 9 0
Heliotropes, 12 sprays	0 6- 1 0	Stephanotis, 12 spr.	2 6- 4 0
Hyacinths, Roman, doz. sprays	-	Tuberoses, per dozen	1 0- 1 6
Lapageria, white, 12 blooms	2 0- 3 0	Tulips, per doz.	0 3- 0 5
Lapageria, red, 12 blms.	1 0- 2 0	Violets, doz. bun.	-
Lilium candidum, 12 blooms	2 0- 2 6	— French, per. bun.	-
— Longiflorum, 12 blooms	4 0- 8 0	— Parma, per. bun.	-
Lily of the Valley, doz. sprays	0 6- 1 0	White Jasmine, bun.	0 6- 1 0

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Foliage Plants, various, each	2 0-10 0
Arum Lilies, per doz.	6 0-18 0	Genista, per dozen	6 0- 9 0
Azalea, per doz.	18 0-42 0	Heaths or Erica, var., per doz.	12 0-42 0
Begonias, per dozen	4 0-12 0	Hyacinths, doz.	-
Bouvardias, dozen	9 0-18 0	Hydrangea, per doz.	9 0-18 0
Calceolarias, per doz.	6 0- 9 0	Lilium longiflorum, per doz.	30 0-60 0
Cineraria, per dozen	6 0-12 0	Lobelias, per doz.	4 0- 6 0
Cockscombs, dozen	4 0- 6 0	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	9 0-18 0	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargonium, per doz.	9 0-21 0
Deutzia, per dozen	-	Pelargoniums, scarlet per dozen	3 0- 9 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	6 0- 9 0
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	-	Rhodanthe, per doz.	6 0-12 0
Evergreens, in var., per dozen	6 0-24 0	Spiræa, per dozen	9 0-12 0
Ferns, in var., dozen	4 0-18 0	Tropæolums, per doz.	4 0- 6 0
Ficus elastica, each	1 6- 7 0		
Fuchsias, per doz.	6 0-12 0		

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SUPERB PETUNIAS.

MY PETUNIAS (single), are superior to all others. For size of bloom, substance, richness of colour, and freedom of flowering they are unequalled. Equally suitable for pot culture or for bedding; grow in any soil, town or country. 5,000 splendid plants now ready at 1*s.* 4*d.* per doz., free in strong box; or 2*s.* per doz. for extra large plants. Numberless testimonials. Sixth year of distribution. **DOUBLE PETUNIAS,** finest varieties to name, 3*s.* 6*d.* and 5*s.* per doz., safe and free by Parcels Post; 6 plants for 2*s.*

ALSO

	s.	*d.*
FUCHSIAS, 250 finest varieties, 12 fine named, in 6 sorts	2	0
12 distinct kinds	2	6
12 grand exhibition varieties	3	6
COLEUS, 12 good kinds	2	0
12 very fine new varieties	3	0
6 splendid novelties	4	6
CHRYSANTHEMUMS, 6 pairs best sorts	2	0
12 distinct	2	6
12 pairs fine varieties	3	6
WHITE MARGUERITES, splendid bushy plants per doz.	3	3
BLUE MARGUERITES (Agathæa), 6 plants for 1*s.* 6*d.* per doz.	2	6

For above and many others see Illustrated Catalogue, three stamps; lists of seedlings and cuttings free.

B. C. RAVENSCROFT,
GRANVILLE NURSERY, LEWISHAM.

CUTBUSH'S
MILLTRACK MUSHROOM SPAWN.

IF ONCE USED no other will be willingly taken. Testimonials of high merit received every day.—"THE GARDENS, SANDRINGHAM.—I have tried all other Mushroom Spawn advertised, but none to be compared with yours, which I have used for the last *twenty years* without once failing a quick and good crop. — CHAS. PENNY, Gardener to H.R.H. The Prince of Wales." — Price Six Shillings per bushel, One Shilling extra per bushel (for packing), One Shilling per Cake free by Parcels Post.

HIGHGATE NURSERIES, LONDON, N.

GARDEN REQUISITES.

TWO PRIZE MEDALS.
Quality, THE BEST in the Market.

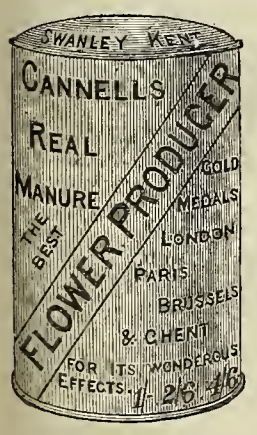
(ALL SACKS INCLUDED.)

PEAT, best brown fibrous, 4*s.* 6*d.* per sack; 5 sacks for 20*s.*
PEAT, best black fibrous, 3*s.* 6*d.* ,, 5 sacks for 15*s.*
PEAT, extra selected Orchid, 5*s.* ,,
LOAM, best yellow fibrous .. ..
PREPARED COMPOST, best ..
LEAF-MOULD, best only .. ..
PEAT-MOULD, ditto ... ...
} 1*s.* per bushel (sacks included).
SILVER SAND (coarse) 1/3 per bushel, 12/- half ton, 22/- ton.
RAFFIA FIBRE, best only... ... 1*s.* per lb.
TOBACCO CLOTH, finest imported 8*d.* per lb., 28 lbs. 18*s.*
TOBACCO PAPER, ditto (Spécialité) 8*d.* per lb., 28 lbs. 18*s.*
MUSHROOM SPAWN (finest Milltrack), 5*s.* per bushel.
SPHAGNUM MOSS, all selected, 2*s.* per bushel, 6*s.* per sack,

COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1*s.* each; 10 sacks, 9*s.*; 15 sacks, 13*s.*; 20 sacks, 17*s.*; 30 sacks, 25*s.*; 40 sacks, 30*s.* Truck-load, loose, free on rail, 25*s.* Limited quantities of G special quality, granulated in sacks only, 2*s.* each.

TERMS, STRICTLY CASH WITH ORDER.
(The Trade Supplied.)

CHUBB, ROUND & CO.,
West Ferry Road, Millwall, London, E.



THE SECRET!

Not one, but all; and it is a surprise and the conversation with all wherever we exhibit; and whoever comes to see our flowers remarks, "How do they get such a quantity of Blooms with such brilliancy of colour, and nice small bright foliage?" The answer is, "Their REAL MANURE" and Fumigating Material.

COCOA-NUT FIBRE REFUSE.

ONE BAG, 1*s.*; 10 bags, 8*s.*; 15 bags, 12*s.*; 20 bags, 16*s.*; 30 bags, 22*s.* No charge for bags.

Cart and Van loads, at Works, from 3*s.* to 7*s.* 6*d.*, according to size. Truck loads, containing upwards of 2 tons weight, 25*s.*

FREE ON RAIL.
TERMS—STRICTLY CASH WITH ORDER.

BULBECK & SON, Manufacturers,
SUFFOLK PLACE, Snow Fields, Bermondsey, S.E.

SHE, The Enthusiast—

Oh! tell me why my flowers droop,
Why leaves and blossoms fade,
Although the Florist sent them home
In gorgeous bloom arrayed.
I 'tend to them with constant care,
And water them each day,
They have sunshine and purest air,
And yet they fade away!

TRADE MARK.

HE, The Philosopher—

Fair Maid, your plants shall bloom again,
But first I'll tell the cause;
They pine for want of nourishment—
Rich Chemical Manures.
You foolishly but water gave,
The Florist he was wiser;
He gave them food as well as drink—
Use TOBIN'S FERTILIZER.

TOBIN'S MAGIC FERTILIZER

Is a highly concentrated Chemical Manure, and a small teaspoonful sprinkled over the surface of the soil ACTS LIKE MAGIC, changing weak and straggling stems into sturdy and vigorous growth and wealth of blossom. It is equally invaluable for Rose Culture, the Hot House, Conservatory, Window or Kitchen Garden.

Sample 3*d.*, 6*d.*, and 1*s.* *size, sent free for* 3*d. extra; 1d. size, 2d. extra.*

TOBIN'S MAGIC FERTILIZER

Is sold by Grocers, Oilmen, Seedsmen, Florists, Corn Chandlers, and Ironmongers all over the Kingdom, at following prices:—

Per Packet.	*s.*	*d.*	In bags.	*s.*	*d.*
Sufficient for 12 Plants	1		10 lbs.	2	6
,, 36 ,,	3		28 ,,	6	0
,, 72 ,,	6		50 ,,	10	0
,, 150 ,,	1	0	1 cwt.	18	0

ADDRESS—**TOBIN'S CHEMICAL MANURE CO.,**
19, Aldersgate Street, London, E.C.; Works, Wood Green, London, N.

AGENTS WANTED. TRADE SUPPLIED. LIBERAL TERMS.
Most attractive Show Cards (samples free on application). Selling in Thousands all over the country.

JAMES LOOMES, F.R.H.S.,

THE NURSERIES,
WHITTLESEA, NEAR PETERBOROUGH,

BEGS TO CALL ATTENTION TO THE FOLLOWING

SPECIALITIES.

FOR GREENHOUSE.

	Per Doz. *s.*	*d.*
*Coleus, in great and beautiful variety	2	0
In pots, well established	5	0
Cyclamen Persicum Giganteum. From the best varieties 2*s.* and	3	6
In pots, well established 5*s.* to	12	0
Eucharis Amazonica, flowering bulbs, each 1*s.* 6*d.* &	2	6
***Fuchsias,** an immense collection. Single and Double Varieties from	2	6
Ditto, in 4-inch pots ,,	5	0
Gloxinias, Erect, Horizontal, and Drooping varieties	2	6
Ditto, Plants in pots 6*s.* to	24	0
Balsams. Rose and Camellia fld.	2	0
Begonias, Mixed Tuberous, Rooted, from splendid varieties, Laing's and Low's Strain from	3	6
Ditto, in pots 6*s.* to	24	0
Grevillea Robusta, splendid Fern-like Plants, suitable for table decoration 6*d.* each, or	4	0
Mimulus (Queen's Prize), choice	2	6
***Pelargoniums,** French and Regal. A unique collection of most of the newest varieties 12 choice	3	6
Ditto, in pots 6*s.*, 8*s.*, and	12	0
Pelargoniums (Geraniums), Zonals, Choice Varieties, named	3	6
Petunias. Choice Double	5	0
Seedlings, Single and Double	2	0
Lilium Auratum. Large bulbs each	1	9
Ferns in variety, from 6*d.* each	5	0
Gold Fern 9*d.* and 1*s.* each; 7*s.* to	12	0

☞ *Many other Greenhouse Plants in Stock.*

FOR GARDEN.

***Chrysanthemums,** a large collection of every variety. Well rooted Plants from	2	0
Ditto, in pots, well established 5*s.* to	18	0
Carnations and Picotees. Very choice named Stage Flowers from, per pair	1	6
Ditto, unnamed, good varieties per doz.	3	6
Pinks, Pink and White ,,	2	0
***Dahlias.** A superb collection, including the Cactus family, including Constance, Juarezii, Glare of the Garden, &c. *Pompone or Bouquet, Show, Fancy & Single.* Well rooted Plants	5	0
Established, in pots	7	6
SEEDLING DAHLIAS, choice	2	6
Carpet Bedding Plants, viz: Iresines, Alternanthera, Mesembryanthemum, Mentha, Coleus, Verschaffeltii, &c., &c., in Stock. Prices on application.		
Geraniums, for bedding from 1*s.* 6*d.* to	4	6
Several thousands, including Gold and Silver Tricolors and Bicolors, Bronzes, &c., &c.		
Lavender. Old English Sweet-scented	1	0
Extra Strong Plants	3	0
Lobelia. Dark Blue and Compact	1	6
☞ Special Price for large quantities.		
Nasturtium. Hermine Grasshoff. The Double Variety—useful for summer bedding or as a greenhouse plant	2	0
Marguerites (Paris Daisies)	2	0
Pansies. Strong Plants, from English Show and Fancy, Belgian, French, and all the leading varieties from	1	0
Phlox Perennial. Choice varieties, mixed colours	2	6

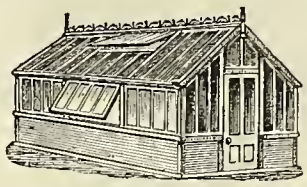
* Detailed lists on application. Selections left to J. L. are guaranteed to give entire satisfaction.

N.B.—The above sent carriage free. Dozens may be divided at the same price, but no order for less than 1s. sent free.

Asters, Stocks, Phlox-Drummondii, Zinnias, Golden Feather, Everlastings, Marigolds, &c., &c., of the best-known varieties, to be had in season.

NOTICE.—Please mention this Paper when ordering. Post Office Orders payable at **Whittlesea.** Cheques crossed "National Provincial Bank."

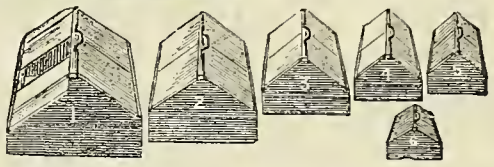
C. G. FRAZER,
Horticultural Builder, Norwich.



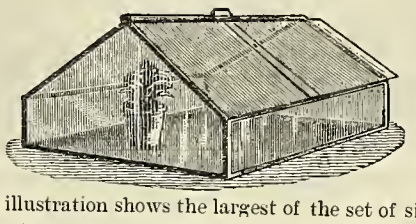
Span-Roof Greenhouses, fitted complete, glazed with 21-oz. glass, and painted three coats.

Tenant's Fixture, 10 ft. by 8 ft., £15.

For Brickwork, £13 7*s.*



Set of Six Handlights to cover 15 square feet, diminishing sizes, painted three coats, glazed with 21-oz. glass, per set, £1 15*s.*



The illustration shows the largest of the set of six.

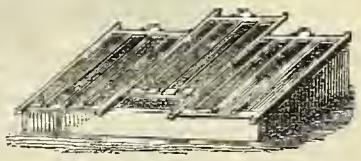
NEW "IMPROVED" HANDLIGHTS.

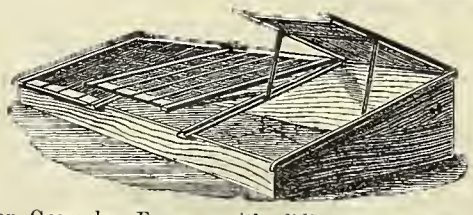
Made diminishing sizes, covers 17 square feet; painted three coats, and glazed with 21-oz. glass; per set, £2 7*s.* 6*d.*

Cucumber Frames, Lights, 2 in. thick, glazed with 21-oz. glass, painted four coats.

	£	*s.*	*d.*
4 ft. by 6 ft.,	1	18	0
8 ft. by 6 ft.,	3	4	6
12 ft. by 6 ft.,	4	12	6

Cases, 5*s.*





Cheap Cucumber Frames, with sliding lights, glazed with 21-oz. glass, and painted three coats, 6 ft. by 4 ft., £1 7*s.*; 12 ft. by 4 ft., £2; or fitted with joints and (registered) set-opes (as shown), 6 ft. by 4 ft., 10*s.* extra; and 12 ft. by 4 ft., 15*s.* extra. Cases, 5*s.*

Carriage paid to any Railway Station in England and Wales; also to Edinburgh, Glasgow, Dublin, and Belfast.

Illustrated Catalogues, post free, two penny stamps.

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE, 4-bushel bag, 1*s.* 3*d.*; 10 for 11*s.*; 30 for 30*s.*; truck (loose) free on rail, 28*s.*; **Best Brown Fibrous Peat,** 5*s.* per sack, 5 for 22*s.* 6*d.*; **Black Fibrous Peat,** 4*s.* 6*d.* per sack, 5 for 20*s.*; **Coarse Silver Sand,** 1*s.* 6*d.* per bushel., 25*s.* per ton; Yellow Fibrous Loam, Leaf, and Peat-mould, 1*s.* per bushel; **Wood Lattice, Orchid Baskets, Fresh Sphagnum Moss,** Garden Hose, Artificial Manures, Garden Sticks (Bamboos) and Labels. **Tobacco Cloth and Paper.**

Write for Price List.

W. E. WARD & CO.,
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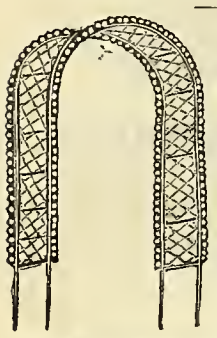
£20.—TOBACCONISTS COMMENCING.—An Illustrated Guide (110 pages) "How to Open respectably from £20," three stamps.—H. MYERS & CO., Cigar and Tobacco Merchants, 109, Euston Road, London. Telephone No. 7,541.

E. J. PIKE,

HORTICULTURAL WIRE WORKER,

Denmark Hill Wire Works, Camberwell, S.E.



Specialities straight from the Manufacturer. Galvanized Arches, 7 ft. high, 4 ft. span, 1 ft. deep, 9*s.* 6*d.* each, with twisted borders. Pea Guards, galvanized, per doz. 6*s.* Diamond Trellis, galvanized, 3 in. mesh, from 3*d.* per sq. foot, for training Creepers, &c., made to any required dimensions. Straight Lattice Work, for protecting glass houses, &c., ½-in. mesh, galvanized, from 5*d.* per sq. ft. Light Iron Poultry Fencing, 6 ft. high, 6 ft. long, 1½-ins. mesh, bar iron frame with prong feet, 1¼ ins. by ¼ in.; upright rods, ¼ in. thick, 7*s.* per yard. Chicken Coops, with box, 3 ft. run, from 6*s.* 6*d.* each.

Estimates free for every description of Iron and Wire Work.

BEESON'S MANURE

Is the best for all Horticultural Purposes.

Sold in Tins at **1s., 2s. 6d.,** and **10s. 6d.** each; also in sealed air-tight Bags, containing **1 cwt., 13s.**

The 10*s.* 6*d.* Tins serve as a strong substantial receptacle to re-fill from the 1-cwt. bags.

Supplies can be obtained through all respectable Nurserymen Seedsmen, and Florists in the kingdom; or in districts where no agents reside, carriage paid for cash with order, direct from the Manufacturer,

W. H. BEESON, Carbrook Bone Mills, Sheffield.

Testimonials from the Rev. Canon Hole and most of the leading gardeners free on application.

GEO. DAWSON,

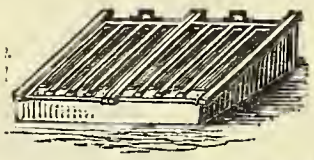
Horticultural Builder, &c.,

HIGHGATE HILL, UPPER HOLLOWAY, LONDON, N.

(2 doors from Williams' Nursery.)

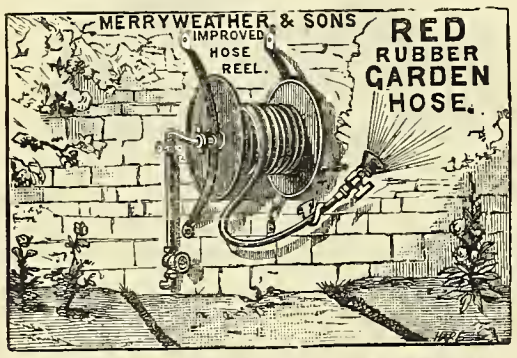
Small Amateurs' Span Roof Greenhouses from £5 5s.

A large stock to select from, also every description of heating apparatus.



Cucumber and Melon Frames from 25s.

Conservatories built to any design, full particulars and illustrated Catalogues, post free. Experienced Workmen sent to all parts of the Kingdom.



HOSE! HOSE!! HOSE!!!

PATENT ANTIMONIAL RED RUBBER GARDEN HOSE.

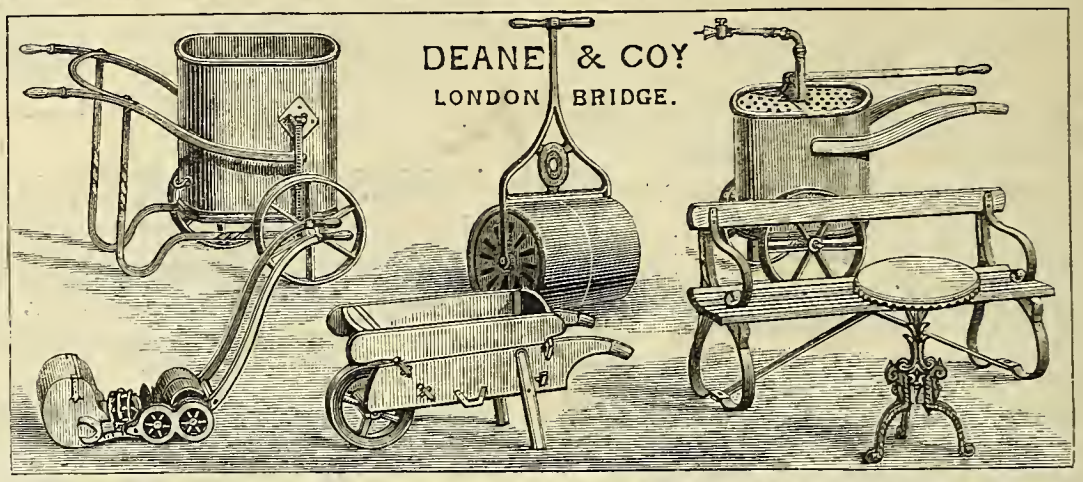
For watering Gardens, Parks, Lawns, Terraces, Conservatories, &c., our Antimonial Red Rubber Hose is rapidly replacing every other kind of Garden Hose, because it neither blisters, cracks, or decays. Is wonderfully light in weight, exceedingly clean and strong, and a pleasure to use. Customers say they are fifty per cent. in pocket and spared the inconvenience and annoyance they used to experience. Catalogue of Hose, Patent Reels, Engines, and Fittings, free. Beware of common quality hose, *coloured* red, and order any length direct from

MERRYWEATHER & SONS,

FIRE ENGINE AND HOSE MANUFACTURERS,

63, LONG ACRE, LONDON, W.C.

DEANE & CO.'S GARDEN FURNITURE.



LAWN MOWERS,

20 PER CENT. FOR CASH OFF MAKERS' PRICES. CARRIAGE PAID.

All the Best Makes in Stock, Excelsior, Invincible, Shanks', Green's, Ransome's.

SWING WATER BARROWS,

Strongly made, with galvanized iron cistern.

15 Gallon.....30*s.* | 30 Gallon.....46*s.*
20 Gallon.....36*s.* | 40 Gallon.....54*s.*

GARDEN ROLLERS.

Fine cast, highly finished, and well-fitted, with balance handles.

DOUBLE CYLINDER.

20 in. by 18 in., 50*s.* | 24 in. by 22 in., 65*s.*
22 in. by 20 in., 55*s.* |

SINGLE CYLINDER.

16 in. by 16 in., 32*s.* | 20 in. by 20 in., 45*s.*
18 in. by 18 in., 35*s.* | 22 in. by 22 in., 52*s.*

STRONG WOOD BARROW,

Well constructed of seasoned elm, well painted, and cheap. Price 24*s.* 6*d.*
With loose top (as engraving), 32*s.* 6*d.*

GARDEN ENGINES.

12 Gallon.....63*s.* | 24 Gallon .....100*s.*
16 Gallon.....80*s.* | 30 Gallon .....120*s.*

SUBURBAN SEAT

(as engraving), strong and easy, the cheapest seat made.
Length, 5 feet, 17*s.*; 6 feet, 19*s.*
GARDEN SEATS IN GREAT VARIETY.

BRONZED IRON TABLE.

With solid walnut top.
18 in. diameter, 12*s.* | 24 in. diameter, 16*s.*
21 in. ,, 14*s.* |

Summer Houses, Vases, Water Carts, Wire Netting, Hurdles, and Tools of all Descriptions.

DEANE & CO.'S ILLUSTRATED CATALOGUE OF GARDEN FURNITURE GRATIS AND POST FREE.

All orders sent carriage paid to any railway station. Discount on cash payments.

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HUGHES' APHICIDE

1/6 *Post Free* 1*s.* 8*d.*

Enables the operator to apply the Insecticide underneath the leaves, the superfluous liquid falling on the upper surface while descending

One or two tablespoonsful of the Fir Tree Oil to a pint of soft water will answer for all insects on plants. For further directions see label on bottle.

E. GRIFFITHS HUGHES, Operative Chemist,
VICTORIA STREET, MANCHESTER.

GARDEN NETTING.

S. A. SANDS

(Successor to J. W. HAYTHORN), Manufacturer of

HEXAGON AND CHISWICK GARDEN NETS,

Warranted to Protect Bloom from Frosts, Winds, Hail, &c., and Fruit from Birds, Wasps, &c.

PATTERNS and PRICES FREE per Post. Address,

S. A. SANDS,

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WHAT IS IT?

WHY, A FACT, THAT

"HEAPS' FOOD FOR PLANTS"

Is destined to become a lasting boon to the

GARDENING WORLD.

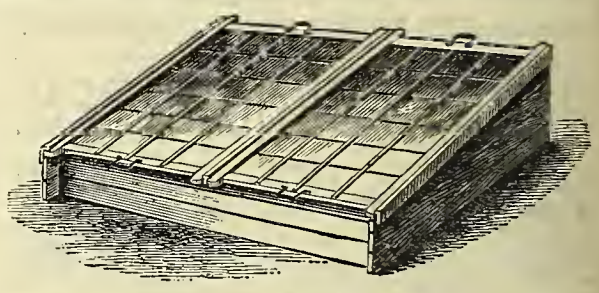
All using it are delighted.

Sold everywhere, boxes 2*d.* each. Try it.

Manufacturers, HEAPS & SON,

LORDSHIP LANE, LONDON, S.E.

List of Wholesale Agents will appear in this paper on May 30th, 1885. AGENTS WANTED.



PORTABLE CUCUMBER FRAMES.

R. HALLIDAY & CO. desire to draw special attention to their Cucumber Frames, of which they always have a large stock, ready glazed and painted. They are made of the best materials and can be put together and taken apart in a few minutes by any one.

Prices, delivered to any station in England.

		£	s.	d.
2-light frame, 8 ft. by 6 ft.	Packing cases free.	3	10	0
3-light frame, 12 ft. by 6 ft.		5	5	0
6-light frame, 24 ft. by 6 ft.		10	0	0

TESTIMONIAL.

"The Gardens, Burghley, Stamford,
"September 11th, 1884.

"GENTLEMEN,—I have received the Garden Frames, and I am quite delighted with them. They are really well got up, well timbered, and the sides and ends being grooved, will prevent that objectionable swaging so prevalent in these kind of boxes. I shall certainly recommend them to my brothers in the trade.—R. GILBERT, Head Gardener to the Marquis of Exeter."

R. HALLIDAY & Co.,

Hothouse Builders and Engineers,

Royal Horticultural Works, Middleton, Manchester.

THE CELEBRATED

IS unrivalled for Gardeners', Foresters', Farmers', Joiners', and Amateurs' use. It requires no oil. Sharpen with a spittle or water. Puts on a keen sharp edge; no humbug about this. Cut in Hones for Axes, Hedge Knives, Razors, Penknives, and Plane Irons, &c. Honourable mention Paris Exhibition, 1878; and Bronze Medal London International Exhibition, 1884. Ask your ironmonger or other retail house to get you one, and give my address; if he won't, drop me a note.

JOHN C. MONTGOMERIE, Tam O'Shanter Stone Hone Works, Dalmore, Tarbolton Station R.S.O., Ayrshire.

SAMPLES AND PRICE LISTS POST FREE.

CAMBRIC Children's, 1/5 Ladies'.....2/6 Gents'.....3/8 per dozen | Hemstitched. Ladies'..3/11 Gents'...6/9 per dozen

ALL PURE FLAX.

By Appointments to the Queen and Crown Princess of Germany.

POCKET HANDKERCHIEFS.

"The Cambrics of Robinson and Cleaver have a world-wide fame."—*Queen.*

ROBINSON and CLEAVER, BELFAST.

Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex, Saturday, May 23rd, 1885.

THE GARDENING ILLUSTRATED WORLD

No. 39.—1885. SATURDAY, MAY 30TH. { Registered at the General Post-Office as a Newspaper. } ONE PENNY.

FLOWER SHOW.

Brighton Exhibition of the Bath and West of England and Southern Counties Association, commencing June 8th.

HORTICULTURAL DEPARTMENT.—A CUP or MONEY, value £15, will be given for the best GROUP of ORCHIDS; Second Prize for ditto, £5.

A £5 CUP or MONEY for the best COLLECTION of FRUITS. £3 for the best TWO BASKETS (two sorts) of STRAWBERRIES, each containing 36; Second ditto, £2; Third ditto, £1.

J. TOWNSHEND BOSCAWEN.
Oxford and Cambridge Club,
Pall Mall, London, S.W.

ASPARAGUS.—This delicious Vegetable does not require half the expense often incurred; for directions see Seed List, free. Strong Roots, 2*s.* 6*d.* per 100; extra strong ditto, two years old, 3*s.* 6*d.* per 100; forcing, 12*s.* 6*d.* per 100.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

CLEMATIS, 12*s.* to 24*s.* per doz., strong plants in pots. List, containing descriptions of best singles and doubles of every shade from white to dark purple (some of the flowers of which become 10 ins. across), free.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

ROSES IN POTS, "New of 1885," 30*s.* and 36*s.* per doz. "Teas," Noisettes, &c., 18*s.*, 24*s.*, and 30*s.* per doz. Very strong H. Perpetuals for forcing, 24*s.* to 30*s.* per doz.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

NOW IS THE TIME TO TRANSPLANT HOLLIES and many other choice Evergreens. For prices of beautiful specimens at very low price, see "Special Offer of Surplus Stock."—RICHARD SMITH & CO., Worcester.

HERBACEOUS AND ALPINE PLANTS.—Catalogue of 50 pages, containing full information as to colour, height, situation, time of flowering, &c., free on application. A capital collection for Rocks, Stumps, and Borders, from 25*s.* per 100, or 4*s.* per doz. Most of the plants being in pots may be despatched at any time, or by Parcels Post when fit.—RICHARD SMITH & CO., Worcester.

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Nurseries: Craigleith, Comely Bank, and New Golden Acre, Granton Road, Edinburgh.

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BEDDING PLANTS.—IRELAND & THOMSON have a very large and fine stock of all the leading varieties of Geraniums, Dahlias, Pansies, Violas, Lobelias, Verbenas, Tropæolums, Calceolarias, &c., &c. Price List on application.

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HARDY AQUATICS.—Finest collection in the country, Herbaceous, Alpine, and old-fashioned border plants, from per doz. in 12 sorts, 4*s.*; from per 100 in 50 sorts, 30*s.* Catalogue on application to J. VANDER REES, Exotic Nursery, Tooting, S.W.

Laing's Prize Begonias

JOHN LAING & Co.

GOLD MEDAL Prize Plants. Now again in bloom, presenting an unrivalled floral display.

Visitors are cordially invited.

Frequent trains from the City and from the West End to Catford and Forest Hill Stations.

Begonia Growers, Forest Hill, S.E.

1885. Scotch Florists' Flowers. 1885.

R. B. LAIRD & SONS (successors to Downie & Laird), will have much pleasure in posting their new Catalogue of the above.

OUR COLLECTION has been well known for many years to be the largest and best in Scotland.

ROYAL WINTER GARDEN, EDINBURGH.

DON'T FORGET to plant a few SUMMER BLOOMING CHRYSANTHEMUMS, as no garden is complete without a few of these; they bloom from July till November; 6 varieties 1*s.* 3*d.*; 12, 2*s.*; single varieties (very useful for cut bloom and decorative purposes) bloom well out-doors, and can be had in bloom from October till January; 6, 1*s.* 6*d.*; 12, 2*s.* 6*d.*; large flowering and Japanese varieties, 12, 1*s.* 6*d.*; 24, 2*s.* 9*d.*; all correctly named. Cuttings of above, 1*s.* a dozen.

CUCUMBER PLANTS.—Telegraph (best for frames or houses), 2, 1*s.* 6*d.*; 4, 2*s.* 9*d.*; Stockwood Ridge (best for out-doors), and Marrow Plants, 3, 1*s.* 3*d.*; 6, 2*s.* 3*d.*

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120 Plants for 5s.

WILLIAM BADMAN offers his 5*s.* box of plants, containing 60 Geraniums of sorts, 10 Blue Lobelias, 10 Fuchsias, 10 Blue Ageratums, 10 Calceolaria, 10 Scarlet Tropæolums, 10 Sweet Heliotropes. All well rooted, and sure to give satisfaction. Half the above for 2*s.* 6*d.*; post-free 6*d.* and 9*d.* extra.—P.O.O. with order.—Cemetery Nursery, Gravesend.

Good and Cheap Insecticides.

TOBACCO PAPER and CLOTH (Roll).—Thoroughly reliable quality; low prices. Trade supplied. RICHARDSON & CO., Tobacco Works, Leith, N.B.

CACTUS DAHLIAS, Picta Formosissimus, Mr. Tait, Cochineal, Prince Imperial, Lord Lyndhurst, and Annie Harvey, 1*s.* each; the 6, 5*s.* Juarezii, Constance, and Fire King, 6*d.* each. Seedling Cactus saved from the above, 12, 3*s.* 2*d.*; 6, 1*s.* 8*d.*; sure to produce some novelties. The best Show, Fancy, and Pompon, 12, 3*s.* 2*d.*; 6, 1*s.* 8*d.* Single, to include several of Ware's best new varieties, 12, 3*s.* 2*d.*; 6, 1*s.* 8d.; 12 seedlings, single, 1*s.* 6*d.*—ZONAL GERANIUMS, single, 12 grand kinds, to include Cannell's splendid new white "Queen of the Belgians," 4*s.*; 12 best doubles, to include the very fine new white Le Cygne, 4*s.*—HELIOTROPES, the 5 best, 1*s.* 6*d.*; White Lady, Swanley Giant, President Garfield, Albert Delaux, the beautiful golden varieties, and White-eyed Beauty, the prettiest ever seen; a unique collection. Mimulus, Tropæolum Fireball Improved, Verbenas, Harrison's Musk, Nicotiana affinis, and blue Marguerites, 1*s.* 6*d.* per dozen; Asters, Phlox Drummondi grandiflora, French and African Marigolds, Dianthus Easter's Queen and crimson Belle, 6*d.* per dozen. The above are guaranteed thoroughly good plants.—H. J. JONES, Hope Nursery, Lewisham. Catalogue free.

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Rafts 1*d.*, Boats 1½*d.*, Cylinders 2*d.* per inch run.

Sample of 12 Baskets, Raft, Boat, and Cylinder, 14*s.* 6*d.*

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WHAT IS IT? A FACT, that all Spite, Prejudice, and Menace can be overcome by an outlay of twopence, and prove "HEAPS'S FOOD FOR PLANTS" the BEST, SAFEST, and most CONVENIENT to use of all artificial manures. "Heaps's Food for Plants," with directions for use, is printed on salmon-coloured paper on each 2*d.* box, with red air-tight ends. Be sure you get it, don't be persuaded to take any other. Sold everywhere; a sample free, 3*d.* One doz. will be sent, carriage paid for 2*s.* Trade terms on application. HEAPS & SON, Lordship Lane, London, S.E.

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25 CHOICE GREENHOUSE FERNS, 10*s.* 6*d.*—Large plants in 4-in. pots, all distinct sorts, correctly named, including many new and rare varieties.—E. VANDER MEERSCH, Queen's Nursery, Selhurst, S.E.

JOHN LAING & Co.

All Good Tubers just starting into Growth, free by Parcels Post. Catalogues Gratis.

OUR OWN UNRIVALLED VARIETIES.

Laing's Begonia Tubers.

Named Sorts, per dozen, Singles: A, 42*s.*; B, 36*s.*; C, 30*s.*; D, 24*s.*; E, 18*s.*; F, 12*s.* Named Sorts, per dozen, Doubles: R, 63*s.*; S, 48*s.*; T, 42*s.*

Unnamed Sorts, per dozen, Singles: G, 21*s.*; H, 18*s.*; J, 15*s.*; K, 12*s.*; L, 9*s.* For Bedding, per 100: M, 40*s.*; N, 30*s.*; O, 24*s.* Unnamed Sorts, per dozen, Doubles: W, 80*s.*; X, 24*s.*; Z, 18*s.*

Begonia Growers, Forest Hill, S.E.

SALES BY AUCTION.

THURSDAY NEXT, SALE No. 6,919.

Very Valuable Importations.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, by order of Mr. F. SANDER, on THURSDAY next, June 4th, at half-past twelve o'clock precisely, a grand importation of the magnificent Dendrobium Cambridgeanum, fine lots of Dendrobium lituiflorum, Freemanii, Jamesianum, Heterocarpum, and Nobile, also many Cattleyas and Mexican Orchids, and the new and rare Angræcum caudatum, and Angræcums from Africa.

On view morning of Sale, and Catalogues had.

Orchids in Flower.

MR. J. C. STEVENS begs to announce that his next SALE of Orchids in Flower will take place at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY, June 10th, and he will be glad if Gentlemen desirous of entering plants for this Sale will please send particulars of same not later than Thursday next.

FRIDAY NEXT.

Oncidium Jonesianum,

Gathered in Flower and Guaranteed True.

Oncidium Marshallianum,

The Largest Pieces ever Imported.

Lælia elegans,

Grand Pieces and well leaved, and other New and Rare Plants, all in Superb Condition.

MESSRS. PROTHEROE & MORRIS are favoured with instructions from Messrs. FRED. HORSMAN & CO., to SELL the above valuable Importations by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on Friday next, June 5th, at half-past twelve o'clock precisely. For full particulars see Catalogue.

On view morning of Sale, and Catalogues had.

TUESDAY NEXT.

Flowering Orchids. Special Sale.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY next, June 2nd, at half-past twelve o'clock precisely, about 300 lots of Orchids in flower from various well-known collections in the country. Amongst them will be found Cypripedium Stonei, fine plants; Cattleya Mossiæ and Mendelii, superb varieties; Oncidium Weltoni, extra fine plant; O. macranthum, O. curteum, Thunia Marshalliæ, grand specimen; Cattleya Schroderiana, true; C. gigas Sanderiana, Masdevallia amabilis lineata, dark crimson variety; M. Chelsonii, M. ignea Stobartiana and Massangeana, M. Harryana Bull's Blood, with 30 and 9 flowers respectively; M. Harryana Walkeriana, an equally fine plant; Odontoglossum Phalænopsis, 20 flowers; Cœlogyne cristata alba (true), Dendrobium tortile roseum, Odontoglossum Alexandræ and Pescatorei, some specially fine varieties; Aërides Leoniæ, with 13 leaves, &c.

On view morning of Sale, and Catalogues had.

The FINEST CATTLEYAS EVER SEEN.

SPECIMEN PLANTS.

A CATTELYA REINECHIANA,

With flowers 7½ ins. across; petals, 2½ ins. broad; lip, 2 ins. across, of a fine, rich colour.

A CATTLEYA WAGNERI,

With flowers 7½ ins. across; petals, 2½ ins. broad; lip, 2½ ins. across.

Both strong, healthy, well-shaped plants, and magnificent varieties of their kind.

Collected, with other fine Orchids, by Mr. Edward Wallace.

Will be SOLD, on arrival in June, at

MR. J. C. STEVENS'S ROOMS,

38, KING STREET, COVENT GARDEN, W.C.

ONCIDIUM JONESIANUM.

MONSIEUR LOUIS DE SAINT LÉGERE, the introducer of the beautiful Orchid, ONCIDIUM JONESIANUM, has the honour to inform Amateurs and Nurserymen that he comes to England to resign to Messrs. F. Horsman & Co., Nurserymen, Colchester, all the disposable stock. It is the only and sole depositary of this beautiful plant, found in 1878, on a voyage which he made to the province of Matto Grosso, Brazil, in the high forests bordering upon the Rio, Paraguay. In these elevated parts the thermometer descends several times a year to zero.

As this Orchid is very difficult to meet with, it growing on a peculiar tree, it is necessary for Amateurs and Nurserymen who are desirous to enrich their collections, to direct their requests to Messrs. FRED. HORSMAN & CO., for the stock of this plant is in their hands.

LOUIS DE SAINT LÉGERE.

Desterro, Santa Catharina, *April 24th*, 1885.

Special Offer of Orchids.

CHEAP ORCHIDS.—In consequence of having received large importations, I am able to dispose of my stock of plants received last year, now nice established plants, at very low prices; all are healthy, and those who prefer it can have this season's imported pieces. Growers of Orchids would do well to order at once, as many fine gems are contained in the numerous importations received, which are mostly unflowered. Established plants which have flowered and are flowering can also be had if required, but many growers prefer unflowered plants, because there are frequently valuable varieties which well repay the purchaser, shillings well invested being quickly converted into pounds.—Apply to W. GORDON, The Nurseries, Twickenham, Middlesex.

F. SANDER & Co., ST. ALBANS,

ORCHID GROWERS & IMPORTERS.

An immense Stock of fine robust Plants always on hand.

FRIDAY NEXT.

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(Gathered in Flower and Guaranteed True).

ONCIDIUM MARSHALLIANUM

(The Largest Pieces ever Imported).

LÆLIA ELEGANS,

Grand Pieces, and well leaved, and other New and Rare Plants, all in Superb Condition.

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Being powerful and lasting in its effects, very little need be used; consequently it will be found more economical than other Chemical Manure.

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At the above-named Nurseries are cultivated in unusually large quantities, Azaleas, Bouvardias, Camellias, Climbing Plants, Cyclamen, Epacris, Ericas, Ferns, Ficus, Flowering and Decorative Plants in variety, Fruit Trees, Gardenias, Genistas, Grape Vines, Greenhouse Plants in variety, Palms, Pelargoniums, Rhododendrons, Roses, Shrubs, Stove Plants in variety, &c.

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The following cheap Collections of finest named kinds consist entirely of our selection. Purchasers may select from the Lists at Prices as per CATALOGUE, which please see before ordering elsewhere.

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12 Achimenes, 12 sorts, 2*s.* 6*d.*
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12 Bouvardias, 12 sorts, 4*s.*
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12 Camellias, 12 sorts, 24*s.*
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25 ,, 25 sorts, 5*s.* 6*d.*
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12 Liliums, 6 sorts, 12*s.*
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12 lovely IRIS, 3*s.*; 12 beautiful MIMULUS, 3*s.*
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12 beautiful Seedling HOLLYHOCKS, 4*s.*; 50 for 12*s.* 6*d.*; 100 for 21*s.*
12 beautiful PRIMULAS SIEBOLDII, 12 sorts, 6*s.*

40 Acres fine NURSERY STOCK.
5 ,, HERBACEOUS PLANTS.
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Observe the Company's Signature round the Cork, without which none are genuine.

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THE AMORTISER we particularly recommend for Greenhouses, it being so pleasant for use and for its perfume. Its properties for destroying insect pests, &c., is equal to our Carbon Paste. We guarantee, if used as per directions, it will not injure the most delicate foliage or blooms any more than water.

P.S.—We highly recommend "BRAY'S" Spray for light work; it is a cork spray and will fit any bottle. It sends a very fine spray about 4 feet, and if the rose is removed will send it 12 feet with the greatest ease. This is the most useful spray we have ever seen, and may be used for many purposes; it requires no strength, and a child can use it.

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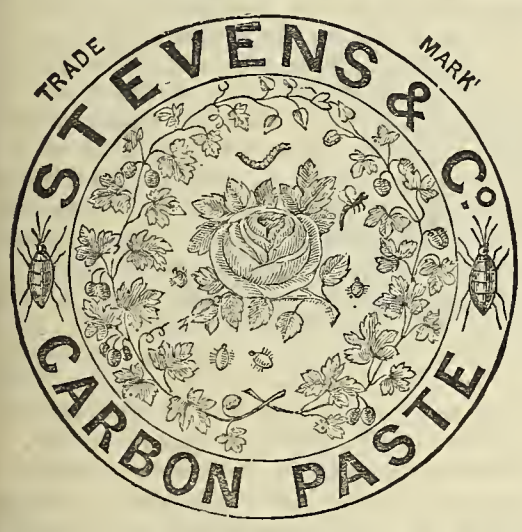
Four Gallons for One Shilling.



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The Gardening World.

SATURDAY, MAY 30TH, 1885.

GARDENERS AND THE ELECTORAL FRANCHISE.—From a recent reply given to a correspondent in these pages, and from general allusions to the service franchise of the recently passed Franchise Bill by some of our contemporaries, it is evident that the gardening fraternity is alive to the fact that, with some exceptions, gardeners generally will now be able to enjoy an electoral privilege from which they have hitherto been debarred. We have nothing whatever, in discussing this question, to do with the politics of our numerous readers, for the possession of the franchise cannot, or, indeed, we had better say, ought not to be a matter of party politics. It is not till the franchise is employed or used that party politics step in, and that phase of the question is not yet reached.

There can be no doubt whatever that gardeners generally are as politically inclined as are other workers, and take as much interest in passing political events as any other section of the community. We may go further, and say that, as a rule, gardeners show in these things more than ordinary intelligence, because they are intelligent, educated men. Farther, their isolated positions, resulting from the nature of their occupation, which shut them off from association with much local activity and institutions, naturally leads them to pay close attention to imperial or national politics, because they can gather their intelligence respecting public events freely from the public press. There is a common assumption that gardeners invariably take their political cues from their employers. We are strongly disposed to regard that idea as an insulting one to the profession, and think most gardeners would reject such an impeachment with disdain. Whatsoever may be the political leaning of an employer, and howsoever much there may seem inducements on the part of gardeners to follow the same party leanings, yet it is certain that gardeners cannot only think for themselves, but, if need be, act also. One great help to this undoubted independence of action is found in the ballot-box, which, as it were, hermetically seals in eternal secrecy the vote which has been deposited within it. So far for the desire and competence of gardeners to take their part in electoral contests.

Now, with respect to the power to vote. It is evident that the newly-established service franchise, which was a personal introduction into the Franchise Bill by the Prime Minister, gives the vote to every male occupier of a house or tenement which is separately occupied from that of the actual owner or employer, and whether the house or property in question be rated or not. Had the rating condition been still imposed, it would have shut out from the exercise of the franchise many schoolmasters, caretakers of schools, and officers in Government and other public institutions which are not rated when such officers, schoolmasters, &c., reside on the premises. Gardeners who have occupied cottages or houses outside of their employers' property, and which cottages have been rated to the relief of the poor, are just in the same position as all other ordinary house or cottage occupants, and the service franchise does not apply to them. But all gardeners, bailiffs, gamekeepers, coachmen, lodge-keepers, &c., who reside on their employers' estates, and in tenements belonging to their employers, no matter whether part of garden, farm, or stable buildings, if separately occupied tenements, are not only entitled to have their names placed on the parish register of voters, but the overseers are subject to penalties if they refrain from doing so.

Of course, the same conditions as to residence apply to all householders, whether they are ordinary ones or get their votes through the service franchise, viz., they must have been in occupation from the month of July of the preceding year. So far all is plain sailing, and nothing open to disputation is evident. The gardener who occupies a tenement by virtue of his service, and in which tenement he must of necessity reside, is now as much an elector as the estate owner himself, or anyone else. The point over which it is possible some discussion may arise, however, concerns not the gardeners, nor the coachmen, but rather their under-gardeners and the grooms. It would be, indeed, a rare circumstance for these to occupy separate and distinct tenements, although now and then it may happen that an under-gardener occupies a room or two, commonly termed a bothy, all to himself in a garden. In such case, if the occupant has been in possession since the previous July, and is twenty-one years of age, his qualification can hardly be gainsaid.

In the majority of cases, however, we find bothy rooms in gardens occupied by two or more under-gardeners, and these occupied jointly, neither having any right to claim as sole occupier. It is evident that these occupants cannot claim as lodgers, because a lodger implies one who pays rent. It is equally obvious that the senior occupant, who perhaps is the foreman, cannot lay claim to special and sole occupancy, unless he should, as may be the case in some large gardens, occupy separate apartments solely for his own use and purposes, and to which none others of his colleagues have right or access. It has been thought that the granting of the franchise to under-graduates at Cambridge and Oxford created a precedent for similar claims being made by young garden men, but the cases are so far dissimilar that whilst the University students separately occupy apartments, which would elsewhere clearly entitle them to the lodger franchise, in the latter case the young men almost always occupy jointly, and such occupancy would not entitle them to the lodger franchise elsewhere.

Of course, this line of reasoning would equally apply to under-coachmen and grooms in the one case, or to under-carters and young farm labourers in the other, as their positions are almost, if not absolutely, identical with those of under-gardeners resident in garden bothies. Even the under-graduates must of necessity find their position as electors greatly affected by the residential qualification, and the same would tell with even greater force probably in the case of under-gardeners, for they seldom remain in one place more than three years after they are twenty-one years of age, and therefore it would often happen that they had not been a year in residence to entitle them to be on the voting register, especially when elections were pending. It must be very obvious that any form of franchise which stops short of actual personal qualification must always seem to deal unjustly with many persons who have active interest in political matters. The utmost that can be done in the direction of household suffrage has been accomplished by the recent Franchise Bill, but whether that Act is to prove final or otherwise is a matter with respect to which more will be known some few years hence.

Until the only next step, if it ever be taken—that of manhood suffrage—is accomplished, we fear many intelligent and well educated under-gardeners who are deeply interested in political matters will have to be patient, though most of those now resident in bothies will doubtless ere then have become occupiers of dwellings and heads of families. We are not of that class who would reply to anxious inquirers after their assumed rights and privileges by flinging to them a sort of non-possumus—a slap in the face, by telling them to mind their own business. The State has now recognized that gardeners have been long unfairly excluded from the full enjoyment of political privileges, and has redressed their wrongs. That is a recognition of the fact that gardeners, with other bodies of workers, have political intelligence and political duties to discharge. It is therefore but right that young men should look forward to the due discharge of their future obligations and duties with present interest and earnestness.

The Chinese Yam (Dioscorea batatas).—It is worthy of notice that this plant, which some years ago aroused considerable attention, is again being brought into notice as a "valuable and novel esculent." Some years ago the Chinese Yam was introduced to this country as a substitute for the Potato, but it altogether failed to realize the expectations formed of it. There is no doubt that one serious objection to the culture of this plant arose from the fact that it has club roots, which required a deep soil to grow in, and then there was some difficulty in getting them out of the ground without injuring them. But it is a plant that some will be sure to take an interest in and cultivate it. To do this successfully, the roots should be planted in April or May, though the earlier they are planted the better, doing it in deeply-dug soil, in ridges just as one would Potatos, and the tubers should be placed about 1 ft. apart. Then, if grown, how is it to be cooked? Mr. Shirley Hibberd has supplied this information. He states—"The way to cook it is to boil it but a few minutes, according to size; if boiled as long as a Potato it is waxy and insipid; but when the proper mode of cooking is once hit upon, the Yam is deliciously white, mealy, and of a most agreeable flavour." After that who will not grow the Chinese Yam?

Columbines and Canterbury Bells in Pots.—When at Luton Hoo, Beds, a few days ago, we saw in one of the plant-houses a number of plants of the above that had been lifted from the open in early spring, potted, and taken into a house to flower. Mr. Butters says that he found them very useful for cutting from, and that he grew a quantity in this way every year. Good strains of each are grown, and there is then an additional value attaching to them. As a matter of course, the plants are lifted with balls of earth attaching to them, and the roots soon lay hold of the soil that is placed about them.

Bulbous Plants.—What a wonderful growth these are making this season after the heavy rains: Narcissus, Tulips, Crocus, Hyacinths of all kinds, Scillas, &c. It must be of great service in strengthening the bulbs for another season's flowering when they are able to grow in this way, and what a sin it is to pull up the foliage of Crocuses, as we have seen some people do when they are desirous of putting out their bedding-plants. This does the bulbs material harm. It is much better to endure the foliage a little longer, for it will soon begin to turn yellow, and then it can be removed without injury to the plants.

Gardening Miscellany.

Mr. A. H. Smee's delightful garden at The Grange, Hackbridge, near Carshalton, will be opened to the public to-day, Saturday, and two following days.

The annual meeting of the Linnean Society was adjourned on Monday to Thursday, June 11th.

The Royal National Tulip Show will be held this day, Saturday, in the Botanical Gardens at Old Trafford, Manchester.

At the last meeting of the Scottish Horticultural Association, papers were read by Mr. G. Maclure, Trinity, on Alpine Auriculas, and Mr. A. N. McAlpine, Minto House, on the functions of the root.

The many friends of Mr. Herbst, of Richmond, will regret to hear of the loss he has sustained in the sudden death of Mrs. Herbst on Saturday last. A violent clap of thunder passed over Richmond on Saturday morning as Mrs. Herbst was leaving a shop, when she was stricken down, and died unconscious the same evening.

The number of visitors to the Inventories Exhibition on Whit-Monday was 73,634. On the same day, Kew Gardens were visited by 33,000 persons, or 7,000 less than half of the number who passed through the gates last year, when the weather was more favourable. At Old Trafford, Manchester, 18,000 persons visited the Great Horticultural Exhibition in the Botanical Gardens.

Mr. W. J. Epps, the well-known peat merchant of Ringwood Station, Hants, died somewhat suddenly at the Holborn Viaduct Hotel, on the evening of the 17th inst. Mr. Epps attended the Orchid Conference on the 12th and 13th inst., was taken ill after partaking dinner on the 14th, went to bed, and never rallied.

Mr. Hugh Hughes, for thirty years gardener to Sir G. Greenall, Bart., Walton Hall, Warrington, died on the 9th inst. Mr. James Lockhart has been engaged as his successor.

Those who wish to see the Rhododendrons in bloom at Knap Hill and Bagshot should pay those places a visit during the next fortnight. At the Botanic Gardens, Regent's Park, in Rotten Row and in Cadogan Square, the plants will be in bloom during the same period.

Mr. James Drewitt, well-known in the craft a few years ago as gardener at The Denbies, near Dorking, died on the 14th inst., aged eighty-five years, at Kingston-on-Thames, where he had lived in retirement for the last seven years.

Among the obituary announcements of the week we note the death of Mr. G. Baker, of Holmfells, Reigate, the well-known amateur Rosarian, and a vice-president of the National Rose Society.

M. Max Singer, of Tournai, Belgium, has a *Dictionary of Roses*, in two volumes, in preparation for the Press.

The managers of the American Exhibition to be held in London next year, have secured an excellent site at Earl's Court, near South Kensington.

The dates of the exhibitions of the National Rose Society, and of societies affiliated with it, are as under: Brockham and Canterbury, June 27th; Maidstone, June 29th; Bagshot, June 30th; Cardiff, Croydon, Farnham, and Farningham, July 1st; Bath, Hitchin, and Reigate, July 2nd; Tunbridge Wells, July 3rd; Eltham, July 4th; National Rose Society, at South Kensington, July 7th; Sutton, July 8th; Hereford and Norwich, July 9th; National Rose Society, at Manchester and Sidcup, July 11th; New Brighton, July 15th; Helensburgh, July 16th; Wirral, July 18th; and Darlington, July 25th.

There is a fine show of flowers in the Orchid-houses at Sudbury House, Hammersmith, just now, and we are requested to state that their owner, J. T. Peacock, Esq., will be glad to make an appointment to show the collection to any gentleman sending his card beforehand.

The Hon. and Rev. J. T. Boscawen, Steward of the Horticultural Department of the Bath and West of England Agricultural Society's Show to be opened at Brighton on June 8th, is desirous of obtaining as large a display of Orchids as possible, and will be happy to offer special inducements and every possible facility to exhibitors of these plants. Mr. Boscawen would be glad to hear from any one desirous of exhibiting on this occasion. His address is the Oxford and Cambridge Club, Pall Mall, S.W.

FAIR MAIDS OF FRANCE.

Under this name, or the no less popular one of Bachelors' Buttons, in hundreds of gardens where old-fashioned herbaceous plants are cherished, may now be found in flower the beautiful subject of the annexed engraving—Ranunculus aconitifolius flore-plenus. In cottage gardens it is one of the best known of hardy plants, and no border, even in the gardens of the most opulent, seems to be complete without it. The plant grows to the height of about 18 ins., and has a graceful habit, with dark green handsomely lobed and toothed leaves, and during the present and next month produces a profusion of double, pure white blossoms, generally considered suggestive of buttons—Bachelors' Buttons, but why bachelors only is one of the things which, as Lord Dundreary would say, no fellow can understand. Anyhow, Bachelors' Buttons or Fair Maids of France, the plant is one which will grow anywhere, and deserves to be well treated.

ROSES AT SHIRECLIFFE HALL.

It is seldom at any time of the year that one can pay a visit without finding some Roses to admire in the gardens at this fine old Sheffield residence; just now there is a special feast of pot Roses for the lover of the Queen of flowers. The owner, H. E. Watson, Esq., who is a generous patron of horticulture, may justly be proud of his display, which at the time of my visit was well arranged along the back of a lean-to greenhouse in two rows, the back row being Standards, and in the front dwarf-trained specimens, amongst them being several plants of the little China Rose, which had a very nice effect.

Among the Standards I noted Celine Forestier, with thirty flowers; Edouard Morren, fine; Madame Lacharme, with twenty-eight flowers; La France, with eighteen flowers; Marquise de Castellane, Madame Victor Verdier, Marie Beaumann, and others. Of the dwarfs, John Hopper, Madame Rivers, 3 ft. through, with forty-eight flowers; Victor Verdier, fine; Jules Margottin, thirty-six flowers; Hippolyte Jamain, Magna Charta, a very fine plant, 4 ft. 6 ins. in diameter, with eighty splendid flowers, and Edouard Morren, very fine, were very conspicuous. In addition to the above were three good plants of the Persian Yellow, and all were in the best condition, every leaf clean and without blemish.

In the same house on the front stage are fine plants of Pelargoniums, both large-flowering and fancy, which will make a grand display when the Roses are over. In the Camellia-house there is a Gloire de Dijon planted out in one corner, which is confined to a space of 7 ft. by 14 ft. on the roof, and from this plant Mr. Udale has cut upwards of 500 fine blooms, while there are still many on the tree. The plant would soon cover the roof if allowed, but as there is a fine collection of Camellias in the house, many of which would be hard to match in size and condition, it has to be restricted to the space mentioned. In the same house there are about three dozen pots of Lilium auratum and L. speciosum and its varieties, which give promise of a fine display at some future date.

The Azalea-house is also not without the Queen of flowers, for at one end there is a fine plant of Niphetos, and at the other a fine vigorous plant in full beauty of Vicomtesse Riza du Parc. On each side of this house there is a fine lot of Strawberries in pots in various stages, some with large ripe fruit abundantly produced. The varieties are President, Viscomtesse Hericart de Thury, and James Veitch.

In a small lean-to house a quantity of Tea Roses are planted out, which yield a perpetual supply of blooms. I noticed amongst them very fine plants of Marie van Houtte, Souvenir d'un Ami, Madame Willermoz, &c. In the next compartment is a fine plant of Madame Berard covering a large space of the roof, while the back wall of the house is well covered with Zonal Pelargoniums of various colours in full bloom. Here, too, are the finest plants of Richardia æthiopica it has ever been my lot to see, some of them being as much as 6 ft. high and 5 ft. through. There are eleven plants, and the largest of them are confined to 12 in. pots. The white spathes are very large and of good substance; I counted about forty expanded. The flower garden is now very neat and gay with the spring bedding, and every department alike affords proof that Mr. Udale is a gardner of no ordinary ability.—*A Rambler.*

THE BOG GARDEN.

There is probably no feature in gardening so full of interest, and capable of producing such pleasing results at such a minimum of expense, as the bog garden, and yet no other department receives so small an amount of attention. There is only one conclusion to be drawn from this undeniable fact, namely, that it is not sufficiently understood; indeed, in a great majority of cases it is altogether unknown, and even in good hardy plant gardens they only rarely occur. This state of things is much to be regretted, since by its adoption pleasant corners, full of interest for a considerable season of the year, may take the place of spots which have hitherto borne the surest evidences of disorder and neglect.

A bog garden may be formed in a variety of ways, and in a variety of positions, according to the class of plants which it is desired to introduce. Bog and marsh-loving plants, such, for example, as Gunnera scabra and Magellanica, together with various Bamboos, Saxifraga peltata, and others, are fitting examples for the embellishment of moist, grassy spots, or such parts of lawns as can be supplied at will with the overflow from fountains. Such things as these, too, planted on sloping banks where abundant supplies of water can be had, and good drainage is guaranteed, lend additional charms to an already beautiful and picturesque spot. Here and there in gardens naturally boggy spots may be found which might easily be turned to good account, and wherever these occur they should be well and carefully planted with suitable subjects.

In the majority of instances, however, an artificial bog will have to be formed, and this may be done in the following simple manner:—Its position is the first question to be decided, and this will depend much on individual circumstances; for instance, should a rock garden already exist, no more suitable place can be suggested than at the foot of the rock, or at least in close proximity thereto, as in such a position it will have the full benefit of all the rain draining from the rockery. Should the position chosen be on the lawn, it should be made with sloping sides and be at least from 9 ins. to 1 ft. below the ordinary level. It will also be necessary to remove the soil or a portion of it so as to place a drain-pipe at the bottom of the bed to avoid stagnation. This is essential, for though a plant may inhabit bogs or wet ground, either wholly or partially submerged all the year round, it must be distinctly borne in mind that that plant has as great a dislike for anything approaching stagnation as it may have for a sandy waste. Having said so much with regard to stagnation, it might appear superfluous to add another word of caution, but I would advise that no attempt whatever be made to puddle the sides or bottom. I would rather give preference at all times and under all circumstances to a plentiful supply of water with a free drainage, and thereby ensure vigorous, healthy plants.

There are a number of plants which, though not strictly bog or marsh plants, delight to have their roots in an uniformly moist soil, and to accommodate such as these the sloping sides will be found to answer admirably, or if the surface of the bed be undulated they will be readily accommodated, and success become a certainty. Should water be in abundance it will be an easy matter by means of pipes to convey it to any given spot, having, where possible, the water well under control, so that little or much may be given as the case may be. I have at the present moment in my mind's eye some of the best formed bog gardens of which we can boast, and by briefly detailing some of the particulars of their construction may best illustrate the real value of such additions to the garden. The first one is situate in the Botanic Gardens at Cambridge, and owes its origin to the energies of Mr. Lynch, the able curator. It is on a large scale, and is in close proximity to the lake by which it is supplied with water. It is so constructed as to accommodate all classes of moist or water-loving plants; some are submerged, and others when the water is highest only have their roots reaching it, with the soil around semi-saturated. In this way a great number of plants for which a great variety of soils and situations have been prescribed, are doing remarkably well, and this in very ordinary soil, thus showing that the great secret was an uniform amount of moisture rather than any special soil or cultural skill.

Another portion at the southern end is set apart for plants inhabiting woods and such like places. For these a number of rough stools of trees are brought together, the spaces being filled with peaty soil. In course of time these roots will decay, and thereby lend additional aid to the plants about them. Then we have a narrow margin for such moisture-loving plants as Pinguiculas, Parnassias, Sarracenias, and many more; and one and all seem to be quite at home.

Another fine bog garden is to be seen at Belvoir where Mr. Ingram, in addition to an artificial bog of choice subjects, plants such things as Bamboos, Gunneras, Spiræa venusta, Saxifraga peltata, Osmunda, or Royal Fern, and others of similar requirements on sloping lawns, which can be saturated at will. In a garden once under my own supervision, the position selected for a bog bed was shaded with trees, where Carexes, wild, had grown undisturbed. The position was on an incline, and the water supply was the overflow from an aquatic pond in the rock, garden. In its course many Ferns were watered well and grew luxuriantly, and when it reached the bog it was a mere rippling stream, which is in reality the best of all forms of water supply. The bog consisted of peat in the one half and loam in the other; a 6-in. drain of brick-bats covered the bottom, over which was placed a covering of rough material to insure free drainage. The bed was then filled and the peat trod down somewhat firmly, to prevent it becoming of too spongy a texture. Some stepping-stones here and there were put in, and the bed was ready for planting. —*E. J.*

FAIR MAIDS OF FRANCE, OR BATCHELORS' BUTTONS.

ACACIA RICEANA.

Three years ago I planted out of a 5-in. pot one of these beautiful Australian climbers in a span-roofed house, and it has now reached the top of the pillar, 11 ft. high, and down the roof on each side 10 ft. Each season it has been clothed with flowers, and its graceful habit has commanded the admiration of all who have seen it. To say that it covers the pillar to the height named, gives but a meagre idea of the size of the plant, as it really formed a golden column, 2 ft. 6 ins. in diameter in any part of its perpendicular growth. A space 1 ft. by 2 ft. was enclosed with bricks laid without mortar at one end of the bed in the centre of the house, and filled with peat and loam in equal parts. It was intended that the bricks should be moved, and that a larger root run of suitable compost (or what is regarded as such) should be provided as the plant required it. This, however, has not been necessary, as the roots have forced their way between the bricks and entered the bed, which is composed of ordinary garden soil.

I have made use of these loose brick enclosures for the past twelve years, and find them most convenient for Gardenias, Stephanotis, Bougainvillæas, and other stove climbers; Roses, Clematis, and Bignonias in the greenhouse, and Tomatos wherever a corner suits and allows room for extension. Till this simple expedient suggested itself to me I found it most difficult to deal with large plants trained under the roof of the houses when they required repotting. My first attempt to avoid it was made by enclosing soil with bricks one or two courses in depth, and stand the pots on this, and if the roots made their appearance in it another course was added. At the proper time all this would be moved, excepting that portion the pot might stand upon, and replaced with fresh compost. It occurred to me that if I abandoned the use of the pot in such instances altogether, I might secure better results, and such has proved to be the case. The bricks preserve the outside roots from extremes of heat and drought, and when the plant is dry in the centre it is moist against the bricks, where the best of the roots are usually found.

The difference between the thickness of a pot and a brick, and the moisture they will absorb, will in a measure account for this, and command the latter wherever they can be conveniently used. In passing through the houses no one would scarcely observe ours, as they are mostly surrounded by plants, and the top course of bricks is also turned to account to stand plants in small pots upon.—*W. P. R.*

SCOTTISH GARDENING.

Pansies and Violas.—It was about the year 1830 when Pansies began to be sent out by name in Scotland, and they were all what we term Show varieties. In 1836 I remember going down to the Glen Nurseries (then the late Mr. Handyside's) to see the collection. They were all named, fine in colour, and something of the shape of a horse's head. Colour and not form was what was looked to in those days. One variety named Pan was an intense black, and a light sulphur one was named Tiger's Face, on account of its being veined with black. About 1840 or so it was considered essential that a flower to be good must have form as well as colour. About this time the late Mr. Thomson of Ivor sent out a yellow ground flower named Pizarro, and subsequently a light ground bloom named Reform. Those two flowers were both of fine form, and were the means of letting florists see what could be done, and seedling Pansy raisers sprang up like mushrooms. At this time Mr. Finlayson, of Kincardine, took up the matter in earnest, and raised seedlings by the thousand, and at first was very successful, but lost himself in the end through being too partial to his own sorts. Also about this time the late Mr. Tait, of Dickson's & Co., was a very successful raiser, and sent out many fine flowers. Mr. Tait believed in crossing his flowers to get good seed; and there is one thing to be said for crossed seed, one does not get so much rubbish as when the seeds are gathered promiscuously. I have raised many seedlings in my day, and done much fertilizing, but must confess that some of my best flowers were obtained from seed saved promiscuously.

Fancy Pansies are of a more recent introduction, and came most prominently before the public by means of a printed list issued in 1862, although they had been in existence to a limited extent for a few years previously. In 1855 I raised from a Show a Fancy variety which I named Dandie Dinmont. It was the first of the kind that I had ever seen, and I was rather proud of it, though it did not meet with much favour among growers at first. The late John Young, who was gardener at Archerfield, was a keen Pansy grower, and, having to meet him in Edinburgh, I thought it would be something of a surprise to him if I took him a flower of my Dandy. He looked at it for a little while and then threw it at me, saying, "I wonder a man like you would take up your head with a trash of a thing like that." This was certainly a damper, but it didn't damp me down for long, for in June, 1859, we had six varieties of what we called Fancy Pansies. As I was going to London to compete with Show Pansies I took a stand of these Fancies with me; the stand being made to hold thirty I had to put five in each row of the same variety. Such flowers had never before been seen exhibited, and there was hardly a London newspaper which reported the Show that did not notice them. That was the beginning of the Fancy Pansies, and I am pleased to say there is not a more popular flower at the present day.

Violas are now a very useful and interesting class of plants, and it is to Messrs. Dickson & Co. that we are indebted in a great measure for bringing them so prominently before the public in years gone by. They, would be sadly missed in our flower gardens nowadays, for by a careful selection of the varieties they can be had in bloom for eight months in the year. About eight years ago it struck me that it might be possible by careful crossing to make the Violas something like the Fancy Pansies, and I set to work by crossing the large varieties with such sorts as Magpie, &c., and succeeded in raising a very fine variety named Countess of Kintore, a large, bold purple flower, with a pure white edging. I have raised some thousands of seedlings since, but, strange to say, I have never been able to obtain any advance on the Countess of Kintore, which is sti one of the most popular Violas of the day.—*John Downie, Murrayfield, Midlothian.*

Fruit Prospects in the Carse of Gowrie.—The seasons for several years back have been so fickle, and prices for fruit have been so fluctuating, that many horticulturists have joined in the general cry with agriculturists about the great deterioration of our climate, and say that fruit cannot be grown now as was the case in "the good old times." Though it is true that we have had cold summers of recent years, and that prices may not have been great, we are not prepared to join in the general wail about climatic deterioration. The past summer was remarkably sunny, and the autumn months particularly fine, hence the reason of our fruit-trees and bushes having so much well-ripened wood at present.

A writer in *Forestry* who has examined a goodly number of orchards and gardens in the Carse states that he has seldom seen them give greater promise — the flower-buds are so numerous and well-developed. "We would take the liberty of recommending farmers and others, who have orchards or gardens that may not have been too well attended to in past years, to give them a good top-dressing of well-rotted manure, and they will find both flower and fruit all the better for it. We give this advice all the more readily because we know very many of the Carse orchards have been sadly neglected of late, and almost allowed to run to waste; little or nothing being done in the way of pruning or manuring. We are glad, however, to learn that a change for the better has commenced. Some of our more enterprising landlords, as well as some farmers who have orchards, have been pruning very extensively, and also adding greatly to their stock of trees as well as bushes. Some of our professional gardeners, as well as amateurs, have been taking a lesson from our farmers, and using fish manure in the hope of doing something grand at our local shows.

"We know one gardener who was using it largely in a plot of Gooseberries; he said to us, in his own hopeful but expressive way, that he expected to be able to let us see some 'snorers' at the show this year. Every success to him in this, which, beyond every other pursuit, unites real pleasure with profit."

Plants in Flower at Melville Castle.—That beautiful Australian shrub, Prostanthera lasianthos, which, though introduced early in the present century, is now very rarely seen, has lately been flowering grandly at Melville Castle, Lasswade, the seat of Viscount Melville. Mr. George McKinnon, who grows hard-wooded plants well, has two handsome plants, about 3 ft. each in diameter, which have yielded an abundant crop of pale purplish-lilac labiate flowers, produced in terminal clusters, and presenting a most imposing appearance. Mr. Green, when at Pendell Court, used also to do this plant well, but it is not nearly so often seen in gardens as its merits deserve; and we should be glad if Mr. McKinnon would give us a few hints on its cultivation, with a view to inducing others to grow it. The Heaths at Melville Castle are also now in full bloom, amongst them being a couple of good examples of E. Spenceriana, a number of E. ventricosa, and a plant of E. Cavendishiana, 4 ft. through, with spikes of yellow blossoms 12 ins. long.

HYBRIDIZATION OF ORCHIDS.

(Paper read by Mr. H. J. Veitch, F.L.S., at the Orchid Conference, Wednesday, May 13th.)

In a communication "On Hybridization among Vegetables," by Dean Herbert, of Manchester, published in 1847, in the second volume of *The Journal of the Horticultural Society of London*, I find the following remarkable passage:—

"Cross-breeding amongst orchidaceous plants would, perhaps, lead to very startling results; but, unfortunately, they are not easily raised from seed. I have, however, raised Bletia, Cattleya, Herminium monorchis, and Ophrys aranifera from seed; and if I were not, during the greater part of the year, absent from the place where my plants are deposited, I think I could succeed in obtaining crosses in that order. I had well formed pods last spring of Orchis by pollen of Ophrys, as well as of other species of Orchis which had been forced; and, if I had remained on the spot, I think I should have obtained some cross-bred orchidaceous seed. An intelligent gardener may do much for science by attempts of this kind, if he keeps accurate notes of what he attempts, and does not jump at immature conclusions."

This is the earliest authentic information I have been able to obtain of attempts to raise new forms among Orchids by cross-breeding, and with what success the Dean himself has told us in his own words. At that time, and for some years afterwards, there was a prevalent notion among gardeners that muling among Orchids was an impossibility, and, so far as I am aware, no one attempted it besides Dean Herbert till it was taken up by Dominy, at our Exeter nursery, about the year 1853. The cause of the prevalent belief of that age in the impossibility of hybridization among Orchids is not, I think, far to seek.

Dean Herbert was a man of science, and was well acquainted with the structure of Orchid flowers; to him their fertilization by hand presented no difficulty; to horticulturists and gardeners it was quite different; not only had they, in common with many others, not the slightest suspicion of the fertilization of Orchids by insect agency, but, moreover, very few of them possessed even an elementary knowledge of botany. They could, it is true, distinguish accurately the stamens and pistils of many flowers familiar to them, and they were aware of the functions of those organs, but the confluence of those organs into the solid column of an Orchid flower was to them a profound mystery. It was unfortunate, too, that Dean Herbert's injunction to keep accurate notes of what was attempted was not followed in the early days of Orchid hybridization, whence the uncertainty that still hangs over the parentage of some of the earlier acquisittons.

It was Mr. John Harris, a surgeon of Exeter, who suggested to Dominy the possibility of muling Orchids, and who pointed out to him the reproductive organ seated in the column, and showed that the application of the pollinia to the stygmatic surface was analagous to the dusting of the stigma of other flowers with pollen. This simple fact being once fairly grasped, the work of hybridization proceeded apace. The flowers of showy species of Cattleya, Lælia, Calanthe, &c., were fertilized with the pollinia of other species, and even the flowers of supposed different, but of course allied, genera were also operated upon in the same way. Capsules were produced in abundance, which in due course proved their maturity by dehiscing and thus the long and anxiously desired seed was at length at hand. Then arose a great difficulty, a difficulty which still exists, and which our long experience has enabled us to make only a short step towards overcoming—to discover the most suitable method of raising seedlings and getting them established. The seeds of Orchids are minute chaffy bodies of extreme lightness. So minute are they that an ordinary pocket lense is powerless to enable one to know whether the seeds are likely to contain a germ or are mere lifeless dust. When growing wild it is evident that the contents of the mature capsules after dehiscence are more or less scattered by the wind, perhaps wafted to great distances, until they settle on the branches of trees, on shelving rocks, or other suitable situations where the seeds can germinate and the seedlings firmly affix themselves. Following, or at least believing, that we were following Nature so far as the altered circumstances of artificial cultivation allowed, every method or available means that could be thought of was brought into request to secure the germination of the seed. It was sown upon blocks of wood, pieces of tree-fern stem, strips of cork, upon the moss that surfaced the pots of the growing plants, in fact, in any situation that seemed to promise favourable results. But as it was in the early days of Orchid hybridization, so it is now, we seem as far off as ever from hitting upon a method by which at least a moderate amount of success may be calculated upon; failures were at first, as now, innumerable, and numberless such are without doubt inevitable. Among the most cogent causes of failure in the raising of seedling Orchids, there can be no doubt that the altered conditions of climate, especially the deficiency of sunlight, and the artificial treatment to which the plants are necessarily subject in the glass houses of Europe, are the greatest. The capsules neither can nor do attain the perfection natural to them in their native countries, and it is more than probable that, independently of the capsules grown in our houses being the production of cross-breeding, they do not yield a fractional part of the quantity of good seed they would do in their native land. And so with their progeny—the tender seedlings are brought into

life under circumstances so different from what they would have been in their native land, that it is not at all surprising that multitudes of them perish in their earliest infancy. The capsules are not only less perfect in our houses than they would be in a state of nature, but they also require a longer time to arrive at maturity, a circumstance that *must* tell against the progeny. The cause of this is also climatic, chiefly of course the enormous diminution of sunlight and sun heat. To make this clear, I will adduce one illustration, and for that purpose I select the New Granadian Cattleyas of the labiata group, because they are among the best of subjects for the operations of the hybridist. These Cattleyas have their home chiefly in the ravines and valleys of the Cordileras, at elevations ranging from 2,000 to 5,000 ft. above sea level, and between the second and tenth parellels of north latitude. The plants, by being transferred from proximity to the equator, where on clear days the sun darts his rays either perpendicularly upon the place in which they are growing, or at a comparatively small angle to them, to a high latitude like ours, where the smallest angle at which the sun's rays can fall upon our houses is about 28 degs., and that only for a few days at midsummer, an angle which daily increases, till at midwinter it reaches 75 degs., suffer an enormous diminution of solar light. Now light, in passing through the atmosphere, even under the most favourable circumstances, is subject to absorption, or is intercepted by it, but the amount varies with the angle; thus, it has been shown that, of a given quantity of light falling perpendicularly upon a given point, one-fifth of it is absorbed or intercepted by the atmosphere; if it fall at an angle of 50 degs., more than one-fourth is intercepted, and at an angle of 75 degs., fully one-half. Hence, in the winter months, even when the days are clear and bright, we can get no more than five-eighths (a little more than one-half) of the solar light these New Granadian Cattleyas receive in their native country, on the assumption that other circumstances remain the same. It is quite evident, then, at what a disadvantage we are placed, as regards the ripening of capsules of Orchids whose native home is near the equator, to say nothing of local difficulties, such as the smoky atmosphere and fogs of London.

It is not unreasonable to infer, in the absence of more accurate knowledge obtained by direct observation, that the capsules of the New Granadian Cattleyas require but a short period to attain maturity in their native country, and that this period extends only over the two or three months of what is there called the dry season, but which in that region is subject to frequent showers. In our houses, the time required for maturing the capsules of Cattleyas of the labiata group ranges from eleven to thirteen months, for Lælia purpurata it is about nine months, for Phalænopsis Schilleriana, six months; Cypripedium Spicerianum, eleven to twelve months; Cyp. insigne, ten months; Masdevallia, four months; Calanthe, three to four months; Zygopetalum Mackayi, when crossed with Maxillare, about six months; Odontoglossum maculatum, Dendrobium aureum, Anguloa Clowesi, Chysis bractescens, and Maxillaria Harrisoniana, each about twelve months. But, of course, these periods are only approximate; the time required for the ripening of the capsules is considerably influenced by the state of the weather and external circumstances, especially by the amount of direct sunlight during the year. I note that our experience does not differ essentially from that of M. Bleu, of Paris, who has published in *The Journal of the Société Nationale d'Horticulture* the periods of ripening of the capsules of several Orchids crossed by himself, although it might be expected that in the warmer and drier climate of Paris the periods would be somewhat shorter.

Adverse as are some of the influences under which we work to obtain capsules, there is but little difficulty in getting them, and in abundance too; sometimes, even from crosses that, to the systematic botanist, would seem almost beyond belief; but then comes the *crux*. Good seed is the all important factor in producing healthy seedlings, and this, unfortunately, from causes already partially adverted to, is obtainable but in a very minute proportion of the whole. Seed we get in profusion, but so little of it germinates that the patience of the most persevering is put to a severe test. The seeds of hundreds of capsules have been sown without yielding a single result. In very many cases, only a solitary plant had been raised from a capsule that must have contained thousands of seeds; in very few instances indeed has the number of seedlings from one cross reached a hundred. It is true that we have raised many seedlings in the aggregate, but many of them have appeared when least expected, and when we consider the myriads of seeds that have been sown, and the comparatively few plants raised, we cannot be said to have achieved very great success. It may here be noted that with the exception of Cypripedium, which bears the stress of fruit-bearing better than any other genus, many plants bearing capsules become greatly debilitated. During the season the capsule is being matured growth frequently ceases altogether, and when the plant operated upon is not strong, it not infrequently perishes even before the seed is ripe.

If the ripening of the capsules takes place under such adverse influences, the same influences are by no means propitious to the early infancy of the progeny. The period from germination to the formation of the first roots, which for want of a better phrase I will call the thalloid state of the young plant, and which sometimes occupies several months, is the most critical in the life of seedling Orchids raised in glass structures; it is especially so with Cypripedium Calanthe, and Phalænopsis, and seedlings of these we accordingly find to be the most difficult to preserve prior to their getting firmly rooted. A succession of dull, cloudy days in winter, and even a few hours of London fog, will cause a great mortality, not only among these, but among all seedlings in a similar stage.

The cares and solicitudes of the raiser of Orchid seedlings are by no means diminished when the infant plants are fairly rooted; they must still be constantly tended with the most assiduous care. To neglect the watering, for instance, for a single day, or even for a few hours in the height of summer, may prove fatal; and so, on the other hand, an excess of coddling, giving them too much heat or too much water, by stimulating them into growth before their natural season arrives, is equally a source of danger. Nor is it the only one. We know of an instance of the splendid Dendrobium nobile nobilius being crossed with D. aureum; the capsule was matured in due course, and the seed sown, but only one seedling was raised. This, as may be readily supposed, was tenderly cared for, but all to no avail; the seedling had grown to about a ½ in., when one night a vulgar snail devoured the precious morsel at a single meal. We, too, have had our troubles. Among our earliest Phalænopsis crosses we succeeded in raising a single seedling from a capsule of Phalænopsis amabilis crossed with P. rosea, which we were particularly anxious to save, as it would have solved the question of the parentage of P. intermedia or Lobbi, which is a supposed hybrid between the same two species. The plant had made three healthy leaves; it was well established in a small pot, which, to be the more secure from danger, was placed upon an inverted pot that stood in a pan of water. One morning, to the great dismay of Seden, it was discovered that a slug had eaten off two of the best leaves, and would, if not trapped, certainly devour the remainder. Anxious to save the treasure, the plant was watched incessantly for hours in the expectation that sooner or later the marauder would make his appearance; to induce him to do so the moss was constantly plunged into water; the repeated duckings had at length the desired effect, the culprit issued from his lurking place, and the plant was saved.

(*To be continued.*)

THE VICAR'S GARDEN.

The arrangement of a collection of hardy-flowering plants, however moderate in extent, to prove effective and satisfactory requires a considerable amount of forethought, and some knowledge of the subjects to be planted. The height, colour, time of flowering, habit of growth, and diversity of foliage, should all be ascertained beforehand. The smaller dwarf growing kinds will, with few exceptions, come in the front lines, but bulbous plants require to be skilfully interspersed throughout the borders; the taller-growing Liliums, Fritillarias, Galtonia candicans may, with advantage, be so placed that they may tower somewhat above their neighbours. The grouping together of plants of a similar habit should be avoided, for the more evenly the various subject are distributed the better; the object in view being to have at all possible times the whole of the borders occupied with something that will please and interest. A collection, somewhat limited in variety, can be so planted that for nine months of the year something in flower will meet the eye at every turn, and yet the same materials may be so mismanaged that for lengthened periods large spaces will be apparently unoccupied.

Anyone thinking of planting their flower garden wholly or in part with hardy-flowering plants should carefully consider the space at command, and not attempt the culture of any plants for which there is not sufficient space at command. There is no necessity for so doing, there being plenty of things which may be grown in the smallest places. When space abounds the large Poppies, Thistles, Gyneriums, Bamboos, Arundas, Sunflowers, and the tall Achilleas may be introduced with advantage. Those who have a choice of positions for an herbaceous border will do well to select a spot that is sheltered from strong winds, yet which has the advantages of open spaces and partial shade while away from the roots of large trees and shrubs, for if the roots of these are allowed to run riot in the borders, poor results only need be expected.

The Vicar's borders have to a great extent these advantages, partial shade being secured by the presence of some fair-sized Apple-trees, under which shade-loving plants find a home, including flowering plants and hardy Ferns. To those of moderate means, I would suggest a collection consisting mainly of varieties of Phlox deccusata, Delphiniums, Herbaceous Pæonies, Narcissus, Tulips, Foxgloves, Campanulas, summer-flowering Chrysanthemums, Asters, Anemone japonica, Primroses, Crocuses, Pyrethrums, Sweet Williams, Pinks, Violas, Irises, and a few of the commoner occupants of cottage gardens. A selection of these well done will give a display for at least nine months of the year. Care must always be taken, however, to have the positions of the plants properly indicated. The best plan is to label all with the names distinctly written, for if this is neglected confusion and loss will be the result.

Among the best things in flower at the present time are Ranunculus aconitifolius flore-pleno [see p. 613], Trollius Americanus and Asiaticus, Primula Sieboldi in variety, and Solomon's Seal (Convallaria polygonatum). The value of this plant forced is immense, as interspersed with other more formal growing plants with bright glaring colours the effect is charming. Trillium grandiflorum is one of the most distinct and beautiful of hardy-flowering plants, and it will succeed best in a damp shady place; no collection of plants is complete without this. Mertensia virginica is very showy, but requires a sheltered position, and a sandy, warm, and peaty soil. The Parrot Tulips of various colours are very gay and curious things; Tulipa Gesneriana is very stately; and Cheiranthus Marshalli one of the very best of bright yellow-flowering plants.

Saxifraga granulata flore-pleno, I have, years ago, seen used as a spring bedding-plant, and the only drawback to its being employed for that purpose is, that it hardly lasts long enough in flower. Scilla campanulata alba, Corydalis nobilis, Doronicum Draytonensis, which grows rather taller than D. austriacum, and is altogether a better plant, and Anchusia italica are in fine form.

The hardy Azaleas are fast coming into bloom, and the contrast between the varieties of A. Mollis and the old American varieties when seen together is very striking, the latter looking very poor and weedy beside their newer rivals. Among Ferns, what prettier sight is there than the unfolding of the young fronds of Lastrea dryopteris, a clump of which growing among some stones under an Apple-tree is at present a lovely sight; none of the Adiantums of our stoves excel it in this stage for beauty. A plant of Wistaria sinensis trained on the west side of the house is flowering in such profuseness that the white wall is almost covered and hidden with blossoms. The continued wet dull weather is keeping things back and telling against them. Having had three fine summers in succession, are we going to have three wet ones? It looks rather like it at present.—*W. B. G.*

The Amateurs' Garden.

THE GREENHOUSE.

Free Ventilation, plenty of water to the plants, and a moderately moist atmosphere are the requisites here, which, with slight shade during the heat of the day, will keep the flowers fresh and in full beauty for a long time, but if the plants get dry they will quickly cast off their blooms. Soft-wooded subjects, such as Pelargoniums, Begonias, Fuchsias, and others of that class, will be much benefited by frequent applications of liquid manure, especially if they are at all pot-bound or cramped at the roots. Young growing stuff that happen to be in this condition, and that are wanted to come in later, should be shifted on at once, and stood or plunged out-of-doors, as most plants cultivated for greenhouse decoration do best in the open after this, where, exposed to the full influence of sun and air, they make sturdy shoots, that blossom freely when the plants are brought back under glass.

Callas and Spiræas ought at once to be planted out in a position where they are handy for water, as, being half aquatic, they require large supplies, and only do really well when kept wet at the roots.

Ferns.—The same may be said of these, but the drainage must be good, as, though they need much moisture while making their growth, it is necessary for the water to pass freely away. This being so, all plants that are shifted on into other pots, or planted out, should be well drained, and now that they are making their young fronds so fast, the old shabby ones may be removed, as they are no longer of any use to the crowns. Although Ferns need a certain amount of shade, they often get too much, and especially is this so with the sorts needed for cutting, which should be kept near the glass, and have plenty of light, when, instead of the fronds shrivelling up, as thin, flimsy ones do, they stand in water and last fresh for days.

Violets.—To have these good for pots or frames no time must be lost in getting out the plants, the best place for them being a shady border, where the soil should be made rich by digging in a heavy dressing of rotten manure, when the plants may be pulled apart and the strongest runners or crowns planted in rows 9 ins. between, and if then kept watered during the summer they will be fine and strong by the autumn.

Chrysanthemums are deserving of every attention, and should be shifted on as they require it, that they may have no check, as they never do so well after. The soil most suitable to grow the plants is good fibry loam, mixed with thoroughly rotten dung, in the proportion of one-eighth of the latter. As soon as the plants are re-potted they ought to be plunged in some open sunny spot, as they like full exposure and plenty of air.

THE FLOWER GARDEN.

Bedding-out.—At last we have fine warm weather, and as the season is getting late, bedding plants should be got out with all despatch, taking those of the more hardy kind first, and the tender things to bring up the finish. Among these latter none are more effective and showy than Salpiglossis, Asters, and Zinnias, which may be raised from seed even yet, as they germinate quickly, grow rapidly, and soon come into flower. Castor-oil plants and the variegated Maize (Zea variegata) are very telling in the centres of beds or to stand out boldly in borders, and both of these may be had strong and large enough for planting out in a fortnight if the seed be sown in heat and the seedlings nursed on in a warm frame for the time. For Pelargoniums the ground cannot well be too poor and hard, as under these conditions they flower much better, and in cases where the soil is rich it is a good plan to restrict their root, run and starve them a bit by sinking them in their pots, and plant them out, when, instead of producing little or nothing but leaf, they will become crowded with bloom. As variegated sorts are grown more for the sake of their foliage, the treatment for them must be just the reverse, and it may be remarked that all ornamental-leaved plants require plenty of feeding, and the same with most of the herbaceous subjects, such as Phloxes, Pyrethrums, Pæonies, &c., which, if the weather sets in dry. should have a good soaking with liquid manure, Calceolarias and other moisture-loving plants should be mulched by covering the ground among them with cocoa-nut fibre or other non-conducting material, which will help to keep them in health and strength and assist greatly in prolonging their beauty.

Lawns.—To have these in good order it will be necessary to run the machine over to cut the grass at least once a week, and to take the bents the lawn-mower should be driven in a different direction each time, as then it meets them or takes them sideways, and instead of being rolled down they are cut off and a fine even sward left. Daisies and weeds, that so spoil the look of turf in a garden, ought to be spudded out or destroyed as they continue to show themselves, the easiest way to kill them being to touch their crowns with a stick dipped in sulphuric acid, which burns the plants up, and the same with weeds on gravel in walks, to get rid of which the acid may be considerably diluted and sprinkled on through the fine rose of a pot, but it need hardly be said that it requires care in using and handling it, or harm may be done to one's hands or clothes if the strong acid gets on them.

THE FRUIT GARDEN.

Disbudding.—Insects: In spite of the long continuance of cold, and the many sharp frosts we have had, nearly all kinds of fruit have set freely, and there is the certainty now of an unusual abundance, especially as regards Apples and Pears, which are so thick that to get anything like fine specimens many will have to be taken off, but this is a work that will do later when it can be seen which are of the best shape, and are likely to take the lead in the swelling. The thing to look to now is the disbudding, shortening back, and keeping of the trees clean, the former being necessary for Peaches and Nectarines, and the shortening back for most of the others, while the freeing from insects is important for all. Fortunately, the heavy rains have been of great assistance in washing off aphis and maggot or caterpillar; but for all this, trees liable to their attacks must be watched, and if any are seen, a syringing should at once be given with dilute Nicotine soap, or a dusting with tobacco-powder administered, either of which, with a washing after, will be the means of clearing them off.

What encourages aphis more than anything else is leaving the shoots to run, instead of which the whole of those standing out from the wall or that are not wanted for filling up vacant spaces should be stopped back by nipping them off to within two or three leaves of their base. If this were done early, as it should be, there would be none of those long spurs so frequently seen now standing out from the main branches and exposing the blossoms to the inclemency of the weather, as the stopping keeps them close in to the wall.

Strawberries.—Mulching: Not only have the rains been fine for all fruit trees, but they have been equally beneficial for Strawberries, which wanted wet to enable them to push up their blooms, which they are now doing in grand style, and the beds should be littered down at once to keep the moisture in the ground, as in light soils it evaporates quickly, and then the fruit cannot swell. For mulching, there is nothing better than short straw, which is sweet and clean, and does not rot or impregnate the Strawberries with any bad flavour, like hay, long grass, or rubbish of that kind, which some people use. To protect the roots of fresh-planted fruit trees, or to place among Raspberries or round pyramidal or bush Pears or Apples, half-rotten manure answers best, as it not only lies closer, but the juices in it are carried down, and these are a great help to the trees in feeding and swelling their fruit.

THE VEGETABLE GARDEN.

General Work.—The present will be a busy time in the vegetable garden, as weeds grow apace, and there will be much thinning out of plants, seed sowing, and planting to be done, for the latter part of which work every advantage should be taken of the weather to get it carried out while the earth is moist from the soaking rain we have just had and the atmosphere is favourable, as no amount of watering and attention will make conditions equal to these, for though young plants may be kept moist at the roots, the arid state of the air often dries the tender leaves up. The best way to manage, especially in light soils, is to draw drills and dibble the plants out in them, placing the Broccoli, Brussels Sprouts, and Cauliflower 2 ft. apart, and if the lines are between rows of Potatos, as they ought to have been arranged for, they will then have plenty of room.

Earthing Potatos.—The first thing, however, before putting out the winter and summer things referred to is to earth up the Potatos, an operation that should be no longer delayed, as after rain the roots quickly spread about, and if these get disturbed or injured the mischief tells seriously on the crop by lessening the production of tubers. It has been a difficult matter to do much in the way of thinning up to the present, but now that the ground has had a softening through the effect of the heavy showers, Onions, Carrots, Parsnips, Beet, and all such like may be pulled out without breaking or disturbing those to be left, which being so, attention should be given to them at once that the rows may be regulated by drawing out all the plants not wanted to stand, which will give the others a chance to grow instead of being robbed and drawn as they otherwise would.

Celery, if pricked out on shallow beds made up principally with rotten dung and soil, as previously advised, ought now to be large enough for planting out, and may therefore be got into the trenches at once, but care should be taken to lift the plants with good balls, that they may be moved without feeling a check. Although it is necessary to put Celery into trenches for the sake of moulding-up, they are generally made too deep and ditch-like, by which sinking the plants are placed so low in the ground that they have only the bad dead soil to feed on, and under these conditions it is impossible for them to do any good. The best way to manage, if the trenches are to be side by side, is to mark them out 3 ft. apart, 9 ins. or 1 ft. wide, and only dig them 6 ins. deep, when the rotten manure should be put in and well mixed with the earth below, and the plants then planted about 8 ins. apart. This should be done with a trowel, and as soon as they are in, the next thing is to give a heavy watering to settle the soil about them, after which they will soon start to make rapid growth. The ground between the rows will come in capitally for late summer and autumn Lettuce, which from the great depth they get to root in make fine hearts, and bear dry weather well. To save transplanting, it is a good plan to sow the seed, and thin out, leaving the plants where they are to stand, as then they seldom bolt, but send their tap-roots down to find the moisture they want.

Peas.—To have a supply of these during the latter part of the season, special preparation must be made for them by digging out and manuring the bottom of trenches, after the manner of those for Celery, when they should be nearly filled up again and the seed sown, and the same for the last lot of Scarlet Runners, which it is time to get in now, as with the good treatment referred to they will bear freely till destroyed by the frost. The best Pea for late work, and indeed all through after this, is the Ne Plus Ultra, which is not only a heavy cropper, but is large, fine in colour, and of exquisite flavour.

Broad Beans.—The last batch of these may now be planted, as it is useless putting any in later, on account of the dry weather and fly that prevent the setting of the blossoms, and a final sowing of Dwarf French Beans should also be made.

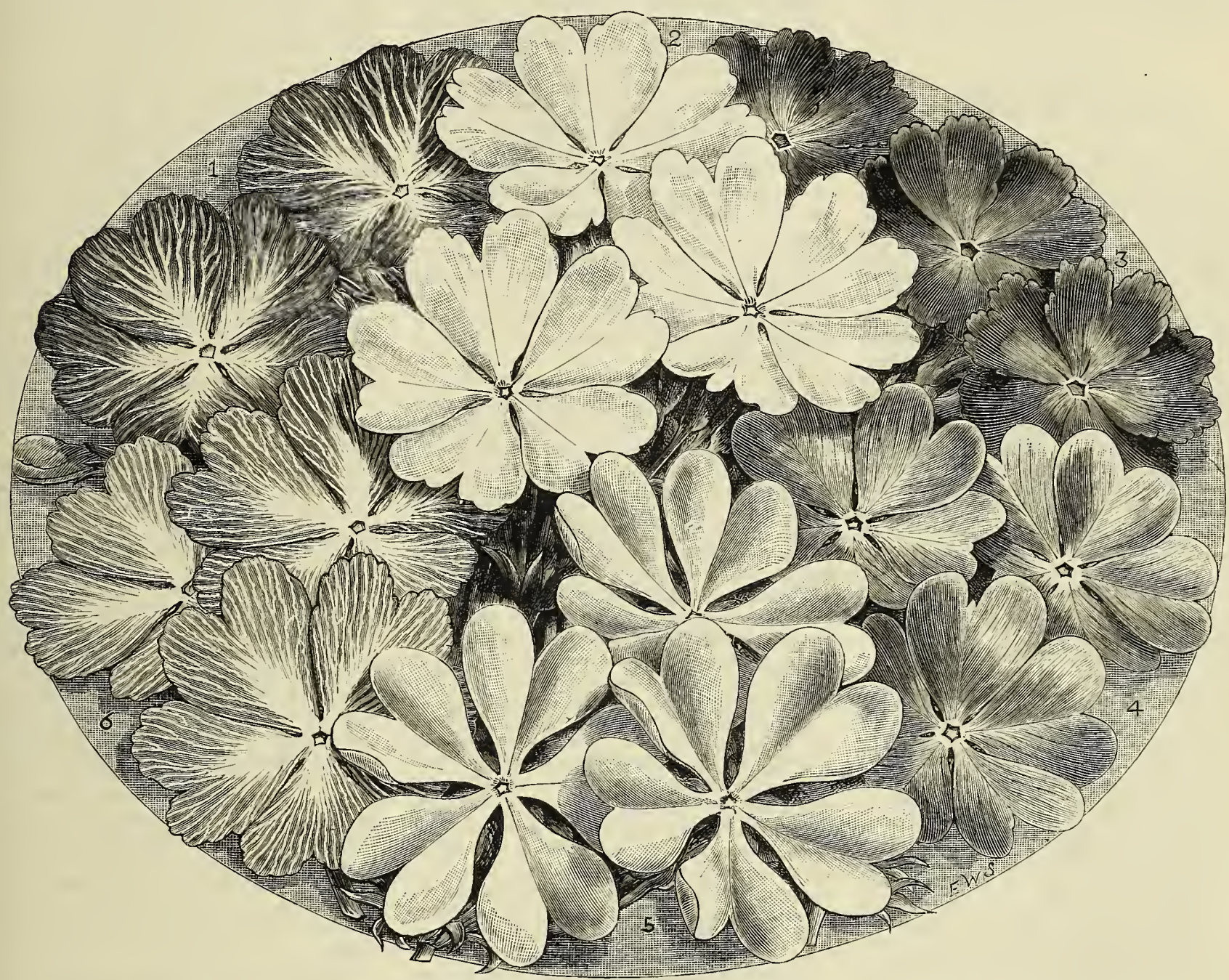
Fritillaria meleagris.—Among the beautiful wild flowers of the Thames Valley, the common snake's-head is eagerly sought after during the "merrie month," and this season it has bloomed most profusely in the meadows bordering on the Isis and Thames above and below Oxford. This species appears to luxuriate at Iffley, Sandford, and Ensham; and the meadow enclosed by Addison's Walk, at Magdalen College, and the low-lying grass land skirting the University Parks, Oxford, bordering the Cherwell stream, each year produce large quantities of flowers. From the ruthless manner in which the flower stalks are pulled, it seems a wonder that the bulbous roots survive. While so common in these parts it is regarded as somewhat rare in some parts of England in a wild state.—*W. Greenaway, Oxford, in Gardeners' Magazine.*

JAPANESE PRIMROSES.

Of all the beautiful plants which have been introduced into our gardens from Japan, through the enterprise of Messrs. Veitch and others, we know of none more useful, and few more beautiful, than Primula Sieboldi, and the splended varieties which have been raised from it, and yet comparatively speaking there are very few who grow them, though all who have a garden may easily do so. They are plants which any amateur who possesses a frame or two and a small greenhouse may grow with the greatest ease, and few more beautiful things will give a brighter display of flowers in spring. The sort of compost that Pelargoniums, Fuchsias, and such like florists' flowers do well in, will suit Primula Sieboldi admirably, but if anything it should be made more gritty by adding coarse sand, and the pots must be well drained, for the plant is very impatient of excessive moisture, though dryness at the root at any time is inimitable to its well doing. If after flowering the plants are turned out of the pots, the crowns divided and planted in a fairly rich border, where they can receive a little attention during hot weather in the way of watering, strong plants will be obtained for potting up in the autumn.

When the foliage has died down they should be put in a cold frame on a thick bed of ashes, and there remain until they commence to grow in spring, when we remove them to a shelf in the greenhouse, though they will do just as well in the frame, in which way they are always treated in the nurseries. They make a quick growth in early spring, and throw up fine trusses of flowers, which last for some time in perfection. If not wanted too early, and we like ours to follow the Hyacinths and Tulips, let the frame be kept under a north wall or fence, and no difficulty will be experienced. As border flowers planted out and left to themselves, we have not had much experience of them, but they do well on a rockery if well cared for and protected with a small handlight in bad weather.

Of the size and beautiful form of some of the newer varieties some idea may be gained from the accompanying illustration, prepared from flowers obtained from Mr. T. S. Ware. Their colours we can only describe as best we may, but to thoroughly appreciate the lovely hues found among them they must be seen, and in a good light. The varieties here illustrated are:—1. Roseo striata, full rose colour, striped with white or very faint rose. 2. Grandiflora alba, snow-white. 3. Magenta Queen, magenta. 4. Purple Queen, purple. 5. Rosea alba, white or faint rose above, rosy-purple beneath. 6. Lilacina, purple streaked with white. Since seeing Mr. Ware's collection we have seen a charming group of varieties raised by Mr. G. Geggie, Waterloo Nursery, Bury, and exhibited by him at the late National Horticultural Exhibition at Manchester. In the whole of the hardy herbaceous plant section—and these beautiful plants were well represented—nothing stood out so conspicuously as Mr. Geggie's Primulas, the plants being dwarf and well flowered, and unique as regards richness and novelty in colour. Brilliant, a rich rosy-crimson, is the deepest of all, and a beautiful flower. Blushing Bride is an exceedingly pretty fringed flower, white flushed with rose. Another fringed flower, large and of good form, is Harry, crimson and white; while of pure whites, none surpass Purity, a flower of good substance and fine form.



VARIETIES OF PRIMULA SIEBOLDI:—1. ROSEO STRIATA; 2. GRANDIFLORA ALBA; 3. MAGENTA QUEEN; 4. PURPLE QUEEN; 5. ROSEA ALBA; 6. LILACINA.

ARDISIA CRENULATA.

This most useful plant for the embellishment of rooms, the conservatory, or the stove, is seldom met with in private establishments, though for what reason it would be hard to say. It cannot certainly be through any want of merit, for well-grown and well-berried plants will vie in beauty with any of the small ornamental-foliaged plants now so much used for decorative purposes. Introduced from the West Indies in the year 1809, it should by this time have become generally known and appreciated, and the only way one can account for its scarcity is, that it has been elbowed out to make place for newer, and perhaps less worthy subjects. I do not know of any berried plant better adapted for the centre of a dining table, or to furnish vases in rooms, nor one that will stand rough usage better than the Ardisia.

The cultural requirements of the plant are of the simplest. It requires a stove temperature, and is raised from seeds, sown in sandy soil, the principal part of which is peat. As soon as the plants are large enough, they are potted up into small pots, and put in a light position. As soon as the plants have

filled the pots with roots (except it be late in autumn), they should be shifted into larger ones, taking care not to overdo them, as one advantage of most decorative plants is their being in comparatively small pots, and these subjects will bear being pot-bound, if stimulated occasionally with a little liquid manure.

The plants with us do not make a very rapid growth in their young stages; our best plants in use now are about three years old. They are found most useful during their first year of bearing berries, as when they lose their lower branches and get tall, they are of less use for the purpose named, though they will come in for many purposes the second year. In order to always have some useful plants in the best possible condition, the best plan is to sow fresh seeds every year, and always have half-a-dozen or more, according to requirements, coming along. When damped over with a syringe or rose watering-can, well-berried plants present a singularly bright and pleasing appearance.—*C. Warden.*

FRUITS.

Fruit Culture under Glass.—Melons: In establishments where the supply from other sources is not equal to the demand for these, in some places, much sought after cooling summer fruits, the supply may be considerably augmented by planting Melons in frames just vacated by bedding and other plants. Presuming, therefore, that the seed has been sown as advised in a former number, the plants will now be ready for planting; but those not in possession of plants may easily raise them by sowing seeds at once singly in 3-in. pots three parts filled with light mould, covering them with a little of the same compost, and after the pots have been placed in heat they should be covered with a square of glass to hasten the process of germination. As soon as the seedling plants appear, they should be stood on a shelf near the glass to prevent them from making a weakly growth, and be top-dressed; thus treated the plants will be ready for planting within ten days or a fortnight from the time of sowing the seed.

The Frames can be placed on a south, west, or even an east border, with a barrow-load of soil, consisting of three parts of loam and one of road scrapings, and, should the loam be of a stiff or adhesive nature, a little lime-rubble or charcoal may be added, and, as already stated, a barrow-load put in the centre of each light. In planting, the soil, being moderately dry and warm by reason of its having been placed in the frame a couple of days prior to planting, should be pressed firmly around each plant, taking care, however, not to press the stems in doing so, which would be likely to injure them, and be careful in planting not to bury the stems any deeper in the soil than they had been in the pots, and see that the summit of the hillocks, which should be about 6 ins. in diameter at their bases, and half that distance at the top, is 3 ins. higher than the surrounding soil after the intervening space up to the level indicated has been filled by frequent additions of soil being made to cover the roots as they push through the sides of the mounds. At the final earthing-up of the mounds, the soil should be well trodden all over the bed, especially along the sides and ends of the frame, to prevent its coming away from the woodwork. The Melon delights in a firm but not too adhesive soil. Should the weather be bright and sunny at the time of planting, shade the plants for a few hours during the heat of the day for a few days until the roots have pushed into the soil, after which they should be exposed to the full rays of the sun

Plants growing in these frames will require little if any water at the roots other than what they receive at the time of planting to settle the soil round them, inasmuch as there is no bottom-heat in these frames other than that imparted to the border by the sun. However, the plants will require to be syringed overhead (when not in flower, or the fruit approaching maturity) every afternoon during bright and warm weather at closing time, from half-past three to four o'clock. The time for putting on and taking off air must, of course, be regulated according to the aspect in which the houses, pits, or frames are situated. However, air should be put on at from half-past seven to eight o'clock in the morning, to prevent the foliage from being scorched by the sun shining on them, whilst their leaves are covered by and full of moisture without an opening through which to breathe. The plants, I would remark, should, if not done so prior to planting, be stopped after the roots have taken to the soil, when they have made two or three rough leaves, and three or four of the strongest side-shoots resulting from this treatment should be trained regularly over the surface of the bed, stopping these when they have attained to a length of 15 ins. to 18 ins., which will result in the production of fruit-bearing shoots, which in their turn should be pinched at one joint beyond the fruit, and the latter, when in flower, should be impregnated with the small (male) flower when the pollen is dry.

Plants should now, as at all times, be specially treated consistently with the various changes of growth at which they have arrived, *i.e.*, those in flower will require a somewhat dry and airy atmosphere—the blossoms being, as already hinted, fertilized at mid-day—until they have set their fruit, after which they should be subjected to a moist and growing atmosphere, with a minimum temperature (in houses and pits heated by hot-water pipes) of 70 degs., and a maximum of 90 degs. to 95 degs. with sun-heat. Three or four fruits—according to the size and strength of the individual plants—will be sufficient on each plant, all others, like the superfluous shoots, being removed forthwith as soon as they appear. The same atmosphere as recommended for plants in flower will suit those maturing their fruit. Plants swelling their fruits should be assisted by liberal supplies of tepid liquid manure being given to the roots when necessary. —*H. W. Ward, Longford Castle.*

Strawberry Packing Competition.—With the laudable object in view of spreading a knowledge among gardeners of the best methods of packing Strawberries for transit by rail, Messrs. Webber & Co., Central Avenue, Covent Garden, offered three prizes for competition at South Kensington on Tuesday for a box of Strawberries, not less than 2 lbs., packed for market so as to realize the highest price. Strange to say only three boxes were forthcoming, and in neither instance could the market-men present say that the packing was first class, the fruits being laid in simply between Strawberry leaves and in one layer. From an educational point of view it was a pity that some of the older growers, who have been sending to market for years, did not enter the lists, and so exhibit for the benefit of all the systems which they have found to answer best. In the first prize box, sent by Mr. J. Vert, gardener at Audley End, Saffron Walden, the fruits (of excellent quality) were laid in with the stalks uppermost, but in the other boxes, contributed by Mr. S. Haines and Mr. C. J. Waite, the reverse plan was adopted, and we are inclined to think that this is the best, the point of the fruit being the best part, and consequently the portion most desirable to retain in a perfect condition. If the shallow boxes were made so that the bottom could be as easily removed as the top, and the fruits were placed in the box with the stalk downwards, and the points at the top under the lid marked "this side up," they could readily be taken out by the stalks after removing the bottom of the box, and should in this way be subjected to the least amount of damage from friction. If any of our readers have tried this plan we should be glad to know the results of their experience.

Melons.—At South Kensington on Tuesday, Messrs. Sutton & Sons, Reading, offered prizes for the best brace of Melons, to include their Scarlet Invincible, Masterpiece or Hero of Lockinge, for which there were several competitors. The first prize was won by Mr. C. Herrin, gardener to J. N. Hibbert, Esq., Chalfont Park, Slough, with beautifully netted, well-ripened, and well-flavoured fruits of the white-fleshed Hero of Lockinge. The second prize went to Mr. C. Howe, gardener to Sir R. Sutton, Bart., Benham Park, Newbury, with good examples of Masterpiece and Invincible; and Mr. S. Haines, gardener to Lord Radnor, Coleshill House, Highworth, was third with Best of All and Hero of Lockinge.

Grapes.—Mr. James Hudson, gardener to H. J. Atkinson, Esq., Gunnersbury House, Acton, exhibited proof of his proficiency as a Grape-grower at South Kensington on Tuesday, in the form of remarkably well preserved bunches of Lady Downes, which were ripe in October last, and a bunch of thoroughly well finished Black Hamburghs of the current season's crop. Mr. Fyffe, gardener to W. W. F. Dick, Esq., Thames Ditton House, also showed some good examples of Black Hamburgh and Foster's Seedling.

FLOWERS.

Work in the Plant-houses.—Richardia æthiopica (Calla): This useful plant should now be either re-potted or planted out in the open ground. The latter plan, perhaps, gives the least trouble, and if the ground is good they will make stronger plants than those grown in pots. In either case all the old soil should be shaken out from the roots, and the offsets be taken off. Where it is desirable to save all the offsets, the small ones should be put in pans or boxes, and if taken care of will make nice plants for growing on the following year. If the plants are to be grown in pots, good rich loam should be used, and the pots be plunged in a bed of cinder ashes.

Cytisus (Genistas).—All old plants should be cut back, and after they begin to start into fresh growth they will require re-potting. After re-potting the plants it will be better to have them in pits or frames until they have made a fresh start, when they may be stood out in the open, or plunged in cinder ashes; the latter is a good plan to adopt for all plants that are to be grown on out in the open during the summer, as it will save much labour in watering.

Deutzias and all other deciduous flowering shrubs that have been used for forcing may be put into the ground in their pots; if done in this way the pots will help to confine the roots and keep them within bounds, so that they can be taken up for forcing again next winter. The pots should be sunk, say about 1 in. below the surface of the soil, and unless we get very dry weather they will not require watering.

A Few Good Hardy Plants.—It is doubtful if the Double Wallflower is generally so much prized as it ought to be, for although it is an old occupant of the garden, one seldom meets with it in private places. Granted that they are not thoroughly hardy in the true sense of the word, they are nevertheless quite as hardy as a host of new things sent out as such. Plant them in a sheltered spot on a dry, warm bank, and they seldom suffer from frost, and at the foot of a wall they are quite at home. Some plants here standing in the open border have been grand, and proved of great value for cutting from. All the sorts are worth growing, but our favourites are the yellow and dark kinds. We have a smaller flowered variety sent here as a dwarf one, which it is not, but it is smaller and paler in colour, and the scent is decidedly stronger.

Arnebia echioides deserves a passing note, as it has stood out here through the winter in an open, exposed border, and has flowered splendidly. A strong clump of its yellow and black spotted blossoms has a decidedly attractive appearance. It has gained much favour here this season.

Daphne cneorum is a beautiful plant in every situation in which it will grow. I know of no dwarf shrub which is more glorious to behold than a patch of this 2 ft. or more across covered with its bright heads of bloom. Its scent is delicious, and the plant is altogether a most valuable one for filling the flower basket. I have never observed that it was injured by being cut from, and cutting the long straggling shoots keeps the bushes compact.

Narcissus Bulbocodium, as a border-plant, is a very attractive object; good patches with from fifty to sixty blooms open at one time, are most showy. It does well here in our light sandy soil, and nothing is more elegant than a combination of these and a few other hardy plants of well-chosen colours.

The Poet's Narcissus is full of bloom, and grand for large mixed borders, as also is the large Double White Narcissus.

Tulipa Gesneriana Major must not be overlooked, so showy and useful is it in the open borders; although late in blooming, this is no drawback, as it comes in when the early sorts are past. It is a most pleasing shade of red, and is rather a tall grower, so that it must be placed in the border accordingly.

Iberis, or Evergreen Candytuft.—These are good border-plants, but my three favourites are corifolia, Gibraltarica, and semperflorens; the first and last are white, and the former is the best, according to my observation. No border-plant is more beautiful just now than this, it is as white as driven snow, and quite hardy, but I find it does not bear cutting close back so well as some others. Semperflorens is a more free grower, and stands the knife better, but the heads of bloom are not so good as those of corifolia. Gibraltarica is the largest of the group, it growing to the size of a bush. It has very large heads of white and lilac-coloured flowers, but, not so hardy as the others, it gets killed in severe weather in the open border, but deserves the shelter of a pit.—*John Crook, Farnboro' Grange.*

Petræa volubilis.—The handsome specimen of this trained over the roof of the warm end of the conservatory at the Royal Botanic Society's Gardens, Regent's Park, where it puts forth its pretty sprays of flowers in such profusion every May and June, is now in great beauty and bearing thousands of its showy flowers. The flowers are borne in sprays of twenty or thirty, the showiest part being the star-like lavender-coloured calyx, which measures about 1½ ins. across. The flowers, which are like small dark Violets in colour and appearance, being set in the centres of the star-like calices give an admirable effect, and cause one to regret that the undoubted stubbornness of the plant should render it much rarer than the very many years it has been with us should warrant. There is also a white variety which is equally pretty.—*J. B.*

Streptocarpus caulescens.—This singular little plant, which is a native of East Tropical Africa, is figured in the May number of *The Botanical Magazine*. It is not so handsome as many other members of the genus, the flowers being of a very pale lilac tint, but a curious feature of the plant is the production of a gouty tuberous stem. It forms a small bush from 6 ins. to 1 ft. high. The germination of the seeds of this genus is of a singular character. When the plant begins to grow two minute cotyledons are seen (as in other plants), one of which remains dormant, but the other grows and becomes leaf-like, a considerable distance separating the two cotyledons at this stage. The first leaf thus stands by itself, but all the successive leaves are borne in opposite pairs.

Herbaceous Calceolarias.—I think that the finest lot of Herbaceous Calceolarias I ever saw were those shown by Mr. Hatch, gardener to S. B. Stevens, Esq., at the Reading Show on the 21st inst. They were what is known as Sutton's Strain, the plants dwarf, the foliage robust and in the very best condition, the heads of bloom dense in the extreme, and such flowers, of a quality that could scarcely be surpassed. Some of the rich dark colours were particularly striking. It is not to be wondered at that such splendid plants commanded general admiration. In the Reading district Calceolarias are remarkably well grown, and a close competition always takes place for the prizes offered for them. The second prize went to Mr. Tarry, gardener to C. Stibbens, Esq., Reading, with some very good plants indeed, only a little inferior to the first prize lot; and the exhibitor that took the third prize had plants that at many a provincial show would take the first prize, and then be some way ahead of what one is accustomed to see there. I think that the reason why some things are done so surprisingly well in certain parts of the country is that certain exhibitors do their utmost to excel with them; this begets a very keen competition, and on this ground remarkably fine Calceolarias at Reading are accounted for.—*R. D.*

Exochorda grandiflora.—This fine rosaceous shrub is flowering with unwonted freedom this season, every shoot apparently producing a spike of its lovely white blossoms. It is a hardy plant with handsome glaucous foliage, and should find a place on every lawn.

VEGETABLES.

The Kitchen Gardener's Calendar.—Planting: The beautiful rains with which we have been favoured during the last week or two have enabled us to make good plantings of Brussels Sprouts, Cauliflowers, Cabbages, Snow's Winter-white Broccolis, and Lettuces, and to prick out into nursery-beds, 4 ins. or 5 ins. apart every way, young plants from later sowings to grow on for transplanting later on in the season. If Winter Greens are not already pulled up, the soil shook off from their roots, and removed to the refuse-heap, no time should now be lost in doing so, and in getting the ground manured and dug, so as to be in readiness for other crops, such, for instance, as Peas, of which a good sowing of the Ne Plus Ultra and British Queen type should be made forthwith, and again in ten days' time, for use in September and October, Broad Beans, Spinach, &c.

Leeks.—This, in some places, is an important vegetable, and in many gardens it might be rendered so by giving it more attention than it generally receives, and which its merits, as a culinary plant, unquestionably entitle it to. The plant delights in a rich, stiff, loamy soil, and we practice the following method as to transplanting, which we have found answer very well indeed, viz.: in an open situation, and in well-manured and deeply-dug ground, drills are drawn 3 ins. deep and about 18 ins. apart, and in these holes, 2 ins. or 3 ins. in diameter, are made 9 ins. or 10 ins. asunder in the rows, in which the plants are placed upright, allowing sufficient soil to cover the roots to fall into the holes in the process of planting, and subsequently the earth is gradually filled in either by the rain or by the use of the hoe between the rows, care being taken not to bury the hearts of the plants. When the Leeks are planted, water (in the absence of rain) should be given them, and occasionally afterwards until the plants have taken to the soil, after which—if the best possible results in the way of large well-blanched Leeks are aimed at—they should have an occasional watering of liquid manure. Leeks may be also grown satisfactorily in trenches prepared as for Celery, and the soil drawn to the plants as they increase in growth, and until the trenches are made level with the rest of the ground.

General Work.—Make a sowing of Colewort and Veitch's Autumn Giant Cauliflower for winter use, and as soon as Celery plants from the second sowing become fit for planting out, let them be transferred to the trenches which have been prepared as recommended at p. 539. Attend to the weeding and thinning of young crops. Asparagus beds should also be hand-weeded, removing at the same time all seedling plants resulting from seed which dropped from the plants last October, and which, if allowed to grow, would impede the growth of the permanent plants.—*H. W. Ward.*

Two Good Cabbage Lettuces.—Having tried several Cabbage Lettuces this season, I must give the palm to Veitch's Perfect Gem, which is the most firm eating Cabbage Lettuce I ever grew. It also comes in quickly, and is good for summer culture as well as for winter. Green Globe has been good; it is a nice close-folding kind, but paler in colour than the above. These planted at the foot of a vinery wall came into use early. They were planted with three others, and proved most valuable till Cos Lettuces came in. We have to make all sorts of shifts to keep up our daily salad supply, our pits being wanted for so many other things.—*John Crook, Farnborough.*

Cucumbers.—The merits of the Cucumber raised by Mr. Mortimer, the late gardener at Purley Park, Reading, and named Purley Park Hero, were well brought out in a competition instituted by Messrs. Sutton & Sons, at South Kensington, on Tuesday, when several good brace of fruits were exhibited in competition in a class open to that variety and Sutton's Cluster. The Purley Park Hero is a white spine variety of the Telegraph type, and a handsome show fruit, being of an even and medium thickness throughout, 14 ins. to 16 ins. long, and short at the shoulder. Sutton's Cluster, on the other hand, is a much shorter fruit, of the old Syon House type, and, though a free bearer, was nowhere in the competition with the first-named. The prize winners were Mr. S. Haines, gardener, Colcshill; Mr. Howe, gardener, Benham Park, and Mr. Waite, gardener to Col. the Hon. W. P. Talbot, Glenhurst, Esher. Mr. C. Howe also exhibited a seedling named Benham Park Hero, a handsome white-spined variety, some 16 ins. long, raised from a cross between Challenger and Telegraph.

Sutton's Late Queen Broccoli.—This very fine late white Broccoli was shown in excellent form at the Reading Horticultural Society's Show on the 21st inst., and awarded a First-Class Certificate of Merit. It is so late as to fill up the gap which exists between the hitherto late Broccolis and the Cauliflowers. It produces very fine white heads, set within a thick margin of leaves, which protect it from the sun and rain; it is of dwarf growth, and well suited to small as well as large gardens. It is a variety that should have a note made of it.

THE VERNAL GENTIANS.

Among the many interesting hardy flowers shown in the fine collections seen at the Manchester Whitsun Show, nothing pleased me more than the beautiful spring Gentians, G. acaulis and G. verna. Pans of these were shown carrying many beautiful flowers, and the richness of the shades of blue commanded much attention. G. acaulis is a well-known old inhabitant of our gardens, and it is the Gentianella of Wales. It is said that the Gentian was so-called after Gentius, King of Illyria, who first discovered the medicinal virtues of this bitter plant. Gentius having imprisoned the ambassadors sent to his Court by the Romans, they invaded his kingdom, conquered it, and led the royal botanist and his family in triumph through the streets of Rome. The old name of this flower was Gentiana cruciata, which is the dark blue Austrian Gentianella, and it was also called S. Ladislai Regis herba, in regard to which latter appellation there is a curious legend:—During the reign of King Ladislas the whole of Hungary was afflicted with the plague. Compassionating his unfortunate subjects who were dying by thousands, the pious King prayed that if he shot an arrow into the air the Almighty would vouchsafe to guide it to the root of some herb that might be employed efficaciously in arresting the terrible plague. The King discharged an arrow, and, in falling, it cleft in twain the root of the Cruciata (Gentian), which was at once tried, and found to possess the most astonishing curative powers when administered to sufferers from the plague.

In order to do well, G. acaulis should be grown in a moist sandy loam, and as it is sometimes employed for edging beds, this is the kind of soil in which it should be planted. In Yorkshire, Lancashire, Cheshire, and other moist counties, it is not unusual to find it edging walks, and there it is very effective. It is at home on rock-work where there is a depth of moist loam to root into; and it is particularly well suited for those spots of depressed rock-work where the stone is suggested here and there rather than exposed. It is a plant that can be successfully grown in pots, and that is worth the trouble in cases where the Gentiana will not grow in the open air, from a very dry soil or other cause. It flowers generally in April and May. G. verna is the English Vernal Gentian. In a wild state this plant is abundantly distributed over mountain pastures on the Alps of Southern and Central Europe, and those of like latitudes in Asia. This beautiful species is very rarely seen in good health in gardens, but is known to many as the type of all that is beautiful in Alpine vegetation.

A few things are essential to the successful cultivation of this flower; they are—a good, deep, sandy loam on a level spot on rock-work, perfect drainage, abundance of water during the warm dry months, and perfect exposure to the sun. Grit and broken limestone may be advantageously mingled with the soil, but if there be plenty of sand they are not essential; a few pieces bruised on the surface of the ground will tend to prevent evaporation, and guard the plant till it has taken root and begun to spread about. It may also be grown in pots with loam and plenty of rough sand, well drained and plunged in beds of coal-ashes or sand, thoroughly exposed to the sun, and well watered from the first dry days of March onwards till the moist autumn days return.—*Quo.*

THE

Orchid Growers' Calendar.

Three-lipped Orchids.—I have seen various monstrous accidental cases of this kind. In all these there were no anthers developed at all, and the gennine free style had a terminal npright stigmatic hollow, without the least pronation (deflexion). The finest thing of this kind that ever came in my reach was a grand flower of Oncidium Papilio with three lips, three sepals, and a fusiform Apostasioid style, without the least indication of anthers or filaments. It was most kindly presented me by my excellent second eldest English correspondent, Mr. J. Day. I remember to have seen a very fine Cattleyoid flower of this kind (if I remember aright, Lælia elegans) in the hands of Mr. Thiselton Dyer.

All these cases were accidental, and as the stamens were absent I adopted the view of an *antagonismus* (compensation), the colnmn being reduced, and partly made normal, to pay the vast expense of the luxury of three lips.

Some instances have, however, occurred to me, in which, together with three lips, the column was normal. This was observed a second time on the next shoots of the same plants.

The first case was that of Oncidium prætextum Leeanum. The Sanderian traveller, Mr. Osmer, was strnck by a panicle laden with such flowers, so that he made the laudable, but nnusnal, attempt to dry them. They are now, thanks to Mr. Sander's liberality, by my side, eight in number. The plant itself is in the glorions collection of Mr. William Lee, where it produced equal flowers, eleven of which lie before me, thanks to the kind possessor, who will, I hope, watch his precious unique, telling us how long it lasts trilabellic.

The second case was observed by my highly valned correspondent, Major Lendy, both in 1884 and 1885. It is not quite so evident as the jnst quoted Oncidinm, inasmnch as the Phalænopsis Stuartiana Lendyana has but one normal lip. Yet the petals approach much more lips than petals. The blnnt triangular blades are nngniculate, and bear a callus over the mid base of the lamina.

The third case is that of Dendrobium nobile Cooksonianum of Mr. Norman C. Cookson. The flowers are very distinct from those of the D. nobile Tollianum, having the petals very thick and hairy over the base, and with the same colour as the lip.—*Communicated by Prof. Reichenbach to the Orchid Conference.*

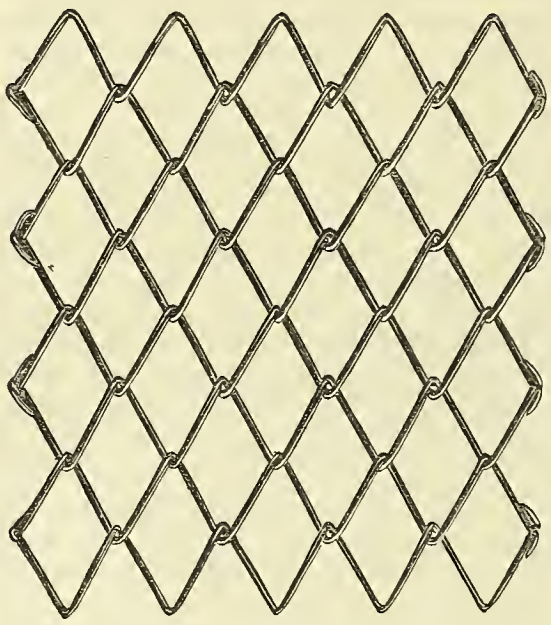
Orchids at Kew.—Really, Mr. Rolfe, how far will yon go with your abortive attempts to impeach my statements? In yonr "nnofficial" zeal yon have been carried too far, and have nnwittingly corroborated every line I penned. I sent a *true* statement to the Editor. This yon took upon yourself to challenge, in a tone which I called angry, because a man who tells another that he does not adhere to facts, otherwise does not tell the truth, must be angry, or he would not forget himself so far. Walking in Kew Gardens, and inquiring for the Orchid-house, I was directed to No. 12. I entered house No. 12, and stated what I saw. The honse being T-shaped, every branch of the T may go by different numbers; this I knew not, but I certainly did not go out of the building into the open air. I enumerated fifty-nine plants, not sixty-one as Mr. Rolfe will have it. Who tried to mislead but Mr. Rolfe, who gave a longer list by thirty-seven, and now admits that his visit being a fortnight later than mine, additional plants may have come into bloom? "May" is not the right word; "did" is the trnth.

More fair than he is, I accepted his statement that Kew possesses npwards of 1,000 species, bnt I did not see them; and as Mr. Rolfe volunteered the information that there are three other honses devoted to Orchids, and not open to the pnblic, I naturally presnmed that these remarkable species were kept there.

These houses I called the "sanctum," a word which Mr. Rolfe apparently does not understand. Let me tell him that it is a Latin word which briefly means "the part of a building which the public cannot enter, being reserved for the privileged few." However, in his last letter, Mr. Rolfe tells us that he has nothing to do with the Orchids. Why, then, does he write about them? I maintain every word I have uttered concerning my visit on the 19th of April. If the plain truth and my remarks have annoyed Mr. Rolfe I am very sorry, but I do not see why I should join in the chorus of praise bestowed on the Kew Orchids, to please anyone. If Mr. Rolfe will hire a trombone and a big drum, and collect a crowd on Kew Green and cry out, "Hnrrah for the Kew Orchids! Hurrah for our grand specimens, our rare species, and our great numbers! Come and see! We beat Veitch, Bull, Sander, Low, nay, Baron Schroder, Sir Trevor Lawrence, &c.!" by all means let him do so and be happy; bnt let him beware of picking a quarrel with a man in the crowd who disagrees with his bombast and cries "rnbbish": there are policemen on the Green—*A. F. L.*—[Mr. Rolfe has in no way disproved the statements of A. F. L., and we think enough has been said on both sides. It wonld serve no useful purpose to continue the discussion.—*Ed.*]

FLEXIBLE WIRE TRELLIS WORK.

Amongst the "Garden Sundries" exhibited at the great Whitsuntide Horticultural Exhibition just closed at Manchester, we noticed some wire netting and trellis work, so novel in construction, and so good an article to boot, that we think many of our readers



FLEXIBLE WIRE NETTING.

who have had unpleasant experience of the "kinking," "sagging," and general liability to get out of order of ordinary wire netting, may be glad to know of it. This is the patent, diamond-shaped, interlinked wire trellis and net-work, for which the mannfacturers claim the following special advantages:—"It is so interlinked together that it ensures perfect flexibility, and can be rolled or compressed into a smaller space than any other netting or trellis manufactured. That when stretched it becomes perfectly rigid and will bear an immense strain, its nniform mesh presenting a fine appearance to the ordinary wire netting in nse. It is easily fixed, and from its diagonal construction requires few supports, and can easily be removed if desired; can be divided into short lengths or joined together, without blemish or inconvenience, thns ensuring a saving of labour and material. It can be made of any mesh, of almost any thickness of wire, and up to any width." To better explain the method of interlinking the wire we annex an engraving, which shows at a glance the simplicity of the manufacture. There is not a use in the garden to which wire netting can be put, from an ordinary bordering or low fence to a croquet lawn, to the comfortable seat of a garden chair, that the new style of netting cannot be applied, with a certainty, as it seems to us, of superseding the old. The flexible interlinked netting is a thoroughly good article, and, as such, is deserving of wide pnblicity. The manufacturers are Messrs. James R. Collier & Co., 27, Bradshaw Street, Shnde Hill, Manchester.

HORTICULTURAL SOCIETIES.

Manchester Botanical and Horticultural, *May 22nd to 28th.*—The great annual National Horticultural Exhibition, which was opened on Friday week, though held a fortnight earlier than last year, and containing no special feature of a surpassing order of merit, was quite np to the average—an unquestionably good show. The weather on the first two days was of a most unfavourable character, so that it is not surprising that so few persons, comparatively speaking, paid a visit to the show and the gardens, which, nnder the able management of Mr. Bruce Findlay, were in admirable order.

The exhibition, as usual, was held in the commodious new show house (erected a year or two ago by Messrs. R. Halliday & Co., of Middleton), the large canvas-covered annexe, and a supplementary tent. In the show house proper, a long table down the centre contained a choice assortment of small plants, while the two sides and end were admirably filled with stove and greenhouse flowering and fine-foliaged plants, gigantic Gleichenias, and Orchids, &c. Orchids at Manchester take the lead in the schedule, and, indeed, at the show, for without the monster specimens—some genuine single plants, others made np, and clnmsily too—the show would lose much of the keen local interest that is now centred in it.

In the absence of Mr. R. P. Percival's plants, a new exhibitor came to the front and held his own in five ont of the six classes open to amateurs. This was A. Heine, Esq., of Fallowfield, who is to be congratulated on his well-earned snccess. The winner of the first prize for six was the veteran Dr. Ainsworth, and the next most successful exhibitor was J. Broome, Esq., Wood Lawn, Didsbury, who, in one of his collections, had the finest specimen Orchid in the show, his now well-known Vanda teres, 3 ft. high, 2 ft. through, and superbly bloomed by his gardener, Mr. A. Cole. In the two nurserymen's classes, Mr. Cypher, of Cheltenham, well won both the first prizes, Mr. James, of Lower Norwood, being a good second.

Besides these competitive collections, the Orchid contingent was greatly strengthened by large collections from Messrs. F. Sander & Co., St. Albans, and Messrs. Fisher, Son & Sibray, Handsworth, Sheffield, the former of whom had a specially fine variety of Cattleya Mendeli, and the latter one of the finest varieties of Phalænopsis amabilis we have ever seen, a spike of ten magnificently proportioned flowers, the merits of which the judges recognized by awarding a First-Class Certificate.

Fine-foliaged plants were well represented by large, handsome specimens, and plenty of them, especially in the amateurs' class, in which the first prize went to John Rylands, Esq., Longford Hall, Manchester, and the second to Sir Wilfrid Lawson, Bart., M.P. Mr. Cypher, Mr. James, and Mr. Jndgey, secured the prizes offered to trade growers. For eight stove and greenhouse plants in flower, Mr. S. Schloss, of Bowden, secured the highest honours among amateurs, and Mr. Cypher again took the lead with ten plants open to nurserymen. Next to these, perhaps the most striking groups in the show house were one of eight exotic Ferns from Mr. S. Schloss, nearly all Gleichenias, of enormous size, well matched, and in perfect health, and a collection of ten Crotons from Messrs. R. P. Ker & Sons, of Liverpool, good large, evenly-matched plants, which, as regards the size of their leaves, and their colour, were the finest that have come nnder onr notice. A plant of C. Hawkeri was specially noticeable for its grand condition. The Messrs. Ker, with whom highly-colonred Crotons are a speciality, were also invincible with a dozen Dracænas, their nearest rival being Mr. James; while among amateurs, Mr. Broome had the finest examples of the latter and Sir Wilfrid Lawson of the former. With Azaleas and Heaths Mr. Broome was also successful, and he contributed as well the best collection of Pitcher plants, an unique lot for quality, and including certainly the plant of the show, the largest specimen probably in England of Nepenthes Mastersiana, with the largest and deepest coloured pitchers that have yet been seen.

On the central table Mr. B. S. Williams, of Holloway, who has been a staunch supporter of these shows since they were established eighteen years ago, had

an extensive collection of new and rare plants, all in fine condition, if small, and effectively grouped. Messrs. R. P. Ker & Sons, Messrs. James Dickson & Sons, and Messrs. Francis and Arthur Dickson & Sons also contributed effective groups of medium-sized stove and greenhouse plants, and near by Messrs. W. & J. Birkenhead, of the Fern Nursery, Sale, had an attractive collection of choice Ferns, as also had the General Horticultural Company (John Cowan), Liverpool.

In the large annexe the most commanding position was occupied by a collection of sixteen well-matched specimen Clematises in flower, the plants being about 3 ft. high and the same in diameter, well bloomed, and the balloon trellises well covered with ample foliage. The Messrs. Smith have so often shown the Manchester people how to grow Clematises that Mr. Findlay ought, we think, now to give the amateurs a chance of distinguishing themselves in competition. In front of the Clematises Mr. Rylance, of Ormskirk, had eight neat specimens each of Show and Fancy Pelargoniums, a showy class not so well represented here as usual. The large circular mound was well filled with small-flowering Rhododendrons from Mr. Hayward of Cheadle. Next came some large groups of Roses in pots, from Messrs. G. & W. Yates, of Heaton Morris, and Mr. John Hooley, of Stockport.

On the flanks of these groups were the competitive "groups arranged for effect"—the nurserymen on one side, the amateurs on the other. In the former class Messrs. R. P. Ker & Sons again secured the first prize with an arrangement most tastefully carried out with materials of the best quality, and the rich colours of the young Crotons well subdued. The second prize was taken by a group of a totally different character—a very pretty group of Ferns, British and exotic, arranged by Messrs. W. & J. Birkenhead. Against flowering and coloured leaved plants, the Ferns of course stood no chance, and it was a bold stroke to put them in competition, but the Exhibition certainly gained by it. In the amateurs' class there were four competitors, and all took prizes. Mr. G. Smith, gardeuer to John Rylands, Esq., was first with a group which did him infinite credit as a grower and as a decorator. Mr. S. Schloss, gardener, came in second. In this same annexe Messrs. W. Cutbush & Son, Highgate, had an extensive group of stove and greenhouse plants, mostly flowering subjects, and well set up, and from Messrs. John Waterer & Sons, Bagshot, came a large group of Rhododendrons, and some very attractive Japanese Acers.

In the supplementary tent, immediately on entering, Messrs. J. & R. Pearson, of Chilwell, had a fine showy display of cut blooms of Zonal Pelargoniums, large in size, bright in colour, and well set off with fronds of Maiden-hair Ferns. Near by were some Herbaceous Calceolarias, not the best we have seen, and a truly beautiful group of varieties of Primula Sieboldi, from that very successful raiser, Mr. G. Geggie, Waterloo Nursery, Bury, Lancashire. Some very fine examples of Lilium auratum, considering the early season for them, came from Mr. W. Hayes, Jun., Chorlton House, Sale. Pansies in pots were quite a feature in themselves, and notwithstanding the unfavourable weather, both for numbers and quality, were unusually good. The best six pots, each of show and fancy varieties, both came from the Children's Hospital, Pendleton. Herbaceous plants were numerously represented, forming a collection on the whole which proved singularly attractive to the visitors. The finest amateur's collection came from J. Broome, Esq., but it was in the trade classes where the greatest wealth of flowers were to be found. Messrs. James Dickson & Sons took the first prize for thirty, and the second for sixty hardy herbaceous and bulbous plants, and should, we think, have been first also for forty Alpine plants instead of second to Messrs. F. W. & H. Stansfield, of Sale. In the class for sixty plants Mr. Thomas Walken came in first.

Messrs. John Laing and Co., Forest Hill, contributed a small collection of their choicest tuberous Begonias in pots, and a beautiful box of cut blooms; and Mr. F. Perkins, of Leamington, had a couple of plants of his fine new white variety of Pelargonium Volunte Nationale.

Of fruit, there were several competitors with Grapes, but only one collection was staged, and to that from Mr. Miles, gardener to Lord Carrington, Wycombe Abbey, the first prize was deservedly awarded. His Black Hamburgh and Foster's seedling Grapes, Black and White Cherries, Figs, and Melons were all good. Mr. J. F. Campbell, Uttoxeter, had the best dish of Black Hamburghs, a well-ripened and perfect sample for the season; and Mr. Miles was first with Foster's Seedling as well as with a single Pine. Outside, on the lawns, there was an extensive display of garden requisites of all kinds, the largest contributors to this department being Messrs. R. Halliday & Co., of Middleton, who exhibited some well-built houses in iron and wood, very handy and substantially made garden-frames for various purposes, &c.; Messrs. David Lowe & Sons, Edinburgh and Manchester, who had greenhouses, frames, &c., and Messrs. Thomas Bradford & Co., Victoria Avenue, Manchester, whose display of garden furniture was large in extent, and excellent in quality.

Royal Horticultural, *May 26th.*—What was for brevity sake called a show of Pot Roses and Azaleas, but which was in reality an interesting little general exhibition of flowering plants in the main, was held at the "Inventories" on Tuesday, and from noon till 6 p.m. was thronged with admiring visitors. The Rose Class was for eighteen plants in 9-in. pots, a class which usually brings out a neat lot of half specimens, vigorous in growth and perfect as regards the quality of the blooms, and such was the case in this instance. First honours went to Mr. Turner, Slough, who, amongst others, had perfect examples of such sterling good sorts as Madame Willermoz, Madame Margottin, Star of Waltham, Celine Forestier, Mons. E. Y. Teas, Madame G. Luizet, and Madame Lacharme. Messrs. Paul & Son, Cheshunt, were a good second, and Mr. W. Rumsey, Waltham Cross, third. Messrs. William Paul & Son, Waltham Cross, also contributed a capital group of similar-sized specimens, amongst which we noticed Mdlle. Julie Gaulain, pale satin rose; Madame Marie Closon, red changing to rosy-purple, both new varieties. The same firm also had a dozen boxes of admirable cut blooms, for which they were awarded a Silver-Gilt Banksian Medal.

The two Orchid classes brought out only three exhibitors—viz., Mr. J. James, Castle Nursery, Lower Norwood; Mr. Cook, gardener to De B. Crawshay, Esq., Rosefields, Sevenoaks; and H. Little, Esq., the two former of whom secured first prizes. Mr. James had a good piece of Cattleya lobata, a large Brassia verrucosa, Odontoglossum polyxanthum, and Od. citrosmum. In Mr. Crawshay's group the most conspicuous plant was a Vanda suavis with four grand spikes. For fifteen Azaleas in 9-in. pots Mr. Turner again came to the front with a set of plants in every way worthy of the reputation of the Slough Nursery, and especially strong in good white varieties, such as Bernhard Andreas alba, Apollo, and Flag of Truce. For nine Clematises, open, the first prize went to the only exhibitors, Messrs. G. Jackman & Sons, with a selection from the splendid group shown by them last week at Regent's Park. In the two classes for Show and Fancy Pelargoniums Mr. Turner was again well represented by admirably grown and well-bloomed specimens, and first prizes in both instances were awarded, the second in the class for eighteen plants in 6-in. pots going to Mr. Hill, gardener to H. Little, Esq.

Herbaceous Calceolarias were a feature of the show, and a very attractive one too. The main display consisted of two groups of fifty plants staged by Mr. James, Farnham Royal, and Messrs. James Carter & Co., High Holborn, and the prizes went in the order named. Mr. James's plants were, for quality, simply superb, but somewhat limited in the range of colours, the opposite of which was a strong point in Messrs. Carter's strain. Their plants, too, were much better grown than usual. In the amateurs' class for a dozen a capitally grown set shown by Mr. Ford, gardener to C. Lanyon, Esq., Birdhurst, South Croydon, took the leading honours. In a large and singularly beautiful collection of cut-blooms of hardy herbaceous plants, Mr. T. S. Ware showed us most of the good things in bloom at this season, including a couple of novelties noted below; and to the same section Messrs. Paul & Son, Cheshunt, and Messrs. Kelway & Son, Langport, also made creditable contributions. It is rather late in the season to expect good examples of Amaryllis in pots, so that one could not be disappointed with the quality of those staged to-day. Of tree, or perpetual-flowering Carnations, Mr. Turner sent a very fine collection, comprising all the leading varieties and some new ones noted below. For pansies, sixty blooms, Mr. H. J. Hooper, Crescent Nursery, Widcombe Hill, Bath, was first, Mr. J. Forbes, Buccleuch Nurseries, Hawick, a new exhibitor at the Metropolitan shows, and who had a capital lot of blooms, coming in second, and Mr. F. Hooper, Bath, third. Mr. B. S. Williams contributed a large collection of stove and greenhouse flowering and fine foliaged-plants, and was awarded a Silver Medal.

The New Plants which received First-Class Certificates were Olearia Gunniana, a free-growing Tasmanian shrub that has long been known but little cultivated in gardens, and which bears at the ends of the branches innumerable white starry-flowers; Schizophragma Hydrangioides, the Japanese climbing Hydrangea, a remarkable plant, throwing out aerial roots along its stems like Ivy, and having pale green bluntly cordate leaves, and bold heads of white Hydrangea-like blossoms, a fine plant for a commanding position; Hydrangea Mandshurica, a Japanese plant with large globular heads of lovely rose and mauve-tinted blossoms; Syringa vulgaris Marie Legrange, the largest flowered and best single white Lilac yet introduced; Allium Koratavense, a Caucasian species with broad glaucous leaves and large globular-shaped umbels of greenish flowers; Phyllanthus Chantrieri, a pretty addition to our stock of plants suitable for table decoration—an introduction from the South Sea Islands; Carnation Pride of Penshurst, the best yellow yet introduced, and which ought to have been certificated long ago; and Heliotrope Roi des Noirs, a sterling novelty with large heads of violet-purple blossoms, and deliciously fragrant. All the above came from Messrs. Veitch & Sons.

Aerides Wilsonianum, a new white-flowered species, from Messrs. Sander & Co.; Odontoglossum crispum lilacina, a neat variety of a pretty shade of lilac, and nicely spotted; and O. crispum punctatissimum, a lovely form in shape, colour, and spotting, from H. M. Pollett, Esq.; Cattleya Schofieldiana, a handsome, dull lemon-coloured flower, heavily spotted with purple-brown, a pretty crested lip, and the wings of the labellum white, from C. L. Ingram, Esq., Elstead House, Godalming; Lobelia superba distinct, and of compact, free-flowering habit, colour plum-purple, with clear white eye, from Mr. G. Weedon, St. John's Nursery, Ealing; Clematis Sir Joseph Hooker, a large full double flower of a bluish-purple shade of colour, one of the very finest double-flowered varieties, from Mr. C. Noble, Bagshot; Carnations Colonel Cox, a very large and full crimson-scarlet; Goliath, scarlet flake, large and extra fine; and T. W. Girdlestone, a lemon-yellow ground flower, with scarlet feather edges from Mr. Turner; Polemonium Richardsoni, a dense growing and profuse blooming species, with large porcelain-blue flowers, a fine addition to the herbaceous border; and Dodecatheon splendidum, a very fine Dog's-tooth Violet, with large rosy-purple blossoms, from Mr. T. S. Ware.

Messrs. James Carter & Co. showed some very pretty large-flowered Mimuluses, one form of which was densely and prettily spotted. The strain was commended. Mr. H. B. May, Dysons Lane Nursery, Edmonton, again exhibited his dwarf compact varieties of Pteris serrulata cristata, and a form of Pteris cretica alba lineata named Alcicorne, with branching instead of crested fronds. Mr. J. James received a Cultural Commendation for a handsome plant of Yucca filamentosa variegata, with a fine spike of white flowers 5 ft. high.

ANSWERS TO CORRESPONDENTS.

Trichopelia tortilis alba.—W. T.—Certainly distinct and new to us. Next week.

Lily of the Valley.—*Ignoramus.*—The roots commence to grow when the plants have done flowering, so that you should make the beds at once. Dig up the wild plants, select the best crowns to the number required, and plant them in rows 6 ins. to 8 ins. apart, and from 2 ins. to 3 ins. asunder in the rows, in good, well-enriched soil. After planting, top-dress the beds with leaf-soil, or well-rotten short manure, and, beyond keeping the beds clean and giving an occasional watering in dry weather, they will require no other attention.

Shady Border.—*E. S.*—Any of the common hardy Ferns would do well in your shady border—perhaps better than anything else.

Vine Borders.—*C. J., Middlesex,* asks if it is good practice to bury dead animals in a Vine border? Our forefathers used to think so, but all sensible men now-a-days abhor the practice as disgusting and unnatural. Such carrion is not the proper food of the Vine, and is positively injurious to Vine borders of any but the most hungry, gravelly description.

Names of Plants.—*W. S., Dorking.*—The double white flower is Saxifraga granulata flore-pleno, and the shrub we take to be Spiræa opulifolia.

Communications Received.—E. V. B.—Il est vrai.—H. W. W.—W. E. B.—D. P. L.—M. Barker.—H. G. Rchb., Hamburgh.—Ch. Joly, Paris.—C. T.—W. B. G.—W. T., jun.

Trade Catalogues Received.

B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, N.—New and General Plant Catalogue for 1885.

Henry J. Jones, Hope Nursery, Loampit Vale, Lewisham, S.E.—Select List of New and Good Plants, Seeds, &c.

LONDON SEED TRADE.

May 28th, 1885.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a very small attendance on Market, being holiday week, and business consequently almost at a standstill. Values of Agricultural Seeds, so far as ascertained, appear firm all round, and where any move has been made, the tendency is decidedly upward, particularly in Perennial Rye Grass. Mustard and Rape also dearer. Hemp and Canary firm at previous quotations.

COVENT GARDEN MARKET.

May 28th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6- 6 0	Pine-apples, Eng., lb.	1 0- 2 0
— Nova Scotian, per barrel	15 0-21 0	—St. Michaels, each	3 0- 7 0
Grapes, New, per lb.	2 0- 5 0	Kent Filberts and Cobs, per 100 lb.	-
Melons, each	2 0- 3 6	Strawberries, per lb.	1 6- 4 0
Peaches, per doz.	12 0-21 0		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Asparagus, English, per bundle	8 0	Horse Radish, bundle	3 0- 5 0
Beans, French, per lb.	- 2 6	Lettuces, Cabbage, per dozen	2 0-
Beet, per dozen	2 0- 3 0	— Cos, each	0 6-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	2 0-
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lily of the Valley, 12 bunches	0 3- 0 9
Anemone, 12 bun.	1 6- 4 0	Marguerites, 12 bun.	3 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Narcissus, various, doz. bun.	2 0- 6 0
Azalea, 12 sprays	0 6- 1 0	Pelargoniums, per 12 sprays	0 9- 1 0
Bouvardias, per bun.	0 9- 1 6	—scarlet, per 12 sprays	0 4- 0 6
Camellias, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	-
Carnations, 12 blooms	1 0- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun.	-
— large, 12 blooms	-	Pyrethrum, 12 bun.	-
Cyclamen, doz. blooms	-	Rhodanthe, 12 bun.	6 0- 9 0
Cineraria, per bunch	0 6- 1 0	Roses (coloured)	2 0- 6 0
Epiphyllums, 12 blms.	-	Roses, indoors, p. doz.	1 0- 3 0
Eucharis, per dozen	3 0- 6 0	Roses (French), per doz.	0 6- 0 9
Gardenias, 12 blms.	1 0- 4 0	Spiræa, 12 bun.	6 0- 9 0
Heliotropes, 12 sprays	0 6- 1 0	Stephanotis, 12 spr.	2 6- 4 0
Hyacinths, Roman, doz. sprays	-	Tuberoses, per dozen	1 0- 1 6
Lapageria, white, 12 blooms	2 0- 3 0	Tulips, per doz.	0 3- 0 5
Lapageria, red, 12 blms.	1 0- 2 0	Violets, doz. bun.	-
Lilium candidum, 12 blooms	1 6- 2 0	— French, per. bun.	-
— Longiflorum, 12 blooms	4 0- 8 0	— Parma, per. bun.	-
Lily of the Valley, doz. sprays	0 6- 1 0	White Jasmine, bun.	0 6- 1 0
		Woodroffe, 12 bunches	3 0- 6 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Genista, per dozen	6 0- 9 0
Arum Lilies, per doz.	6 0-18 0	Heaths or Erica, var., per doz.	12 0-42 0
Azalea, per doz.	-	Hyacinths, doz.	-
Begonias, per dozen	4 0-12 0	Hydrangea, per doz.	9 0-18 0
Bouvardias, dozen	9 0-18 0	Ivy Geraniums, per dozen	3 0- 6 0
Calceolarias, per doz.	6 0- 9 0	Lilium longiflorum, per doz.	30 0-60 0
Cineraria, per dozen	6 0-12 0	Lobelias, per doz.	4 0- 6 0
Cockscombs, dozen	4 0- 6 0	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	-	Mignonette, per doz.	5 0- 9 0
Cyperus, per dozen	4 0-12 0	Palms in variety, each	2 6-21 0
Deutzia, per dozen	-	Pelargonium, per doz.	9 0-21 0
Dracæna term., doz.	30 0-60 0	Pelargoniums, scarlet per dozen	3 0- 9 0
— viridis, per dozen	12 0-24 0	Petunias, per dozen	6 0- 9 0
Epiphyllums, doz.	-	Poinsettia, doz.	-
Evergreens, in var., per dozen	6 0-24 0	Rhodanthe, per doz.	6 0-12 0
Ferns, in var., dozen	4 0-18 0	Spiræa, per dozen	9 0-12 0
Ficus elastica, each	1 6- 7 0	Stocks, per dozen	3 0- 5 0
Fuchsias, per doz.	6 0-12 0	Tropæolums, per doz.	3 0- 6 0
Foliage Plants, various, each	2 0-10 0		

Bedding Plants, in variety, 8*s.* to 16*s.* per hundred.

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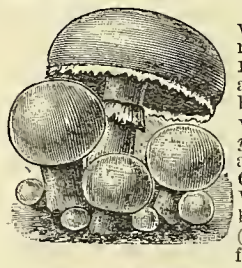

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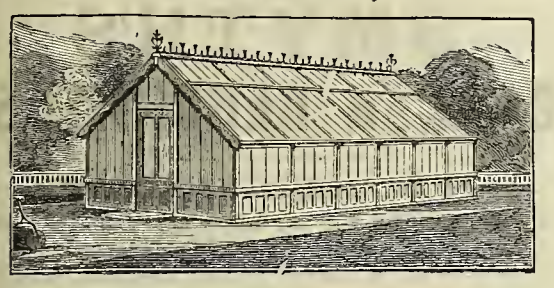

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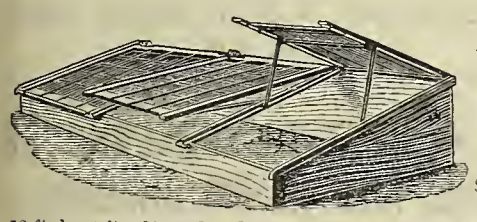

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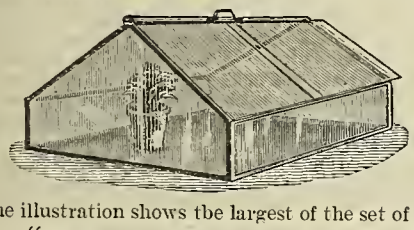

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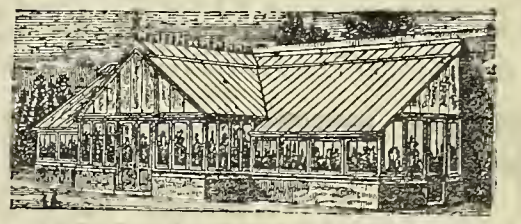

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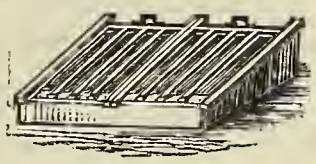

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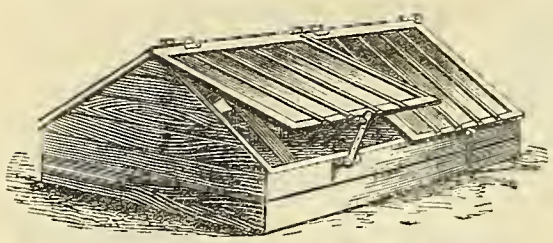

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Green Fly, Black Fly, Woolly Aphis, Grubs, Ants, Worms — From Garden, Greenhouse, Orchard, or Vinery; these and all Insect pests are speedily cleared by the use of Fir Tree Oil. Effectual, Economical, and Safe. It does not injure Flowers, Foliage, or the bloom on Grapes, Stone Fruit, &c. — Mealy Bug, Thrip, Red Spider, Caterpillars, Mildew, Scale, &c.

FIR TREE OIL destroys Lice and Fleas on Animals; it will cure Ringworm and all Skin Diseases produced by Parasites, and is perfectly harmless to the Hands & Skin.

Sold by Seedsmen and Chemists, 1/6, 2/6, and 4/6 a Bottle. Per post 3d. extra. Per gallon 12/6, or less in larger quantities.

A Treatise on FIR TREE OIL, as an INSECTICIDE, its application to Plants and Animals, sent Post Free, on receipt of address, by the Manufacturer,

E. GRIFFITHS HUGHES, Manchester,

Wholesale:—HOOPER & CO.; CORRY, SOPER, FOWLER AND CO.; C. E. OSMAN & CO.; and from all the London Seed Merchants and Wholesale Patent Medicine Houses. New York:—ROLKER & SONS.

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BY JAMES RUNCIMAN,

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THE WEEKLY DISPATCH,

Sent post free: 3 months, 1s. 8d.; 6 months, 3s. 3d.; 12 months, 6s. 6d.; single copy, post free, 1½d.

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£20.—TOBACCONISTS COMMENCING.—An Illustrated Guide (110 pages) "How to Open respectably from £20." three stamps.—H. MYERS & CO., Cigar and Tobacco Merchants, 109, Euston Road, London. Telephone No. 7,541.

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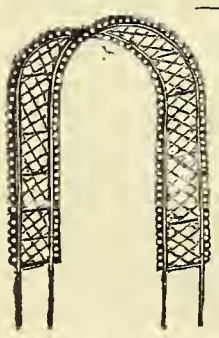
HORTICULTURAL WIRE WORKER,

Denmark Hill Wire Works, Camberwell, S.E.



Specialities straight from the Manufacturer. Galvanized Arches, 7 ft. high, 4 ft. span, 1 ft. deep, 9s. 6d. each, with twisted borders. Pea Guards, galvanized, per doz. 6s. Diamond Trellis, galvanized, 3-in. mesh, from 3d. per sq. foot, for training Creepers, &c., made to any required dimensions. Straight Lattice Work, for protecting glass houses, &c., ½-in. mesh, galvanized, from 5d. per sq. ft. Light Iron Poultry Fencing, 6 ft. high, 6 ft. long, 1½-ins. mesh, bar iron frame with prong feet, 1½ ins. by ¼ in.; upright rods, ¼ in. thick, 7s. per yard. Chicken Coops, with box, 3 ft. run, from 6s. 6d. each.

Estimates free for every description of Iron and Wire Work.

BEESON'S MANURE

Is the best for all Horticultural Purposes.

Sold in Tins at 1s., 2s. 6d., and 10s. 6d. each; also in sealed air-tight Bags, containing 1 cwt., 13s.

The 10s. 6d. Tins serve as a strong substantial receptacle to re-fill from the 1-cwt. bags.

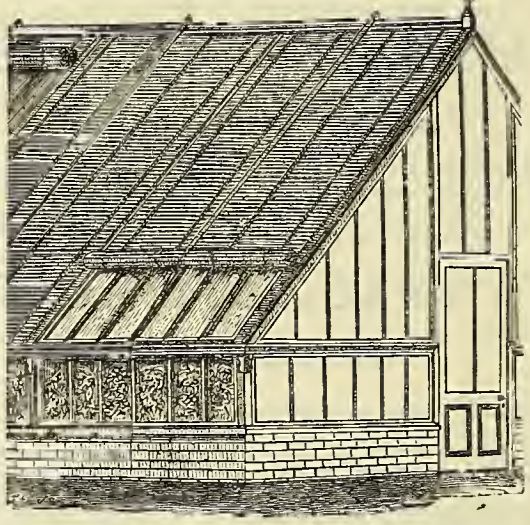
Supplies can be obtained through all respectable Nurserymen Seedsmen, and Florists in the kingdom; or in districts where no agents reside, carriage paid for cash with order, direct from the Manufacturer,

W. H. BEESON, Carbrook Bone Mills, Sheffield.

Testimonials from the Rev. Canon Hole and most of the leading gardeners free on application.

PARISIAN GREEN-HOUSE BLINDS.

Made of Wood and Zinc only.



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SOLE AGENTS FOR GREAT BRITAIN,

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North of England Horticultural Works,

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NICOTINE SOAP.

As an Insecticide, has been proved to be completely destructive to insect life, without affecting in the slightest degree the most delicate plants.

Prices, 1s. 6d., 3s., 5s. 6d., and 15s. 6d.; 28 lbs., 25s.; 56 lbs., 50s.; 112 lbs., 95s.

To be obtained of all Nurserymen and Seedsmen.

SOLE MANUFACTURERS:

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THE CELEBRATED

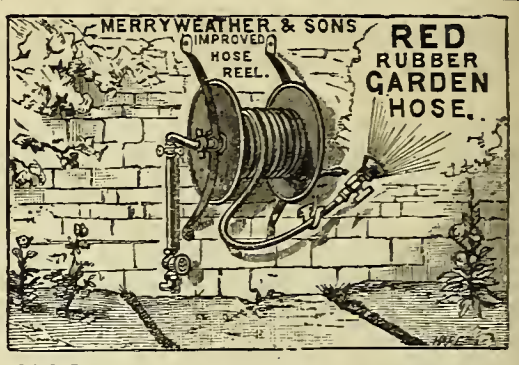
IS unrivalled for Gardeners', Foresters', Farmers', Joiners', and Amateurs' use. It requires no oil. Sharpen with a spittle or water. Puts on a keen sharp edge; no humbug about this. Cut in Hones for Axes, Hedge Knives, Razors, Penknives, and Plane Irons, &c. Honourable mention Paris Exhibition, 1878; and Bronze Medal London International Exhibition, 1884. Ask your ironmonger or other retail house to get you one, and give my address; if he won't, drop me a note.

JOHN C. MONTGOMERIE, Tam O'Shanter Stone Hone Works, Dalmore, Tarbolton Station R.S.O., Ayrshire.

COCOA-NUT FIBRE REFUSE

AT REDUCED PRICES.

4-BUSHEL BAG, 1s.; 10 bags, 9s.; 15 bags, 13s.; 20 bags, 17s.; 30 bags, 25s. Bags included. Truck load, free to rail, 25s.—T. RICH, Cocoa Fibre Works, 12, Redman's Road, Mile End, London, E.



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PATENT ANTIMONIAL RED RUBBER GARDEN HOSE.

For watering Gardens, Parks, Lawns, Terraces, Conservatories, &c., our Antimonial Red Rubber Hose is rapidly replacing every other kind of Garden Hose, because it neither blisters, cracks, or decays. Is wonderfully light in weight, exceedingly clean and strong, and a pleasure to use. Customers say they are fifty per cent. in pocket and spared the inconvenience and annoyance they used to experience. Catalogue of Hose, Patent Reels, Engines, and Fittings, free. Beware of common quality hose, *coloured* red, and order any length direct from

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FIRE ENGINE AND HOSE MANUFACTURERS,

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COCOA-NUT FIBRE REFUSE.

4d. per bushel; 100 for 25s.; truck (loose, about 2 tons), 40s.; 4-bushel bags, 4d. each.

LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks for 25s.; sacks, 4d. each.

BLACK FIBROUS PEAT, 5s. per sack; 5 sacks, 22s.; sacks, 4d. each.

COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton; in 2-bushel bags, 4d. each.

YELLOW FIBROUS LOAM, PEAT MOULD, and LEAF MOULD, 1s. per bushel. SPHAGNUM MOSS, 8s. 6d. per sack.

MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c.

Write for Free Price List.

PURVEYOR TO HER MAJESTY.

21, GOLDSMITHS' STREET, DRURY LANE, LONDON, W.C.

This Advertisement appears alternate weeks.

GARDEN NETTING, GREENHOUSE BLINDS, AND OTHER SHADING.

EXCELSIOR SHADING.—This shading is stronger and more durable than Frigi Domo, and from its make being principally manufactured cotton and wool it keeps the morning frost off and the heat in, as well as forming an efficient shade from the burning sun, 36 ins. wide, 1s. per yard.

SCRIM CANVAS.—An efficient, durable, and strong shading, very much used by Orchid growers, 6 ft. wide, 6d. per yard run.

SCRIM CANVAS metallized by the Willesden process, 36 ins. wide, 10½d. per yard run.

GARDEN NETTING for protection of Fruit Trees and Seed Beds from Birds, 2d. per yard run of 2 yards in width.

Prices for Tennis and other Nettings on application.

THE TRADE SUPPLIED.

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THE NURSERIES,

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And not to City Office, 10, Cullum Street, London, E.C.

Hooper's

The Covent Garden Seed Warehouse

Splendid Seeds and Bulbs at low prices

Catalogues free to buyers

Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex, Saturday, May 30th, 1885.

THE GARDENING ILLUSTRATED WORLD

No. 40.—1885. SATURDAY, JUNE 6TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

FLOWER SHOW.

Sheffield Botanical Gardens.

GRAND HORTICULTURAL EXHIBITION, 17th and 18th JULY, 1885.
£250 in Prizes.
Entries close 13th July.
Prize Schedules may be obtained from the Curator, Mr. JOHN EWING.

J. WEEKS & CO., HORTICULTURAL BUILDERS and HOT-WATER APPARATUS MANUFACTURERS, KING'S ROAD, CHELSEA, S.W.
"Book of Designs" and Estimates post free on application.

JOHN DOWNIE, BEECHHILL NURSERIES, near EDINBURGH, begs to intimate that his Stock of PANSIES, including the newest and best in cultivation, is NOW IN FULL BLOOM, and may be seen any day (Sunday excepted).

HERBACEOUS AND ALPINE PLANTS.—Catalogue of 50 pages, containing full information as to colour, height, situation, time of flowering, &c., free on application. A capital collection for Rocks, Stumps, and Borders, from 25*s.* per 100, or 4*s.* per doz. Most of the plants being in pots may be despatched at any time, or by Parcels Post when fit.—RICHARD SMITH & CO., Worcester.

GRAPE VINES.—IRELAND & THOMSON beg to announce that their stock of the above is this year specially fine and now ready for present planting. All the leading sorts from 3*s.* 6*d.* to 5*s.* each.
Nurseries: Craigleith, Comely Bank, and New Goldeu Acre, Granton Road, Edinburgh.

POT ROSES.—IRELAND & THOMSON have a splendid stock of all the best H.P. and Tea Roses for conservatory decoration or for planting out, from 18*s.* to 36*s.* per dozen.
Nurseries: Craigleith, Comely Bank, and New Golden Acre, Granton Road, Edinburgh.

"YE NARCISSUS OR DAFFODYL." An interesting history of the Daffodil, covering a period of the 300 years, with its poetry, and notes on hybridization, with many illustrations. Price one shilling, published by BARR & SON, 12 and 13, King Street, Covent Garden, W.C.

£1,000 OFFERED FOR PRIZES AT DUNDEE INTERNATIONAL EXHIBITION, 1884, where Dobbie's Prize Strains of Leeks, Turnips, Parsnips, Beet, Greens, Celery, Asters, French and African Marigolds, Cockscombs, &c., gained First Prizes respectively.
Catalogues, *free*, of Dobbie's Choice Pansies, Seeds and Plants, containing an Election of Pansies, the Culture thereof, with Remedies for the Prevention of the Pansy Disease, the True Secret of Growing Leeks and Onions for Competition, may now be had from DOBBIE & CO., Rothesay, N.B.

GREENHOUSES FOR EVERYBODY.—The Little Gems, lean-to, 65*s.*; span-roof, 75*s.* A perfect novelty, not to be believed until seen; send 4 stamps for photo of gems. Cucumber frames, glazed and painted, 20*s.*—Send 2 stamps for OGDEN & CO.'S Price List to the Alexandra Palace Horticultural Works, Wood Green, London, N.

PROTECT YOUR FRUIT FROM THE FROST AND BIRDS.—Good Netting, 18 square yds. for One Shilling, shrunk too much for fishing use, but just suitable for gardening purposes. This Netting will last much longer than new, it having been preserved for the *sea*, which thus prevents the *rain* from *rotting* it. Can be had any width. Carriage paid on all orders over 5*s.*—HENRY JOHN GASSON, Fish Merchant, Rye, Sussex.

ORCHID BASKETS.—Superior Octagonal Teakwood Orchid Baskets, in various designs, with galvanized or copper wire. Send for New Illustrated Price List to SIDNEY WILLIAMS, 21, Farringdon Road, E.C. (close to the station).

Laing's Prize Begonias

JOHN LAING & Co.
GOLD MEDAL BEGONIAS
NOW IN FULL BLOOM.
Presenting an unrivalled floral display.
Visitors are cordially invited.
Frequent trains from the City and from the West End to Catford and Forest Hill Stations.
Begonia Growers, Forest Hill, S.E.

1885. **Scotch Florists' Flowers.** 1885.

R. B. LAIRD & SONS (successors to Downie & Laird), will have much pleasure in posting their new Catalogue of the above.
OUR COLLECTION has been well known for many years to be the largest and best in Scotland.
ROYAL WINTER GARDEN, EDINBURGH.

DON'T FORGET to plant a few SUMMER BLOOMING CHRYSANTHEMUMS, as no garden is complete without a few of these; they bloom from July till November; 6 varieties 1*s.* 3*d.*; 12, 2*s.*; single varieties (very useful for cut bloom and decorative purposes) bloom well out-doors, and can be had in bloom from October till January; 6, 1*s.* 6*d.*; 12, 2*s.* 6*d.*; large flowering and Japanese varieties, 12, 1*s.* 6*d.*; 24, 2*s.* 9*d.*; all correctly named. Cuttings of above, 1*s.* a dozen.
CUCUMBER PLANTS.—Telegraph (best for frames or houses), 2, 1*s.* 6*d.*; 4, 2*s.* 9*d.*; Stockwood Ridge (best for out-doors), and Marrow Plants, 3, 1*s.* 3*d.*; 6, 2*s.* 3*d.*
NEW FUCHSIA.—Mr. Stephens, a splendid free flowering variety, and can be had in bloom all the year, 2*s.* 6*d.* each.
W. E. BOYCE, F.R.H.S., Yerbury Road, Holloway, London.

120 Plants for 5s.

WILLIAM BADMAN offers his 5*s.* box of plants, containing 60 Geraniums of sorts, 10 Blue Lobelias, 10 Fuchsias, 10 Blue Ageratums, 10 Calceolaria, 10 Scarlet Tropæolums, 10 Sweet Heliotropes. All well rooted, and sure to give satisfaction. Half the above for 2*s.* 6*d.*; post-free 6*d.* and 9*d.* extra.—P.O.O. with order.—Cemetery Nursery, Gravesend.

Good and Cheap Insecticides.

TOBACCO PAPER and CLOTH (Roll).—Thoroughly reliable quality; low prices. Trade supplied. RICHARDSON & CO., Tobacco Works, Leith, N.B.

JOHN KENNARD'S Horticultural Soils, Sundries, and Berkshire Pottery Depôt. Catalogue of all Horticultural Sundries, &c., Post Free. Established 1854.—Swan Place, Old Kent Road, London, S.E.

CACTUS DAHLIAS, Picta Formosissimus, Mr. Tait, Cochineal, Prince Imperial, Lord Lyndhurst, and Annie Harvey, 1*s.* each; the 6, 5*s.* Juarezii, Constance, and Fire King, 6*d.* each. Seedling Cactus saved from the above, 12, 3*s.* 2*d.*; 6, 1*s.* 8*d.*; sure to produce some novelties. The best Show, Fancy, and Pompon, 12, 3*s.* 2*d.*; 6, 1*s.* 8*d.* Single, to include several of Ware's best new varieties, 12, 3*s.* 2*d.*; 6, 1*s.* 8d.; 12 seedlings, single, 1*s.* 6*d.*—ZONAL GERANIUMS, single, 12 grand kinds, to include Cannell's splendid new white "Queen of the Belgians," 4*s.*; 12 best doubles, to include the very fine new white Le Cygne, 4*s.*—HELIOTROPES, the 5 best, 1*s.* 6*d.*; White Lady, Swanley Giant, President Garfield, Albert Delaux, the beautiful golden varieties, and White-eyed Beauty, the prettiest ever seen; a unique collection. Mimulus, Tropæolum Fireball Improved, Verbenas, Harrison's Musk, Nicotiana affinis, and blue Marguerites, 1*s.* 6*d.* per dozen; Asters, Phlox Drummondi grandiflora, French and African Marigolds, Dianthus Easter's Queen and crimson Belle, 6*d.* per dozen. The above are guaranteed thoroughly good plants.—H. J. JONES, Hope Nursery, Lewisham. Catalogue free.

Notice.

COCOA-NUT FIBRE REFUSE.—Reduced price. The same as supplied to the Royal Horticultural Society of England. Truck-load, loose, of 2 tons, 20*s.*; Larger quantities contracted for. The same in sacks: ten, 8*s.*; twenty, 15*s.*; forty, 25*s.*, sacks included. Delivered free on to Rail. Cash with all orders. Established 1872.—J. STEVENS & CO., "Greyhound Yard," and 153, High St., Battersea, S.W.

Farms, Estates, Residences.

Any one desirous of Renting a Farm or Residence, or Purchasing an Estate, can have copies of the

MIDLAND COUNTIES HERALD supplied free for six weeks on stating the purpose for which the paper is required, forwarding name and address, and six halfpenny stamps for postage, addressed "*Midland Counties Herald* Office, Birmingham." The *Midland Counties Herald* always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

THE FARMER AND CHAMBER of AGRICULTURE JOURNAL. EVERY MONDAY. ONE PENNY. This JOURNAL, in its forty-second year, is now published at One Penny weekly, and is the largest, cheapest, and best Agricultural Paper. It contains all the Agricultural News of the Week, the Latest Markets, and numerous original and interesting articles on Farming subjects by the leading Agricultural Writers of the day. Should be in the hands of every Farmer. Post free, 6*s.* 6*d.* per annum. Specimen copies will be sent for one month, post free, for 6*d.*—Office, 291, Strand, London, W.C.

JAMES BOYD & SONS, PAISLEY and LONDON, Horticultural Builders and Heating Engineers to Her Majesty the Queen, H.R.H. the Prince of Wales, H.R.H. the Duke of Connaught, H.R.H. the late Duke of Albany, H.M.'s Board of Works, London and Dublin, H.M.'s Colonial Department, the Royal Horticultural Society, the Royal Botanic Society, and the Royal Dublin Society. Gold Medal, Paris, 1878.—London Office, 48, Pall Mall, S.W. Illustrated Circulars post free. Complete Catalogue, 3*s.*

CLEMATIS, 12*s.* to 24*s.* per doz., strong plants in pots. List, containing descriptions of best singles and doubles of every shade from white to dark purple (some of the flowers of which become 10 ins. across), free.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester

ROSES IN POTS, "New of 1885," 30*s.* and 36*s.* per doz. "Teas," Noisettes, &c., 18*s.*, 24*s.*, and 30*s.* per doz. Very strong H. Perpetuals for forcing, 24*s.* to 30*s.* per doz.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

HARDY AQUATICS.—Finest collection in the country, Herbaceous, Alpine, and old-fashioned border plants, from per doz. in 12 sorts, 4*s.*; from per 100 in 50 sorts, 30*s.* Catalogue on application to J. VANDER REES, Exotic Nursery, Tooting, S.W.

GREENHOUSES FOR THE MILLION.—Buyers can save 25 per cent. in price and workmanship. Greenhouses complete from 50*s.* Conservatory from £5. Illustrated Catalogues post free 3 stamps.—PEEL & SONS, Steam Power Horticultural Works, Wood Green, London, N.; also, Windhill, Bradford, Yorkshire.

PURE WHITE GERANIUM, "NIPHETOS."—A hybrid nosegay, of a purer white than any we are at present acquainted with. It differs from all other white varieties in that it remains pure white to the very last, and never under any circumstances becomes tinted with pink, or any other colour. The trusses are of immense size, producing in nearly every case upwards of a hundred flower pips each. It is of a strong, robust, dwarf habit, free flowering, and whether for Winter or Summer flowering, or for cultivating indoors or out, will be found invaluable. Price 6*s.* per doz.; Cash with order.—H. LEANEY, Upton Nursery, Forest Gate, Essex.

CHRYSANTHEMUMS, well-rooted, good, 12 sorts, 1*s.* per doz. post free; to name, 1*s.* 6*d.* per doz.—T. GAYTON, Prospect Nursery, Hornsey, N.

GISHURST COMPOUND.—Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 ozs. to the gallon of soft water, 4 to 16 ozs. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*
GISHURSTINE keeps Boots Dry and Soft on wet ground. Boxes—6*d.* and 1*s.*, from the trade. Wholesale from PRICE'S PATENT CANDLE CO. (Limited), LONDON.

WHAT IS IT? A FACT, that all Spite, Prejudice, and Menace can be overcome by an outlay of twopence, and prove "HEAPS'S FOOD FOR PLANTS" the BEST, SAFEST, and most CONVENIENT to use of all artificial manures. "Heaps's Food for Plants," with directions for use, is printed on salmon-coloured paper on each 2*d.* box, with red air-tight ends. Be sure you get it, don't be persuaded to take any other. Sold everywhere; a sample free, 3*d.* One doz. will be sent, carriage paid for 2*s.* Trade terms on application. HEAPS & SON, Lordship Lane, London, S.E.

WEEDS: HOW TO DESTROY THEM.—Use SMITH'S celebrated WEED KILLER, the cheapest and most effectual preparation ever invented. Testimonials and prices on application to MARK SMITH, Manufacturing Chemist, Louth, Lincolnshire.

JOHN LAING & Co.
GOLD MEDAL BEGONIAS.
Orders now booked for July delivery. Catalogues Gratis.
OUR OWN UNRIVALLED VARIETIES.

Laing's Prize Begonias

Named Sorts, per dozen, Singles: A, 42*s.*; B, 36*s.*; C, 30*s.*; D, 24*s.*; E, 18*s.*; F, 12*s.* Named Sorts, per dozen, Doubles: R, 63*s.*; S, 48*s.*; T, 42*s.*
Unnamed Sorts, per dozen, Singles: G, 21*s.*; H, 18*s.*; J, 15*s.*; K, 12*s.*; L, 9*s.* For Bedding, per 100: M, 40*s.*; N, 30*s.*; O, 24*s.* Unnamed Sorts, per dozen, Doubles: W, 80*s.*; X, 24*s.*; Z, 18*s.*
Begonia Growers, Forest Hill, S.E.

SALES BY AUCTION.

Sales next Week.

MESSRS. PROTHEROE & MORRIS beg to announce their sales for next week, which will take place as follows:—

TUESDAY, June 9th.—A fine lot of IMPORTED ORCHIDS from Messrs. H. LOW & Co.; Imported and Established Orchids, another property; consignments of Orchids from the West Indies; and Palm Seeds from Brazil.

WEDNESDAY, June 10th.—Important sale of 2,400 CARNATIONS and PICOTEES, from the well-known collection of the late Mr. CHARLES TURNER, Slough; Greenhouse Plants in flower; Ferns; Pancratiums, &c., from the West Indies.

FRIDAY, June 12th.—A grand importation of the beautiful DENDROBIUM DEAREII, PHALÆNOPSIS, VANDAS, CATTLEYAS, and ODONTOGLOSSUMS, from Mr. F. SANDER.

On view mornings of Sale, and Catalogues had.

Sales for next Week.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, during the present week as follows, at half-past twelve precisely each day:—

MONDAY.—Importations of NEW and RARE ORCHIDS, collected by Mons. Leon Humblot in the Comoro Islands.

WEDNESDAY.—A grand collection of ORCHIDS in FLOWER, STOVE PLANTS, and IMPORTED ORCHIDS, from Messrs. F. HORSMAN & CO.

THURSDAY.—Extensive importations of MEXICAN, COLOMBIAN, BRAZILIAN, and other ORCHIDS, from Messrs. SHUTTLEWORTH, CARDER & CO., Mr. G. MARRIOTT, and Messrs. F. HORSMAN & CO., &c.

On view mornings of Sale, and Catalogues had.

WEDNESDAY NEXT, SALE No. 6,923.

Oncidium Jonesianum.

MR. J. C. STEVENS will include in his SALE by AUCTION at his Great Rooms, 38, King Street Covent Garden, by order of Messrs. F. HORSMAN & CO., on WEDNESDAY next, June 10th, 100 lots of the rare and beautiful ONCIDIUM JONESIANUM.

On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT, SALE No. 6,923.

Special Sale of Orchids in Flower.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY next, June 10th, at half-past twelve o'clock precisely, a grand collection of ORCHIDS in FLOWER, comprising many fine forms of Masdevallia Harryana, including regalis, conchiflora, sanguinea, cœrulescens, violacea, and Bull's Blood; also M. Veitchii grandiflora, M. rosea, M. Lindeni, and M. ignea; Cattleya Mendelii and C. Mossiæ in quantity; many fine varieties of Odontoglossum crispum, O. Pescatorei gigantem, and O. vexillarium; Oncidium macranthum, Epidendrum ibagueuse purpurea, from the Meadow Bank Collection; Cypripedium caudatum roseum; Aerides Leoniei, with forty flowers; splendid varieties of Phalænopsis grandiflora, &c., &c.

On view morning of Sale, and Catalogues had.

WEDNESDAY, JUNE 17th.

Mr. Edward Wallace's Plants.

Collected and brought home by him, and true to description.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY, June 17th, the FINE CATTLEYAS and other plants collected in Colombia and Venezuela, comprising:—

TWO GRAND CATTLEYA REINECKIANA.
TWO ENORMOUS CATTLEYA WAGNERI.
For description see last week's Advertisements.
LARGE SPECIMEN PLANTS of EPIDENDRUM HUMBOLDTII.
CATTLEYA TRIANÆ from IBAGUE, COLLECTED in FLOWER.
CATTLEYA MOSSIÆ, COLLECTED in FLOWER.
And many other Rare and Fine Things.

N.B.—These plants will only be offered for Sale by Auction once.

Important Sale of Valuable, Rare, and Choice Established Specimen Orchids.

Comprising over two thousand plants, and includes the whole of the fine Collection purchased from OSKAR SCHNEIDER, ESQ., previous to his departure from England, amongst which may be named Cattleyas Dowiana, exoniensis, Mossiæ, Mendelii, Sanderiana, Trianæ, and Wallisii; Dendrobium Ainsworthii, densiflorum album, crassinode, Findleyanum, Falconerii, thyrsiflorum, and nobile intermedium; Cypripediums caudatum, Dominianum, Sedeni, Swanianum, Spicerianum, and Veitchii; Cymbidium eburneum and Lowianum; Cœlogynes cristata Chatsworthii, Lemoniana and Trentham varieties; Lælia anceps Dawsonii; Phalænopsis Schilleriana; Odontoglossums Alexandræ, Hallii xanthoglossum, Pescatorei, and vexillarium; Vanda Suavis Gottschalkii, and others.

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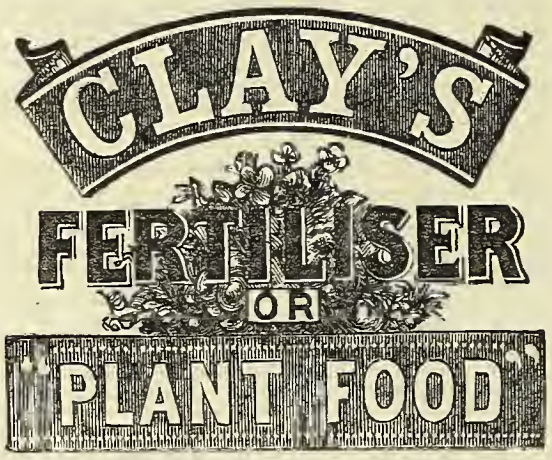

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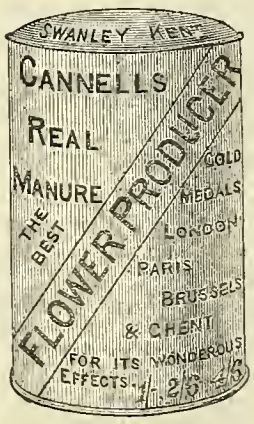

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, JUNE 6TH, 1885.

Fruit-growing in Guernsey.—It is very evident that the Channel Islands fruit-growers, and notably those of Guernsey, are displaying remarkable energy in developing the resources of their sea-girt lands, and in utilizing those favours which Nature, and a favourable position, so bountifully showers upon them. Whilst never afflicted with winter such as we know that season to be here in England, the sun generally bestows upon those islands at least one third more of light and warmth than it gives to us; hence it is not difficult to see that enterprise with such help may, indeed, display itself in an hopeful fashion, and in the production of remarkable results. An out-door fruit-cultivator from the Metropolitan district has recently been to Guernsey, and, by reason of the fact that he had favourable introductions, and was not himself a fruit or vegetable forcer, has been permitted to enter into many remarkable sanctums, from which eyes bent on prying, for the purpose of learning what was being done for personal objects, would have been excluded.

His description of the wondrous houses there devoted to fruits and vegetables, reads almost like a fairy tale, but it is most obvious that the Channel Islanders so favourably placed with regard to the sun's presence have hardly to force products as we have; indeed they may be said to assist Nature only. Naturally, did their fuel bills approach the amounts which forcers find themselves compelled to pay here, their enterprise might be materially limited, especially as their coal has to be imported into the islands. The cost of erecting vast areas of glass structures is a first or prime cost, but the fuel bill is a never ending, still increasing one, and must have the first consideration when forcing on a large scale is contemplated.

"I entered one house," says our informant, "540 ft. long and 45 ft. in width, all under Grapes; and indeed it was a wondrous sight to see the Vines full of fruit, looking along the vista. There were plenty of other big houses, in fact enormous areas of glass, but I only took note of the dimensions of this one. In nearly all cases the houses have span roofs. Specially was there one noticeable in which the Vines were planted out in rows 6 ft. apart, running crosswise, and then trained up to stakes fan-shaped. This was a new method of Vine-culture under glass; in fact, it resembled a Vineyard under a glass roof. The sides of this huge house were 10 ft. high, and the roof a span, resembling in area a huge barn. In another house the entire area was planted with Canadian-Wonder Dwarf Beans, sown in rows, and not in pots as we grow them here, under glass. From this house, it was stated, 1½ ton of produce had already been taken—it was of such Brobdignagian dimensions.

"Tomatos, too, are grown in immense quantities, and Potatos from the open air are indeed staple articles of production. Guernsey may be said to be almost an island garden, for the quantity of glass erected during the past ten years would be—the area of the island considered—fabulous, could it be stated. The growers in this favoured locale are very hard workers; men who labour and grub away with rough hands, rough clothing, and thick nailed boots, just as though common labourers, yet large employers of labour, and worth, probably, thousands. They seem to be profound believers in the potency of labour and of riches. Life in such a case may be worth living to some whose souls do not soar above their breeches pockets, but its light must be terribly clouded over with labour, pain, anxiety, and avarice. Still, these people are wonderfully enterprising; and if they pick up the best plums in the trade, we must not envy them their fortune."

Sunday Gardening.—Amidst the turmoil and strife created by contending factions over the sanctity of Sunday or otherwise, it is instructive to note the fact, so obvious to gardeners, that nature knows no seventh day of rest, and continues her work with the same regularity and despatch that she shows on all other days of the week. We say this natural fact is so obvious to gardeners, because their labour in certain departments, and in certain seasons especially, can know no cessation. We have often heard very good people, or at least persons who have their own estimate of goodness, declaiming against certain trades and occupations, just because they rendered Sunday labour imperative.

But argument of that kind is open to sharp retort, and especially so when employed by those who have large gardens, or keep live stock of any kind necessitating Sunday labour on the part of their employés, if not on their own. Let us take the present season for instance, especially when the sun shines out warmly, and houses and plants need incessant attention. The most conscientious of Sabbatarians knows that the neglect of the requirements of nature for one day may undo all the work of the year, just because whatever man may ordain with reference to the seventh day rest, nature is not amenable to his will.

Plants must be watered, air must be given and withdrawn, shading must have attention, for the sun will shine, the rain will fall, the wind will blow, the frost will be as intense on Sundays as on other days, and neglect of ordinary precautions, even but for a few hours, means loss and misfortune, as many a man in charge on Sundays has discovered to his sorrow.

Even those whose vocation lies in the production of seeds find that here, too, there is no standing still, no waiting for the pleasure or convenience of man. Seeds will ripen and waste, if not carefully gathered, let the day be what it may, and the grower cannot live on waste. Nay, waste of anything good is wicked, and there are many forms of wickedness in the world very much worse than are those found in Sunday gardening. We have seen fruit spoiling—who has not?—on Sundays, as on other days, from neglect to gather, and we have seen numbers of persons employed on Sundays gathering, that it may be good food for man, and not be spoiled,

The exigencies of gardening are many and imperative; they necessitate much absolutely necessary work, but still work that is not found in many other vocations not so dependent on the operations of nature. Persons of strong religious views may be gardeners, and assume all the weighty responsibilities incidental to gardening with the utmost conscientiousness, if they view their positions and duties with wisdom and judgment. If they cannot do so, and are ever declaiming the absolute perfection and force of the Fourth Commandment, they are grossly inconsistent if they still continue to exist in and by a vocation that renders Sunday labour so imperative.

Our great dramatist has told us to find sermons in stones, books in the running brooks, and good in everything. This abjurgation is one that needs constant repetition, for men sadly and cantankerously fail to find, or rather look for the good which is so universal. The humblest garden labourer, if he be a thoughtful man, and goes about his work with love and veneration for all the beauty and goodness which surrounds him, may indeed find sermons in his surroundings, and sacred harmonies in the sweetness and beauty which it is his happy lot to enjoy. A simple flower, or tiny plant or insect, may speak home to some hearts with more power than could the most eloquent of human preachers.

Poppies.—What a grand plant, even for its foliage alone, is Papaver orientale, but when in bloom it is superb. It is easily raised from seed, and a quantity of plants so raised some sixteen months since are now blooming finely, some of the flowers being of enormous size and of rich deep red hues. There is a slight divergence, both in size and in shade, seen in the batch, and the foliage is more or less striking; but, as a rule, the latter compares with the finest models for Corinthian architecture. As a perennial this Poppy will develop into huge plants, and form in the shrubbery borders, with Pæonies and similar things, truly noble ornaments. A large bed of this Papaver would be a striking mass; indeed single plants convey no idea of the wondrous beauty and effect seen in big masses.

A big patch of the new and singularly lovely Papaver umbrosum, one of the grandest biennials to be found, and apparently one of the hardiest, is a sight which can hardly be realized by those who have seen it only in single plants. The flowers are large, single, and bold, colour rich reddish-crimson, each petal having in its centre a dense black blotch, which is as marked inside the flower as outside. Seed sown in September in the open field, the plants put out in March where now blooming, has given this grand bed. It is one of the hardy flowers that all should grow.

The common forms of garden Poppies are well known, but are chiefly annual in habit. One of the most remarkable displays of these seen in any private garden is probably found at Dropmore, where the veteran Philip Frost makes his old-fashioned garden borders all aglow with these gay but easily grown flowers. The finer forms alluded to above may some day also become common, but at present they are far from being such, and we commend them to all who love hardy flowers.

Tulips.—At the meeting on June 9th of the Royal Horticultural Society, Mr. Samuel Barlow, of Stakehill House, Manchester, will exhibit a collection of his finest varieties of rectified and breeder Tulips, with a view of showing something of the character of the newer forms of these beautiful flowers. There is a superb collection of Tulips at Stakehill, and Mr. Barlow will this season have something like 5,000 blooms. They are very late this year, but the few warm days now being experienced is bringing them on very rapidly. If the contributions from Stakehill awaken some renewed interest in the Tulip among the florists of the South, then Mr. Barlow's purpose will be well served. The contribution from Stakehill will show what are the good points in a Tulip, and this is all the more necessary, as the popular estimate of a Tulip is of a somewhat hazy character.

The Statue of Darwin.—We may remind those Horticulturists and Botanists who intend being at South Kensington on Tuesday, that the statue of Darwin will be unveiled in the great hall of the Natural History Museum at twelve o'clock. Places will be reserved for the committee and subscribers to the memorial, but the greater part of the hall will be open to the public during the ceremony.

Gardening Miscellany.

Flower Shows and Meetings for Next Week.—*Tuesday:* Fruit and Floral Committees meet at South Kensington.—Orchid Show on same day. *Saturday:* General Meeting of the Royal Botanic Society at 3.45 p.m.

Mr. Edward Bennett, The Vineyard, Potter's Bar, N., has taken on a lease the Vineyard and Pine Apple Nurseries, at Peckham Rye, which belonged to the late Mr. Samuel Solomon, of Covent Garden. Mr. Bennett now has four establishments on his hands.

The Parcel Post with India will commence on the 1st of July next. No definite information as to the probable date of the commencement of a similar service with other countries has yet been issued.

On the 17th and 18th inst. the large collection of Orchids, comprising over 2,000 plants, bought by Mr. B. Armitage, Sorrel Bank, Pendleton, from Mr. Oscar Schneider, of Fallowfield, before he left England, will be sold by Messrs. Artingstall & Hind, at their Central Sale Rooms, 45, Princes Street, Manchester. The collection includes many rare and choice species.

The Newcastle, Staffordshire, Rose and Horticultural Society has just issued a schedule of prizes for its first annual exhibition, to be held in the Town Hall, on Tuesday, July 21st. We note that special prizes in the shape of Roses are offered by Messrs. R. Smith & Co., Worcester, Messrs. James Dickson & Sons, Chester, and the Cranston Nursery and Seed Co., Hereford. The Secretary is Mr. W. H. Ramm, Sutherland Chambers, Newcastle.

Some grand new and rare Orchids, collected by Mons. Leon Humblot in the Comoro Islands, will be sold at Stevens's Rooms on Monday next. Amongst the novelties are Angræcum Leonii, a very stately thing, bearing large, apparently white flowers; Angræcum fuscatum; Angræcum rostellare, new; Vanilla Humblotii, new, "a fresh, leafless, African Vanilla;" Pogonia (Nervilia) Barklyana, and Eulophia megistophylla, new, a species with enormous leaves.

The Clapton Nurseries wore an unusually bright aspect on Wednesday, May 27th, the occasion being the celebration of the wedding of Miss Margaret Low, second daughter of Mr. Stuart Low, with Mr. Arthur Gamble, son of the Rev. H. J. Gamble, of the Congregational Chapel, Upper Clapton. In the evening, the employés at both the Clapton and Bush Hill Nurseries, to the number of 120, were invited by the worthy proprietor to a sumptuous repast given in a large drawing-room marquee on the lawn. On the removal of the cloth, the host took the chair, and in a few introductory remarks suited to the occasion, called upon Mr. F. Casey, the manager, to propose the first toast, that of the "Bride and Bridegroom," which he did in a highly eulogistic speech, in which he alluded to the kind and amiable disposition of Miss Low, whom he had known from a child, and concluded by wishing long life, health, happiness, and prosperity to the newly married couple. Mr. Hugh Low, Jun., replied on behalf of his sister and her husband, and in the course of his observations thanked the employés most heartily for the beautiful present which they had made to his sister—a handsome writing-table. Sir Hugh Low, Rev. H. J. Gamble, Mr. Henry Low, Mr. H. Barnard, and Mr. Boxall, next spoke in the most flattering terms of the generous and amiable disposition of the bride and bridegroom, and the health of Mr. Stuart Low was proposed and responded to with musical honours.

Messrs. John Warner & Sons, Crescent Foundry, Cripplegate, have just issued a brochure on *The Growth of Hops*, particularly showing the habits and best methods of dealing with green-fly and other Hop parasites, by Mr. S. B. Goslin, F.R.M.S.

The Gardens of the Tuileries at Paris have assumed their summer garb, and notwithstanding the recent spell of winter weather, which has frozen six persons to death in Vienna, the Orange, Myrtle, and Pomegranate trees have once more left their winter quarters in the conservatory. Some of these southern plants which summer after summer adorn the terraces are very old; among them are two Myrtles, which boast an age of no less than two centuries; an Orange-tree has seen more than three hundred years, and a Pomegranate is nearly as old. —*Pall Mall Gazette.*

DEAR OLD CHISWICK!

Thirty-five years ago! It's a long spell in a man's life. Memories become blunted, past events appear as dreams, and with most of us the record of pleasure is obliterated. Yet after so many years I have a vivid recollection of the flower shows at Chiswick. Fashionable they were, both as regards exhibits and visitors. Exquisite taste, charming fairies, beautiful flowers, where are they gone? Sweet visions of my youth, I sorely miss you in my old age! They have not migrated to Regent's Park. I have been there. I have seen thousands and thousands of visitors, but not the visitors to Chiswick. Have they preferred South Kensington? Go there once, and with a sigh you will say "No." There may be found the millions who crowd the Fisheries, Healtheries, Inventories, &c., round the stands of Paul, Turner, Carter, &c., &c. They press eagerly, pushing, elbowing, and speaking broad English. No, you do not breathe the perfume of old Chiswick.

What evil genius has brought about this change? Has not horticulture made gigantic strides during the last thirty-five years? Are not the gardens still in the hands of the Royal Horticultural Society? What is being done there? Growing Apples, Pears, Grapes, Peas, Potatos, &c., &c.! All this is very useful, but where is the ornamental? To whom must one appeal to renew the glories of the past? Where is the fairy who will guide again the stream of fashion to dear old Chiswick? Echo answers—"Where?"—*Z.*

SELECT HARDY PERENNIALS.

The present is a good time to plant many things; and among them should be a selection of hardy perennials. Though hardy plants generally, during the past few years, have become more popular than formerly, there is yet abundant scope for development in the same direction. As not a few have been disappointed with what they have received from some dealers, owing to the too cheap rate at which the plants are offered to the public, it may be of service to some, at least, of the readers of The Gardening World to know what can really be purchased at a fair price, and which, at the same time, will prove useful either as cut-flowers, or for the beautifying of beds and borders in the flower garden. As the list of good things is a long one, I shall only briefly allude to the showiest and best, giving due consideration also to such as will thrive in any ordinary garden soil. Taking them in alphabetical order, we find a very useful plant in

Achillea ptarmica flore-pleno.—The Double-flowered Sneezewort is without doubt one of the most useful of perennials; the flowers are pure white, and very double, and produced in the greatest profusion throughout the summer. In a cut state it is of great value; height, 2 ft. to 2 ft. 6 ins.

Achillea tomentosa.—Another useful member of this family is the Woolly-leaved Milfoil, which grows about 6 ins. high, and bears numerous corymbs of bright yellow flowers. It is specially adapted for the rockery, the front row of the border, or for edgings. Achillea Millæfolium rosea has rose-coloured flowers, and grows 2 ft. high.

Aconites.—The Aconitums, or as they are popularly known as "Monkshood," are well suited for the herbaceous border, and thrive in any ordinary soil. The best are: A. japonicum, purple, very fine, height 2 ft.; A. Napellus bicolor, blue and white, 3 ft. high; and A. lycoctonum, yellow, 2 ft. 6 ins. high. There are many other varieties, all showy, and ranging from 2 ft. to 5 ft. in height.

The Rose Campions, or Agrostemmas, come next in order. These form neat bushes, about 2 ft. high, literally smothered with diverse coloured flowers. A. Flos. Jovis has scarlet flowers; A. coronaria has crimson flowers, and there is a good double form of this species which is equally free; A. coronaria bicolor has rose and white flowers. These are exceedingly useful and showy, a few clumps sufficing to make a garden gay.

Anchusa italica.—Those who prefer plants with intense blue flowers for three or four months in succession must not omit this, which forms a large branching pyramid about 3 ft. high, and bears flowers continuously throughout the summer and autumn months. It is adapted to almost any soil.

The Wind Flowers, or Anemones, next call for mention. These constitute one of the largest families of hardy-flowering perennials, including such as flower from February to October, so that with a good collection of them a garden may contain some species or variety in flower during nine months of the year. In most cases they differ so widely in form or colour that one always welcomes their appearance. First on our list is

Anemone blanda, tuberous-rooted, of a fine blue colour, grows from 6 ins. to 9 ins. high, and flowers in February and March. In the latter month, coronaria opens its dazzling scarlet flowers, many of the double kinds more resembling huge Poppies of the most intense colour. These are tuberous-rooted, and grow about 1 ft. high, and continue flowering till the middle and even the end of May.

Anemone fulgens.—In May too may be had in perfection that most dazzling of all scarlets, A. fulgens. It grows about 9 ins. high, and may briefly be said to be one of the most effective of spring flowers. Words can only inadequately describe the brilliancy of its flowers, which are freely produced; and the various forms of the Wood Anemone, A. nemorosa, are the next to flower. These grow well on grassy banks or sunny slopes, and are also adapted for naturalizing in woods and such like places; they grow about 6 ins. high.

Anemone apennina.—Flowering in company with the Wood Anemones we have A. apennina, which forms most pleasing masses of blue. It grows 6 ins. or 8 ins. high, and becomes covered with flowers. Next comes the Snowdrop Anemone, A. sylvestris, a plant growing from 1 ft. to 1 ft. 6 ins. high, thickly set with creamy-white blossoms. The flower-buds have a drooping tendency, like the Snowdrop, hence its popular name. It is easily grown and of a good vigorous constitution. From this we pass to A. pulsatilla, or

The Pasque Flower, a true British plant. As such, however, it is extremely rare. It grows about 15 ins. high, and has flowers of a deep purple, densely clothed with silky hairs. Continuing the chain comes A. alpina and sulphurea, but as these are somewhat fastidious I do not consider them suited to beginners. Lastly, in this valuable group we have the

Japanese Anemones, all of which flower during the later summer and autumn months, and are without doubt among the most useful, both for providing cut-flowers and as decorative border plants. These attain a height of 3 ft. or thereabouts, and produce their blossoms in the greatest profusion till cut down by autumn frost. A. japonica has rosy-red flowers; A. japonica hybrida has flowers of a soft and pleasing shade of rose, while A. japonica alba has large flowers of snowy-whiteness, which are invaluable at a time when there is a demand for flowers for church decoration at harvest time.

Though I have given a rather extensive list of these, I may remark that I have omitted many valuable and beautiful members of the genus, and have only cited those which may be grown to perfection in any ordinary garden and with ordinary care.—*J.*

GLADIOLUS THE BRIDE.

Gladiolus Colvilli alba is one of the most beautiful, and also one of the most useful plants with which I am acquainted. Either for making bouquets, wreaths, or crosses, or for vase decoration, it is alike useful; and last, but not least, for house and border decoration it is equally valuable. I am inclined to think that this plant is not nearly so extensively grown as its merits entitle it to. Unlike many of the other kinds of Gladiolus, this is well adapted to cultivation in pots, and if planted early, that is, started again shortly after going to rest, which is natural for it to do after flowering, grown on in a cool house, and introduced to a little warmth in January, they may be had in flower in March.

The time to purchase corms of these plants is about the time the Dutch bulbs are purchased in autumn, some to be grown on in pots, others to be planted out in borders and beds in different situations. It may be necessary to protect the latter a little in very severe weather, especially when they have grown a distance out of the ground, before severe weather sets in, in which case they should be protected with a few

Spruce or Laurel branches. If two or three situations are chosen, it is possible to have them in flower from early in March till well into August.—*C. Warden, Clarendon.*

THE RECENT STRAWBERRY PACKING COMPETITION.

Having, from the first establishment of the Messrs. Webber's competitions in fruit packing, taken great interest in them, and been at hand when all the awards have been made, I may be permitted to comment upon the recent one, which was confined to Strawberries only, the Messrs. Webber entertaining the belief that by dividing the competitions, instead of lumping them as in previous years, they were studying the wishes and conveniences of Strawberry-growers, all of whom cannot also show Peaches and Grapes. It was, therefore, somewhat disappointing to find that such excellent prizes for a simple box of 2 lbs. of Strawberries brought such poor competition as three lots only. Perhaps something was due to the fact that the competition took place in Whitsun week, when many families where in the country and gardeners were unable to spare so much fruit, for it must be remembered that these competitions have been almost, if not entirely, confined to gardeners.

With respect to the packing awards in this particular instance, it may be as well to state that these were made with the assistance of one of the largest and most experienced fruiterers in London, and who specially commended the method of packing adopted by Mr. Vert, stating that whilst the methods shown in the other boxes, viz., laying the fruits between leaves with the points slanting upwards necessitated actual handling of the fruits both in packing and unpacking, in Mr. Vert's method the fruits (still between leaves) with the points slanting downwards enabled them to be laid in and removed by handling the stems only. Upon this result considerable stress was laid, and fruit and packing otherwise being equal, the first prize went to Mr. Vert. It is very obvious that when a few leaves and a thin layer of wadding is laid over the tops of the fruit and the lid screwed down that the contents are perfectly secure, absolutely as much so as if packed in any other way. If before packing the fruits a layer of wadding or the softest and cleanest of moss be placed in the bottom of the box, and upon that a layer of soft leaves, the points of the fruit will be well protected from pressure. But lest it may be thought that harm may come in transit, the sender has but to turn the box upside down, and place the address on the bottom, with the information added, "lid beneath," and the fruits would travel upon their stems rather than upon their points.

It was worthy of remark that in both the first and second prize lots the fruits were fully ripe, well coloured, and had travelled admirably. It is also noteworthy that the plan of packing Strawberries in flat boxes and in single layers seems to be not only universally adopted, but is probably the best that can be devised, and therefore there can be little diversity of packing seen in the system. Naturally, when Strawberries fetch in the market prices varying from 4*s.* to 12*s.* per lb., it is of the greatest importance that they should reach the salesmen in the greatest perfection. When prices range from 1*d.* to 3*d.* per lb. the condition of the fruit is of less importance.

It is generally found that the best-known traveller is Sir Charles Napier, but it is a sharper or more acid fruit than is either President or Sir Joseph Paxton, perhaps two of the next most popular market kinds. Very sweet fruits seem to be softer, hence are not such good packers. Growers who reside near the markets possess great advantages in this respect, that they can gather their fruits direct into punnets, and packing these in layers, in trays, or boxes, they can be sent into market at any hour, just as required, and with great ease. Good packing is a valuable acquisition to those who reside at a long distance from town, and if they can by their skill enable their soft fruits to reach the market in perfect condition, they compete on even terms with the Metropolitan growers.—*A. D.*

The Herbaceous Calceolarias at Bedford Hill House, Balham, are now at their best, and worthy of inspection. Mr. Rapley, the gardener, who has paid great attention to this flower for several years, is now in possession of a strain that he has every reason to be proud of.

THE W. F. BENNETT ROSE.

A few years ago, when Mr. Henry Bennett was growing mutton on the Wiltshire Downs and raising Pedigree Roses in the Wiley Valley, we had the pleasure of paying him a visit, the object of which we may say at once was to see the Roses, not the flock. The quality of the mutton was proved without the necessity of a walk over the downs—none could be better. Well do we remember being ushered into our host's sanctum, a small span-roofed house, in which for several years he had been quietly working away at the cross-breeding of Roses, with the same care and forethought as he bestowed on the breeding of his prize sheep.

At that time not much was known of the Pedigree Roses, but they were being talked about beyond the village of Stapleford, and we, like others, were curious to know more. Well, Mr. Bennett took us into his confidence, and it was with genuine pleasure that we

THE WILLIAM FRANCIS BENNETT ROSE.

listened and inwardly digested the information so unreservedly vouchsafed to us. Plant after plant was brought out, its pedigree and age stated, and its merits discussed. Many of the seedlings, then in their infancy, have since been put into commerce. The others were cast aside. Mr. Bennett spoke with enthusiasm of his aims and objects, and among other things expressed himself hopeful of being able to raise a Crimson Tea, of which we were then somewhat sceptical.

Well, time went on, the pleasures of Rose-growing became more engrossing—and, who knows, perhaps more profitable than farming in the Wiley Valley, and our friend determined to come nearer to the Metropolis. He established himself at Shepperton, built some commodious span-roofed houses, and set to work raising seedlings again. Presently it was rumoured that the Crimson Tea Rose was an accomplished fact; we went to see it, and from that time have had abounding faith in the merits of "The Bennett Rose," as our American friends call it. Every spring since we have paid a visit to Shepperton to see the houses full of the "W. F. Bennett," the stock of which its raiser kept in his own hands for some time, sending the blooms, as many as fifty dozen a week from one house, to Covent Garden Market, and always obtaining the top price. The Rose is a true Tea in habit, for no sooner is one bloom cut than another is sent up by the bud below, and herein lies one of its three great merits as a winter-blooming market Rose. Its second merit is, of course, its colour, a rich, glowing crimson; and its third consists in its habit of producing its buds on stalks of sufficient length to enable them to be cut for bunching without having to wire them, and without having to rob the plant of a single bud. The shape of the bud in its best stage is shown in the accompanying illustration, and it may, without exaggeration, be called a crimson Niphetos. Some time ago Mr. Bennett disposed of his stock of plants to an enterprising American florist, Mr. C. F. Evans, of Philadelphia, for a very large sum, and it is now being put into commerce.

NOTES FROM IRELAND.

Pot Roses on their own Roots.—Several of my gardening friends have from time to time complained that their Hybrid Perpetual Pot Roses have not given them for the extra care, trouble, and house-room anything like equivalent results. Some attributed this to the stocks, some to the prevalent mildew, and the "red-spider" is, generally with good reason, added to the catalogue of lamentation. I would like to ask if any of your readers have tried growing Roses in pots from cuttings, and what has been the result? I am not considering Teas or Bourbons raised under *cloches*, and by means of heat. I am now referring to cuttings of Hybrid Perpetuals, put in last October or November in the open ground, that have received no forcing, that were callused about February, and that n the majority of cases commenced root-action and an independent existence in March and April—some earlier and more later, according to variety.

I put several dozens of different varieties in boxes of sandy loam, about 6 ins. or 8 ins. long, at that time and in this manner, and had not a single failure, except A. K. Williams, which I must admit is a shy grower. I am now making a selection from those, and potting them up in 8-in. pots, using a rather stiffish, good fibrous loam, with a considerable addition of bone meal. As to the bone meal, under the circumstances I gave it preference for this reason: though Roses are voracious feeders, they can hardly exhaust all the soil this season, and the bone meal is more lasting, especially in supplying phosphates, than any other manure. Now, it was most remarkable the miniature mob of roots most of those cuttings had already made—not small dark roots, as you usually see, but great white fleshy ones. By lifting them with a ball of earth, potting up *at once*, and putting into a moist greenhouse or frame, no check will be sustained, and in a week they can be put into the open air, or an airy greenhouse; and even this season we may be rewarded with magnificent blooms. These being in pots and under control, they can be taken to the conservatory, drawing-room, or sitting-room windows, and will be the envy of all visitors. To have them fine next year, the after treatment, when flowering is over, is of vital importance. Will some one tell us why this system is not more generally practised, especially by amateurs and suburban villa gardeners? —*W. J. Murphy, Clonmel.*

Davallia Fijiensis plumosa.—This, I think, is the finest of the Davallias yet introduced. The fronds are more drooping than those of D. Fijiensis, and, like that elegant Fern, will be found one of the rarest of plants for the embellishment of rooms. Grown in shallow pans of a size suitable for stands, it is at once a captivating example of a class of plants which are held in high esteem by ladies, and of which too many cannot be grown in private establishments. The beauty of these plants cannot be surpassed, and their utility in point of labour is worthy the attention of practical cultivators having much to do in the way of furnishing. Such plants require no "making up." You grow a plant of a certain size for a certain purpose, and no further labour is required than to transfer the plant from the fernery to its place in the wting-room, where it will be in harmony with flowering or foliage plants of any kind.—*H. W.*

SCOTTISH GARDENING.

Garden Extension, &c.—At the present time it is so common an occurrence, when listening to discussions on gardeniug topics, to hear frequent use made of such gloomy expressions as "reduction," "retrenchment," "retrogression," and geueral curtailment of horticultural resources, that one is led sometimes to feel that our old love is becoming forsaken and has lost much of her popularity. We know that such conjectures are not altogether unfounded, as anyone may learn who has passed through the agricultural districts, both north and south of the Tweed, and noted the many fine old places which are now stamped with "Ichabod." Gardens let to the highest bidders or marketed by proprietors in a form too often which would make the *bonâ fide* marketmen recoil from such burlesques on their legitimate work. Most of the searching after economy and profitable returns from labour and land has been fraught with disappointment, the fine-looking geese, when caught, having turned out to be but insignificant ducks. We are glad, however, to find that there are other sides to the picture, and not so few or wide apart as one is sometimes pressed to believe. Judging from the demands on certain branches of the nursery trade, and the activity of many horticultural builders, it is certain that great additions to gardening establishments are being made somewhere, and we have, fortunately, seen some of the renovations and improvements which have been executed. A fortnight ago we went to see the extensive erections which have been formed at

Park Hall, near Polmount,

on the western side of West Lothian. The out-distancing of compeers and neighbours by the much respected and spirited proprietor of Park Hall has made the gardens a place of note, and as time advances and the maturation of the fruit-tree department takes place, no doubt but a good school for tuition in pomology will be established. While approaching this new horticultural landmark, one is at first impressed with the bulk of the block of glass which has to be faced, and the nearer we approach the gardens the more we feel that the gigantic ranges do not diminish, while on entering them the feeling comes uppermost that there is plenty of room for the culture of the fruits which these structures are intended to produce. It would be useless to attempt at this season of the year or at the present stage of the fruit-tree growth to give an adequate description of what a visitor may expect to see at Park Hall. Inside the vegetable garden the walls have been covered with glass, lofty and wide houses, well calculated to give ample returns from the multitudinous trees in pots, trained on back walls, and in front of the structures. The eastern aspect has been chosen for Cherries, the western for Peaches, Nectarines, and other fruits; while Vines, for the greater part, have the southern aspect.

A range forming three sides of a square filled with very healthy trees, loaded as they are in most cases with fruit, is a sight the like of which one does not often meet with. A great number of varieties of stone fruits are cultivated (especially in the way of Peaches and Nectarines), many more indeed than is often seen in older establishments. We do not always find that new and much lauded kinds retain their good names under all circumstances, and we hear of varieties failing entirely which were at one time destined to hold high position. While at the present time we do not intend entering into details as regards merit or demerit, we may mention that some fruits which have quite lately been denounced in a contemporary as worthless, are here, under the intelligent care of the gardener, Mr. Murray, in the most promising condition. While many of the new kinds have been given a place on trial, old friends are well represented.

The system of fruit-tree management in pots pursued at Park Hall is not the close-pinching system practised by some, nor the long-shoot system of others, but a combination of them both. We think there is much wisdom in this practice. It is not always an easy matter to get long, strong wood well ripened, neither is it always practicable to keep vigorous trees closely pinched, and be a success as well—the eyes which are often left for fruit-buds being sometimes pushed out into watery growth, and rendered worse than useless.

The Vines are vigorous, large leaved, and of the colour which so many try to attain, but so often fall short of. The side-shoots are left from 5 ft. to 7 ft. long, a system which always maintains the Vines in a productive and vigorous condition; aud though we have a penchant for maintaining foliage in quautity proportionate to the size of the bunches and the vigour of the kind grown, yet we are not inclined to censure the practice of wide extension. Short or moderate stopping, we know, was adhered to for many years before we knew much of Grape-growing, and now such practitioners would not be advised to adopt their earlier system of long growths. The system which brings most "grist to the mill," we maintain, is the one which growers should adopt, but to set up any system as being the most direct one to follow is not advisable. Mr. Murray visited many of the leading establishments, both in England and Scotland, where they have a name for finely-cultivated fruits, but, like most men in search of knowledge, saw little to imitate, but much to avoid.

As we intend to pay a longer visit to Park Hall, we shall then go minutely into the lists of kinds, comparing them and making notes as to their excellence, or *vice versâ*. At present we need only say further that, apart from the ranges of glass inside the vegetable garden, there are two large vineries, about 230 ft. long and 26 ft. wide each; also ranges for Melons, Figs, Tomatos, &c., and several snuggeries for plant growing. Park Hall has other attractions beside the garden—the landscape east and south is of the most. beautiful description.—*M. T.*

Fruits Planted in Scotland in 1698 and 1700.—We have been favoured by Mr. Downie with the following extracts, taken last autumn from *The Registrum de Panmure*, by Mr. James Mitchell, the present gardener to the Earl of Dalhousie, at Panmure, Forfarshire, and which will doubtless prove of great interest to many of our readers. The first is a copy of the list of fruit-trees planted at Brechin Castle, Forfar, in 1698, by James Maule, fourth Earl of Panmure, who built the entrance front of the castle, as it now exists, about that time, or shortly afterwards. "Cherries, Quince, Gold Pippin, Black Mulberries, English Pergamon, May Cherrie, Algier Apricok, Roman Red Apricok, Nectarine, Newington Peach, Blew Primordian, Great Blew Fige, Bruges Apprecok or Almond. Plumbs: Honeysuckle, Apricok, Orgelen, Old Apricok; Violet Hastings Peach, Almond, Old Blew Primordian Plumbe, Old Plum, White Jan Hasting Plum, Hamllens Bergamond. Wines: Early White Muscadine, Reed Curran Grape."

The second extract comprises the following list of fruit-trees planted in the garden at Panmure House, Forfar, by the same Earl, in the year 1700. This garden, we are informed, was quite near the mansion house, but has been a grass field for over fifty years, the walls having been pulled down, and the materials used for making drains. The list is a more complete one than the first, and has the merit of being classified:—"Apricoks: Mascalin, Great Turckie, Bruges, Orange, Ciminon, Brussels. Peaches: Red Nuttmeg, White Nuttmeg, Pass Violet, Red Magdalen, Monteban, Belle Chereuse, Earlie Newington, Old Newington, Chancleur, Admirable. Nectarines: White Fleastin, Murray. Figs: Large White, Blew. Wyns: Early White Muscaddin, Earlie Currant. Almonds. Quinces. Cherries: May Duck, Hastings or May, Orleans, Morello, Guscher heart, Cluster, Flanders, Hungarian Green, Kentish, Luchwark, Earlie Flanders of Cherrie Garden, Early Flanders of Pailes, White Spanish, Amber. Plums: White Jan Hastine, Blew Perdrigon, St. Katharin, Lady Royal, Reyn Clod, Blew Primordian, Prenello, Imperial Bonum, Magnum, Moroco, Mussell, Black Damasch, Earlie Plum of Stevenson, Scarlet Plum of Weems, Violet Damasch, Earlie Damasch, Damasch ungrafted, Chester Plumb, Red Primordian, White Damask."

As many of the above-named varieties are yet in cultivation in gardens under their original names, it would be interesting to know how many of the others have been re-christened and are still in existence.

HYBRIDIZATION OF ORCHIDS.

(A paper read by Mr. H. J. Veitch, F.L.S., at the Orchid Conference, May 13th, concluded from p. 615.)

And now, how long must the hybridist wait before his labours are rewarded with a sight of the flower whose appearance he has been awaiting with longing expectation, and upon which many hopes have been built, too often, unfortunately, to end in disappointment.

The shortest periods from the germination of the seed to the production of the flower yet observed are those of the Dendrobium, that is, D. aureum crossed with D. nobile and vice versâ, three to four years; Phaius and Calauthe about the same; Masdevallias four to five years; Chysis about the same. Then come longer intervals: Zygopetalum five to nine years, according to the cross; thus, Z. maxillare crossed with Z. Mackayi five years, vice versâ nine years, a curious but, to us, unaccountable circumstance, as is the case of Cypripedium Schlimi, which, crossed with C. longifolium, flowers in four years, but the vice versâ cross takes six years. Lycaste takes seven to eight years; Lælias and Cattleyas may be said to flower from ten to twelve years from the seeds.

I will now glance at some of the results obtained by us from muling. Dominy began to hybridize Orchids at our Exeter Nursery in 1853, and continued his operations for some time after removal to Chelsea in 1864. Seden began at Chelsea in 1866, and has worked uninterruptedly from that time to the present. Our experience, therefore, extends over a period of more than thirty years, during which the field of operations has been greatly enlarged, especially of late years, our experiments being made upon a vast number of cultivated Orchids, including many hundreds of crosses, not only between allied species but also between species of different genera.

Among the results obtained by Dominy at Exeter, Calanthe Domini, raised from C. masuca × C. furcata, will always be regarded with interest, as being the first hybrid Orchid that flowered. It flowered for the first time in October, 1856, on which occasion the spike was shown by my father to Dr. Lindley, who exclaimed on seeing it, "You will drive the botanists mad," an expression quite characteristic of the rigid systematists who flourished prior to the publication of Darwin's *Fertilization of Orchids by Insect Agency*. The first hybrid Cattleya that flowered was C. hybrida, a plant now lost, but which was soon followed by the flowering of C. Brabantiæ. The first hybrid Cypripedium to flower was C. Harrisianum, which justly commemorates the name of Dr. Harris. Among other noteworthy acquisitions raised at Exeter, were Cattleya Dominiana, Lælia exoniensis, Calanthe Veitchi, and Lælia Veitchi. The last-named flowered for the first time at Chelsea. Dominy also raised some seedling Vandas, but they were afterwards lost. Seden's acquisitions are more numerous, and many of them unquestionably prove that substantial progress is being made, in spite of the innumerable difficulties that beset the raising of seedling Orchids. To any one who has compared Cypripedium cardinale, C. Schrœderæ, and C. Sedeni candidulum, with the original C. Schlimi, this progress is manifest enough. And so with C. œnanthum superbum, C. Leeanum superbum, and C. Morganiæ; nor ought I to omit mention of Lælia flammea, still unique in colour among Orchids, Masdevallia Chelsoni, Calanthe Sedeni, also obtained by other operators, and Dendrobium micans.

The following details may prove to be of some interest. Among Cattleyas we find that all the members of the *Labiata* group and also the Brazilian species with two-leaved stems, as C. intermedia, C. Aclandiæ, C. superba, &c., cross freely with each other, and with the Brazilian Lælias, which also cross freely with each other. It is worthy of note too that those hybrids which have a two-leaved Cattleya for one parent and a one-leaved Lælia or Cattleya for the other, have some stems with one and others with two leaves, and the flowering does not seem to be affected thereby. But neither the Cattleyas nor the Brazilian Lælias will cross freely with the Mexican Lælia albida, autumnalis, majalis, rubescens (better known in gardens as acuminata), &c. Numerous crosses have been effected both ways, and capsules have been produced, but the seed has always proved

barren. Lælia anceps appears to be an exception, for it seeds freely whether crossed with a Cattleya or with any of the Brazilian Lælias. The period from the germinating of the seed to the appearance of the first flower varies immensely in the different crosses, thus Lælia triophthalma raised from seed sown in 1875 flowered in 1883, this is the shortest period known to us; Lælia caloglossa from seed sown in 1858 flowered for the first time in 1877, or nineteen years, this is the longest period known; the others have taken periods that may be said to average from ten to twelve years.

Among Cypripeds some very curious facts have been elicited through muling. Thus, the East Indian species cross freely with each other, and a numerous progeny has resulted therefrom. The South American species, the Selenipedia, as they are called, also cross freely with each other, and many new forms have been obtained; the hybrids in both sections flower within a few years from the seed being sown. But in the case of the crossing of Indian with South American species, the process has been much slower in producing results. An infinitely smaller percentage of the seed germinates, and those seedlings that survive are so slow in arriving at the flowering stage, that up to the present time not a single plant has produced a flower, although the plants continue strong and healthy in appearance and increase in size every year. One thing is certain, the three-celled ovary of the Selenipeds offers no impediment to fertilization by the pollinia of Cypripeds with a one-celled ovary, for we have plants raised from C. caudatum × C. barbatum, and many other like crosses between other species have yielded seed.

Cypripedium Sedeni was a remarkable cross in many respects; it was in fact raised from two crosses, C. Schlimi × C. longifolium, and the same two vice versâ. It will be observed that in this case, one of the parents, C. longifolium, is much more robust in habit and growth than the other parent, C. Schlimi. No perceptible difference, however, was observed between the plants raised from the two separate crosses, they agreed in habit, foliage, colour of flower, in fact in every particular. No such similar result has been obtained by us among Cypripeds. A vice versâ cross between the same two species produces seedlings that vary more or less from those produced from the first cross. Thus C. tessellatum resulted from C. barbatum × C. concolor, and C. tessellatum porphyrium from C. concolor × C. barbatum. We have also an instance of two recognized species each being crossed by a third, but both crosses producing like results, thus C. longifolium × C. Schlimi, and C. Roezli × C. Schlimi, produced seedlings whose flowers are indistinguishable from each other, although as might be expected, the foliage of the C. Roezli progeni is like that of its parents, the more robust of the two; hence the specific rank of C. Roezli is very questionable.

Not only do recognized species of each section, East Indian and South American, cross freely inter se, but the hybrids also cross freely with them. The beautiful C. œnanthum superbum has for its parents C. Harrisianum, itself a hybrid, and C. insigne Maulei. As regards the habit and foliage of hybrid Cypripeds, the progeny usually takes a form intermediate between the two parents, but sometimes it is more robust than either.

Large as is the field offered by the great genus Dendrobium for the operations of the hybridist, comparatively little has yet been effected. Dominy raised the hybrid that bears his name many years ago in our Exeter Nursery. It was followed some years later by D. Ainsworthi, which appeared in Dr. Ainsworth's collection at Manchester in 1874. Plants of the same cross raised by West having appeared about the same time in the Fairfield Nursery, near Manchester, and later, in the collection of Mr. Brymer, at Dorchester, by another operator, the parents being D. aureum × D. nobile. Subsequently Seden raised D. splendidissimum from the same cross, and still later, Mr. Swann obtained D. Leechianum from D. nobile × D. aureum, or the vice versâ of the others. The seedlings raised from all the crosses are found to be variable; members of one progeny approaching so closely varieties among the others, that the original distinctions set up between them cease to be appreciable, but without egotism, I venture to claim for splendidissimum larger flowers with more substance in sepals and petals, caused probably through our having hybridized finer varieties of the two parents. Nevertheless, to avoid confusion, the progenies should, I think, to use an academical expression, be bracketed.

Of the eight hybrid Dendrobes that have already flowered, D. nobile is one parent of five, and D. aureum of three of the same five, and of one other, so that only two, D. micans and D. rhodostoma have yet flowered that have a parentage in which neither nobile nor aureum participated.

Crosses between species of Phalænopsis have been effected by several operators, and capsules readily obtained. We only know, however, of three instances besides our own where seedlings were raised; the first by Dodds, in 1868, in the collection of Sir John Greville Smith, at Ashton Court, near Bristol, but they were afterwards lost; then Grey, gardener to the eminent orchidologist, Mr. Corning, of Albany, New York, raised some seedlings, but they, too, were afterwards lost; and, lastly, Mr. Hollington, at Enfield, who has, I believe, one seedling still living. Our own experience with Phalænopsis dates from 1875; our first cross was between P. grandiflora and P. Schilleriana, but with that and with several succeeding crosses no results beyond the capsules were obtained. The first capsule to yield seedlings was gathered from P. grandiflora × P. rosea; a few of these are still living. Then we obtained a few from P. amabilis and P. rosea, which grew with more vigour than their elder brethren, and may not improbably flower within the next two years. Still later we obtained seedlings from P. Schilleriana × P. rosea, P. grandiflora × P. Luddemanniana, and from two or three other crosses.

Calanthe has probably received attention from more operators than any other genus in the great Orchidean family, a circumstance that can be best accounted for by results being obtainable in a shorter period than from any other genus. It may be that Calanthe being more terrestrial than epiphytal, there is a predisposition to earlier maturity. The capsule of Calanthe usually ripens in three to four months, and the seed takes from two to three months more to germinate; the seedlings under favourable circumstances will flower in the third or fourth year; hence it happened that, although seedling Cattleyas were in existence before seedling Calanthes, the first hybrid Orchid to flower was a Calanthe. Calanthe Veitchi flowered for the first time in 1859, and was at that time believed to be a true bigeneric cross, but such it cannot be now regarded, as Mr. Bentham, in *The Genera Plantarum*, has referred the pollen parent, Limatodes rosea, to Calanthe. Not so, however, is Phaius irroratus, raised by Dominy from P. grandifolius × Calanthe nivalis, and P. irroratus purpureus, raised by Seden from P. grandifolius × Calanthe vestita rubro-maculata, and a third progeny that has not yet flowered, which was obtained by the last-named hybridizer from Phaius grandifolius and Calanthe Veitchi. These are entitled to be called bigeneric crosses. In one of the cases only a single plant was raised, and in each of the other two the number was very restricted. It is a curious fact, too, that in habit, aspect, and in other respects the progeny is well nigh intermediate between two parents, being neither evergreen like Phaius, nor deciduous like Calanthe.

Masdevallias were taken in hand at an early date, but failures were frequent, caused probably by the fact that Masdevallia, as a genus, is far more heterogenous than was at first supposed, whence a mixture of the different sections may not possibly be effected. M. Chelsoni was at length raised from M. amabilis × M. Veitchiana; then M. Fraseri from M. ignea × M. Lindeni, by Mr. Fraser, of Derncleugh, Aberdeen; but the seedlings were reared by us; and lastly, M. Gairiana from M. Veitchiana × M. Davisi. Capsules have been obtained from M. Veitchiana × M. infracta, M. polysticta × M. tovarensis, M. Harryana × M. Veitchiana, and a few others, but all attempts to intermix M. chimæra and its allies with the brilliant flowered species have proved fruitless.

Great as is the difficulty of raising seedlings from Orchids requiring a high temperature for their cultivation, it is still greater in the case of those that receive "cool treatment," if we except Masdevallia. Odontoglossum affords a striking instance of this, paradoxical as it may seem, especially as so many undoubted natural hybrids between different species of this genus have appeared among the importations of the last ten years. Numerous crosses between various species, both Mexican and New Granadian, have been effected, and capsules with apparently good seed have been produced, but with the utmost care that could be bestowed, no progeny has yet been raised. Mr. Cookson, of Newcastle, has, indeed, stated in *The Garden*, of February 10, 1883, that he succeeded in raising a fine lot of Odontoglossum seedlings, of which the pollen parent was O. crispum and the seed parent either O. gloriosum or O. Uro-Skinneri, but which he was not quite sure. He has since informed us that all of them have perished. And so with the Miltonias, usually classed with Odontoglossum, and grown in an average higher temperature, as vexillarium, Roezli, and Phalænopsis. The only seedlings we have been able to raise were obtained from a cross between the two last named, and these were unfortunately lost within a few months after the germination of the seed. I may here note that the late Mr. Bentham, when working up the Orchideæ for *The Genera Plantarum*, must, I think, have been misinformed when he states under Miltonia vexillarium, p. 563, that "fide hortulanorum facile cum Odontoglossis variis nec cum Miltoniis genuis proles hybridas gignunt." Our experience is the very opposite of this. Vexillarium crosses readily with the flat-lipped Miltonias, as spectabilis, although thus far we have failed to raise any progeny from these crosses, but not with the true Odontoglots; often as it has been attempted, no capsules are produced. Thus, while our experience in muling among Odontoglots goes far to disprove the statement I have just quoted, it at the same time confirms unmistakably Mr. Bentham's view as to the proper generic place of vexillarium and its allies Roezli, Phalænopsis, and Warscewiczi.

It will be gathered from what I have already said that our hybridizing operations have extended over a rather wide field; that they have not been confined to the crossing of different species of the *same* genus, but hundreds of experiments have been made between species of *different* genera. The question thence naturally arises: How will these bigeneric crosses affect the stability of the genera as at present circumscribed? And, what changes of nomenclature will be necessary to place the Orchideæ on an intelligible basis as regards names? Glancing over the whole range of our operations, and the results obtained from them, I may safely reply that thus far the stability of the genera is scarcely affected, and the changes in nomenclature need be very few indeed. Leaving the progeny derived from species of Cattleya × Lælia out of consideration, the last-named genus being confessedly an artificial one, only two bigeneric hybrids have yet flowered; these I have mentioned above, Phaius irroratus, and P. irroratus purpureus. Many years ago, Dominy raised Anœctochilus Domini from Goodyerii discolor and Anœctochilus xanthophyllus, and Goodyerii Veitchi from G. discolor and Anœctochilus Veitchi. Plants derived from both crosses are still in cultivation, but the names they bear are simply garden names. We have plants, but which have not yet flowered, raised from Cattleya Trianæ, crossed with Sophronitis grandiflora, and from Cattleya intermedia crossed with the same species of Sophronitis. We have, besides, a seedling whose parents are Cattleya Trianæ and Brassavola Digbyana, but as the last-named is now referred to Lælia, this can hardly be regarded as a bigeneric cross. With these few cases I have exhausted the list. But when we enumerate the capsules with apparently good seed that have been obtained from bigeneric crosses, but from which no seedlings have been raised, the list is somewhat more formidable. Some of the most remarkable of these were produced by Acanthophippium Curtisii × Chysis bractescens, Bletia hyacinthina × Calanthe masuca, Chysis aurea × Zygopetalum Sedeni, Odontoglossum Bictonense × Zygopetalum maxillare, Zygopetalum Mackayi × Lycaste Skinneri.

But on the other hand we have obtained a large number of capsules of the normal size, and to all appearances externally perfect, not only from bigeneric crosses, but also from crosses between species of the same genus which contained not a single seed. And, lastly, I may note that Zygopetalum Mackayi has been crossed with several species of Odontoglossum, and seedlings raised from some of the crosses, but every one that has yet flowered has proved to be simply Zygopetalum Mackayi.

The Amateurs' Garden.

THE GREENHOUSE.

Flowering Plants.—To keep the house gay now is much more difficult than during the earlier part of the year, when bulbs and the multitude of spring-flowering things are in, but by making the best use of pits and frames, and growing on plants out-of-doors, much may be done. Among the many that lend themselves to this latter mode of treatment may be mentioned Zonal Pelargoniums, Fuchsias, Dwarf Scabious Petunias, Schizanthus, Lobelia cardinalis, Liliums, Gladiolus, Spanish Iris, and Schizostyllis, all of which will do well in the open, and may be carried in as they come on, and made to form a succession. With the exception of the Fuchsias, which like a little shade, all the others do best in full sun, and the pots protected in a plunge bed of short straw or cocoa-nut fibre to prevent the soil drying too rapidly.

Balsams, Globe Amaranths, and Celosias require heat, and may still be sown, as they grow and flower quickly if pushed on by plunging them in fermenting material and shutting up early in the afternoon, at which time they should be heavily syringed to keep them free from red-spider. The beauty of Azaleas will now be over, and the way to treat these is to pick off all the seed pods and then stand the plants in a house or light pit and syringe them twice a day, which will keep the foliage free from thrips, and encourage active growth, when they cannot fail to set plenty of buds and bloom freely next year.

Camellias will do best out-of-doors, but they must have a shady sheltered position, the most suitable situation being on the north side of tall shrubs, trees, or buildings, where they should be stood on pieces of slate to keep worms out of the pots, as otherwise they will perforate the balls and let the water through without soaking the soil. To maintain the plants in health and counteract the effect of the dry hot air, it is necessary to damp them overhead during the evening, and to sprinkle the ground under them occasionally, as the moisture then given off and circulating in the atmosphere amongst the foliage is very refreshing.

Pits and Frames.—Excepting for the purposes above mentioned, there will be little other use for these but to grow Melons and Cucumbers in, and all either require is a little bottom-heat to start them, as by shutting up early the sun may be made to do the rest of the forcing. For Cucumbers, any light rich soil will do, but Melons succeed best in that which is heavier, and with this exception both may be treated much alike in the preparation of the bed and planting them out. To start with, a barrow-load of soil for each light is sufficient, as it is better to keep adding a little to it than to put all in at once.

THE FLOWER GARDEN.

Plants may now be Bought so Cheap, that there need be no difficulty in having a garden gay, but the thing to avoid is set patterns of gaudy colours, which the eye soon tires of, and it is better in every way to have as much variety as possible, and the more restricted the beds or borders, the greater reason is there for this. The most satisfactory plan is to have a lot of hardy subjects that come in at different seasons, and fill in between them with the best of the annuals, biennials, and other bedding plants, when something fresh and of interest is always opening and flowering; and as fast as one goes off, if a reserve be kept another may be popped in, and vacant spots thus be filled at once. To grow in the front of shrubs, at the back of borders, Delphiniums are invaluable, and to have these, and any other of the many handsome perennials, for next year, seed should be sown now, and plants raised and grown on in some spare piece of ground, where, also, the stock of Violas, Pansies, Primroses, and Daisies should be planted, and prepared for next season's display. Before doing this, however, they ought to be pulled apart, if an increase is desired, and to have them strong and good it is necessary to manure the soil, as by well feeding the roots the plants are able to develop fine crowns and set plenty of bloom.

Flowers for Cutting are in such request, that single Dahlias should find a place, but it is a mistake to give them rich soil, as in it they grow far too strong, and run to leaf, instead of producing a succession of blossoms of moderate size, and it is only these that dress well in vases. The double sorts are much too large and lumpy, but there are one or two exceptions, as the Cactus Dahlia, known under the name of Jaurezi, is grand for single glasses, and quite lights up a room. For associating with the bright-coloured single kinds, nothing looks better than the large Marguerite Chrysanthemum, Madame Crause, which is very white and pure, with a distinct eye, and lasts well in water. Sweet Peas are of sterling worth, and may yet be sown, the best way of growing them in borders being in patches, with a few brushy sticks stuck round for them to climb on. The old Canary Creeper, and other Nasturtiums, are just at home running up thin spare trees or shrubs, on which they will find their way from branch to branch, and hang in the most graceful way possible, and clothe them with beauty.

Clematises do best on wire guards or supports, and are grand objects, if planted away from trees where there is plenty of depth of soil, as then they grow freely and flower profusely. One of the most showy is C. Jackmanni, which is blue, and blooms little or much all through the season.

THE VEGETABLE GARDEN.

Weeds.—The soaking rains, and the very desirable change that has taken place in the weather, have started all vegetable crops into growth at a great rate, and with them the annual weeds that are springing up in all directions, which ought to be destroyed at once, as it is much easier to do this while they are in the small seedling state than when they become larger, and not only that, but a frequent and gentle stirring does a great deal of good to the ground. The best implement for the purpose is the Dutch hoe, which, handled dexterously, may be made to slide along just under the surface without disturbing much soil, and the use of such a tool is pleasant pastime for any one that is fond of a garden.

Late Broccoli will now all be cleared off, and the ground set free will come in capitally for the last lot of Peas, Scarlet Runners, and Celery, all of which may, with great advantage, be grown together, but the Peas and Scarlet Runners should be sown 8 ft. to 10 ft. apart, which will then give plenty of room for a Celery trench to be made midway between. The proper way to treat the Runners and the Peas, at this time of the year, is to dig deeply and manure heavily, and as soon as the rows are up they should be mulched, and then staked, the thing being to keep the earth cool about the roots and to conserve all moisture, as neither Beans nor Peas set their blossoms freely or do well without it.

Cauliflowers advancing towards the turning-in stage will be much benefited by frequent applications of sewage, which is of great value at this season for most garden crops, and should be saved for use when dry weather sets in. Those who have not the benefit of a tank for the holding of house drainage will find it a good plan to get a large tub or other vessel that they can fill with water, and put a little guano in, or any of the artificial compounds, and a bag of soot, when, if the liquid is strong, it may easily be diluted, and will be ready to hand for any crop, tree, or plant that may require a stimulant.

Turnips and Radishes.—To have either of these tender, juicy, and free from heat and unpleasant flavour, both must now be sown in a half shady position, a north or west border being as favourable a place as any, but even there it is useless sowing many, as they are soon in and over, and the only way to get them good is to grow a few and keep up a succession.

Onions, Carrots, Parsnips, and Beet, if not already done, should be thinned out at once, as they not only draw each other, but their roots get interlaced, and then it is impossible to pull any out without disturbing and injuring those left, and thus checking their growth. As soon as the rows are thinned, the Dutch hoe run between will do much good, but it must be used with care, so as not to cut or graze the sides of the plants. Tomatos may now be got out with safety, but it is useless attempting their cultivation unless they are strong and forward to begin with, and can have a hot, sunny situation, the best place being a south wall or fence, but if the plants are in the condition named, they will set and ripen their fruit if planted on any warm border, if kept thinned out and supplied with plenty of water, without which they shed their blossoms and make but slow growth.

THE FRUIT GARDEN.

The Principal Work requiring attention in this department of the garden is the stopping of all the foreright shoots on Pears, Plums, Cherries, and Apricots, which may either be nipped off by the thumb and finger or broken by using a rather blunt knife, either of which methods is better than by cutting them clean off, as the wounds heal quicker and without much loss of sap. In cases where the spurs are thick and bunchy, it is a good plan at this season to twist or rub off some of the shoots at the ends, which will give light and air to those at the base, and help to strengthen them, when flower buds will form closer home, whereas when left to themselves they soon grow out and stand far away from the wall, and not only are the blossoms then exposed, but the fruit, if the trees bear any, is never so good. Apricots have a provoking way of dying off, and large branches often go all at once, to supply the vacancies made by which young shoots should be laid in, and every encouragement given them to cover the bare places as quickly as possible, and the same with any young trees, none of the leaders of which ought on any account to be stopped, but led on, as the more top they make the farther will the roots extend, and the quicker will the trees become established and yield fruit.

Mulching.—The next important point to letting them run right on is to mulch, that they may receive no check through dry weather; but the most vital thing of all is to keep the foliage free from insects, for if these get a hold the plants can make no progress, but are crippled and spoiled for the season. This being so, they should be watched, and the moment curl is seen the aphis must be destroyed by the use of some o the insecticides. Tobacco-powder is as cheap and good as anything, and a decoction made from Quassia chips and soft soap is also very effectual. The quantities necessary to make a strong wash is about ½ lb. of the first named and 2 ozs. of the latter to one gallon of water, and if to this is added a small lump of washing soda, it will form a most excellent dip for the points of the shoots on Morello Cherries or Plums that have to be left for nailing or tying in, or for syringing on to the trees, or using in any way that may be required.

Green-fly in Peach-houses.—To extirpate green-fly in Peach-houses there is nothing like tobacco smoke, two or three mild fumigatings with which will settle them without in any way harming the trees. If the fruit on these is very thick, it should be thinned, but not finally till it has done stoning, when, if the Peaches or Nectarines are left at from 6 ins. to 9 ins. apart, there will be quite enough for the trees to carry and swell up properly, for if they bear more they will not be so good.

WOOD LILIES.

Under this popular designation are known the various species of North American plants, comprising the genus Trillium, several of which, by reason of their large triangular flowers, and the freedom with which they grow, are popular favourites in our mixed borders. Some seventeen or more species are known to science, but some five or six only are generally cultivated in English gardens, the gem of the collection being the well-known White Wood Lily, Trillium grandiflorum, of which we now give an illustration. T. grandiflorum is a very beautiful and interesting plant. Its large white flowers are born singly in the centre of the leaves, three in number, at the summit of each stem, and are slightly pendulous. In April, May, and June, it is in perfection wherever it is grown in peaty soil, in a moist situation, and in partial shade, and is not to be despised when grown only in an open border, with only ordinary soil for its creeping, tuberous root-stocks to dwell in. It must be said, however, that they are not partial to such a position, but prefer, as before observed, a moist, partially shaded position, and deep peaty soil

The dark-flowered species figured with T. grandiflorum, is the large, bold-leaved T. erectum, whose handsome purple-brown flowers have quite a beauty of their own. In this country it is grown only for ornament, but in America, "its fleshy roots form one of the many drugs prepared for sale by some of the societies of the religious sect called Shakers." It is sold under the name of Beth-root, and the plant is also called Indian Balm, or Lamb's Quarters. The stalkless-flowered Trillium sessile, also has purple flowers, which have an Iris-like appearance, the sepals being spreading, and the petals erect.

ORCHIDS IN BRITISH GUIANA.

We are indebted to Mr. J. R. Bonny, Downs Park Road, Hackney, for the following interesting communication on the native Orchids of British Guiana, received by him from an Orchid collector in that country:—"About two hundred species of Orchids are native to British Guiana. They are found everywhere, except in the dense forests and on the coasts; a moderate amount of light, plenty of moisture, and protection from strong winds being necessary to their good condition and free flowering. There is perhaps no order of the vegetable kingdom so varied in habit, size, shape of flower, and general structure. They vary in size from the Pleurothallis of one inch, to the climbing Vanilla, which mounts above the forest trees to open its flowers in the bright sunlight. The greater number are epiphytes, that is, their leaves or bulbs are anchored to the branches aud trunks of trees by strong aerial roots; and they derive their nourishment, not from the tree, but from moisture in the air and the small portion of vegetable matter dissolved in the rain and dew which trickles down channels in the bark. These epiphytes flourish on the banks of rivers and creeks, inside the fringe of bushes which usually lines them to the water's edge. The ordinary passenger sees but few, but the collector pushes his bateau through the bushes, often finding some tree covered with Orchids. Zygopetalum rostratum generally grows in such a position, its large white flowers opening freely in the diffused light. About fifteen miles up the Hobaboe creek is a fringe of trees, bordered on one side by the creek, and on the other by a park-like savannah, the bushes on either side being almost impenetrable. Here, in looking for a wounded parrot, I came upon quite a family of Zygopetalums in full flower, decorating the rather thin tree trunks very prettily.

"In the same creek, above the lock, when the savannah is covered with water, and people in the canals complain of floods, the trees are decorated with hundreds of Brassavola angustata and Epidendrum nocturnum, their pretty flowers making up in numbers what they lack in individual beauty. Below the lock grows the Oncidium altissimum, one of our largest epiphytes, perfuming the air with hundreds of flowers, which grow on long stems, often 12 ft. high. A large plant is a magnificent object; 4 ft. or 5 ft. through, with leaves a yard long, and six or more flowering stems, it can scarcely be equalled among Orchids. The savannahs are bordered with belts of Eta Palms; and below the parasol of leaves, among the old leaf sheaths, is seen something waving in the wind like tassels of broad leaved grass. If it is the wet season, the bateau is brought as near as possible by poling, or the men get out and haul it through the dense razor grass, at he risk of cutting their fingers and legs. Nearing the Palm you see that the grassy leaves belong to Catasetum longifolium, and the next business is to get it. One of the boatmen climbs up and attempts to pull out a plant, perhaps breaking a few bulbs; or coming down with a run, covered with ants; or frightened at a lizard, or hairy spider. There is nothing left but to cut down the tree, which you must do standing in water up to your knees. Presently you hear a crack, and with a splash, splash, you get out of the way of the falling giant which comes down with a great crash, throwing the splashes in every direction. All round the Palms you see the water covered with ants; large brown fellows which nip pretty hard, and perhaps a dozen hairy spiders and a wood slave. After a good deal of trouble and a few bites you get the Orchid, and find a bunch of beautiful flowers, the colour almost unique, being a bright orange.

TRILLIUM GRANDIFLORUM, WHITE; T. ERECTUM, PURPLE.

"On the tree branches overhanging the Hyama creek the Stanhopea eburnea hangs its magnificent waxy flowers, together with Brassias, Gongoras, and thousands of small species. At the front of the sand hills on the low bushes may be seen plenty of Epidendrums, Maxillarias, and other inconspicuous Orchids, but two or three miles aback, where visitors rarely go, a very good collection can be made. One of the best is Scuticaria Steelii, with long, pendulous whip-like leaves and fine flowers richly perfumed. Near the ground, and sometimes on the sand, Sobralia sessilis opens its rosy flowers in the morning, but unfortunately they last but a few hours. Its stems, like small Bamboos, with leaves at the top, may cause it to be often overlooked. If fortunate, the collector may find Paphinia cristata, with crimson barred, pendulous flowers, and the little gem, Burlingtonia candida, with delicate white and yellow flowers perfumed like Violets. Here I have found what is perhaps the smallest native Orchid, a species of Aeranthus, without leaves, the whole plant consisting of a few aerial roots, and a spike of flowers 1 in. high.

"In sand, or on rocks in the interior, various species come to perfection, in fact many epiphytess grow well in either situation, but Cyrtopodium Andersoni, our finest sand Orchid, appears never to grow on trees. It has very long bulbs lined with Palm-like leaves, and a large panicle of bright yellow flowers, on a flower stem 6 ft. high. Where charcoal has been burnt, the banks of the pits, which look like newly-opened graves, are covered with Catasetum discolor, its flowers like green or yellow quaker bonnets.

"Under a silk cotton tree at Soesdyk grows a terrestrial species with white spots on the leaves (Spiranthes); its flowers are however not very conspicuous. Among the cake of decomposing leaves in the forest, among Voyrias, I have found the singular Wullschlægelia aphylla, a leafless root parasite with a few almost colourless flowers.

"On the savannahs, where the razor grass is not too thick, may be found the Habenaria macroceratatis (something like the English butterfly Orchis), its whitish flowers having spurs 6 ins. long. But the Queen of ground Orchids is Cleistes rosea. It is about 3 ft. high, with a leafy stem and two or three rosy-lipped flowers on the top. The park-like savannah in which they grow reminded me of an English meadow, as the thin wiry grass allowed myriads of Utricularias, Sauvagesias, Droseras, Burmannias, and other pretty low-flowering plants to grow to perfection.

"Some of the epiphytal Orchids are common on the Calabash trees surrounding the huts on the banks of rivers, and even the canals, near town. The crimson-flowered Rodriguezia secunda, Notylia albida, with pendulous spikes of greenish-white flowers, and Ornithocephalus gladiatus, a pretty fan-like plant, 2 ins. or 3 ins. high, with little bird-like, white flowers, are found almost everywhere. Even the Moca Moca (Montrichardia arborescens) has its special epiphyte in the graceful Ionopsis utricularioides."

Asparagus plumosus.—When we bought a plant of this several years ago, we grew it in our stove for some time, but found out by experience that this was a great mistake. Now the proper way to grow this Cape Asparagus is to plant it out (that is, if you want it for cutting from) in any light, airy house, into a compost of loam, leaf-mould, and sand, loam predominating. The place where it is to be planted should be well drained, and the plant should have a surfacing of cow dung and loam in spring. Our plants are simply thickets, and several people have mistaken them, when standing at a little distance, for climbing Ferns. —*Un Jardinier.*

FRUITS.

Fruit Culture under Glass.—Vines: That Vines growing in outside borders, however imperfectly drained, suffer more frequently from an insufficiency of water at the roots during a dry summer than they do from the reverse during a wet one, goes without saying, as the fact has been demonstrated time after time to the satisfaction of all practical fruit-growers whenever a wet summer follows a dry one. In the latter case, in many places the leaves and bunches present a starved appearance in comparison with the large leathery leaves and compact well-finished bunches produced by the same Vines when the summer happens to be a wet one.

Bearing this fact in mind, Vines growing in inside, and presumedly well-drained borders, should have liberal supplies of clear tepid water given at the roots every week or ten days, following this with a good soaking of tepid liquid manure. The latter we frequently obtain at a temperature of 90 degs. direct from the manure-tank, which is situate in close proximity to the different heaps of manure, by watering the freshly-thrown-together masses of fermenting stable-yard dung with one of Owen's Patent Double-barrel Irrigating Engines, and conveying the drainage in two-wheel swing-tubs for immediate use on the Vine and Peach borders before the temperature has time to go much below the point indicated. Vines in outside borders should, in the absence of heavy rains, also have attention in this direction.

The pinching of lateral and sub-lateral growths will require being done a couple of times a week. In order to promote a growing atmosphere in houses in which the Grapes are swelling, as much as with a view to keeping the leaves free from the attacks of red-spider, the surface of the borders, walls, and pathways should be well damped over morning and afternoon, at closing time, and about mid-day during bright sunny weather. Close the houses, except those in which the Grapes are ripe or ripening (which should have a constant circulation of dry rather than humid fresh air in them), sufficiently early in the afternoon to run the temperature up to 85 degs. or 90 degs., with plenty of atmospheric moisture at the same time. The top and bottom ventilators should, however, be opened a little late in the evening and closed for about an hour and a half the first thing (six o'clock) in the morning, when the houses, as indicated above, should be damped over with the syringe and clear water. In addition to this distribution of atmospheric moisture in the houses, the evaporating troughs on the hot-water pipes should be kept filled with liquid manure.

During bright sunshiny weather ventilate freely between the hours of opening the houses in the morning and closing them in the afternoon. Those having ripe and ripening Grapes in them should have an abundance of air throughout the day, to give flavour and finish to the berries. Should red-spider attack any of the leaves, wash the latter carefully with a sponge and soft-soapy water as soon as the enemy puts in an appearance. This, though a somewhat tedious way of dealing with this troublesome and very destructive pest, is the best and, at the same time, the safest way, as regards the condition of the Vines, of eradicating it.

Peaches.—The thinning, stopping, and tying down to the trellis of the young shoots should be duly attended to, and the trees should have an abundance of water at the roots when necessary, and be syringed overhead morning and afternoon at closing time. In other respects the houses should be treated as advised for vineries in their varying stages of growth. —*H. W. Ward, Longford Castle.*

Burying Dead Animals in Vine Borders.—A difference of opinion on this question has arisen here between two parties, and on asking five different gardeners for their opinions on the subject, two were against the practice and three for it; the latter saying, "send us all the animals you can get, we shall be only too pleased to bury them." One of the three had a horse killed last spring and has buried it in his border. I do not know what size his borders are, but I believe he grows first-class Grapes. I took charge of three vineries some years ago, which had then been planted only two years. After the Vines had made a little growth the leading shoots became sickly and rusty in appearance, with the leaves curled. We trained up another leader, which was a little better. On examining the borders, I found some large bones, nearly as large as a man's arm and half as long, which had been used in a fresh state, with the flesh adhering to them, and the roots were partly dead where they came in contact with them. The soil was taken out, and fresh compost introduced, with the result that the Vines have not shown any more signs of leaf-curling, and have grown good Grapes since. I may state that the borders where renewed in the autumn —that of the first house as soon as the crop was gathered. The house was kept close and syringed well for a week or two after the replanting, and the Vines were started again about the 1st of January. They broke weakly, but bore some Grapes, and the next year were all that I could desire. The Vines in the second house were lifted before any Grapes were cut, which I thought at the time a great risk. All the roots in the inside borders were lifted and tied up to the Vine stems, well syringed, and covered with mats till the fresh soil was got in, which took two days. The Grapes kept for a few weeks after, and were none the worse for the process.—*C. J.*

FLOWERS.

Work in the Plant-houses.—Presuming that the bedding-plants are now out of the way, many plants that are to be grown on for the winter may be transferred to the pits and frames. Bouvardias will do better in the pits now, and will not be so liable to attacks of red-spider while standing on a moist cool bottom.

Cyclamens.—As soon as these are ready for potting on into their flowering pots, they should have attention, and after potting they will do well in a pit where a little heat can be given in case we get wet, or dull, cold weather. To succeed well with Cyclamens, it is essential that they should have plenty of room, and be grown where they can get plenty of light and air; at the same time they do not like a dry atmosphere.

Plumbago capensis.—This makes a very pretty pot-plant if well managed. Where cuttings have already been struck, they should be potted off singly, and be kept stopped from time to time until they have made bushy plants, and then be allowed to grow on to flower. If cuttings have to be put in now they should be grown on three plants in a pot; cuttings should be taken from plants that have just started into fresh growth; the young shoots will strike very freely if placed where there is a little bottom-heat, and kept quite close. Where this plant is used as a climber, it is better to grow on a few young plants to take the place of those that have outgrown the space, as where space is limited young plants will succeed best.

Chrysanthemums.—Most of these will now be ready for potting into their flowering-pots. Where plants are grown on for cut-flowers, many growers recommend planting out, and taking the plants up in the autumn, just before we are likely to get frosty nights. We, however, prefer growing the plants in pots, which may be sunk into the ground; if done this way a few roots will get astray, which will help the plants through the growing season, and the plants will not suffer much after they are taken up if the watering is properly attended to.

Herbaceous Calceolarias.—These have been singularly beautiful this last week or two at Crossland Hall, Huddersfield. This flower is a special favourite of the able head gardener, Mr. Neill, who is, moreover, considered an expert in its cultivation. Mr. Neill's strain is, in fact, considered by gardeners in this district to be unsurpassed, comprising, as it does, beautiful and varied flowers of excellent form and substance, of many shades of colour, exquisitely spotted, blotched, and self-coloured. Passing along the stage on which are the plants grown for seed, we noticed a few especially striking flowers amongst the selfs, of several shades of crimson, whilst the spotted and blotched kinds are exceedingly fine. The trusses of blooms are of good size, and the individual flowers large, while in habit the plants are robust, dwarf, and compact, and the foliage of good size and substance. Most of them are in 5-in. and 6-in. pots, but there are some splendidly-grown specimens in larger pots in the conservatory, which, with Pelargoniums, a splendid example of Clerodendron Balfourianum, Palms, Tree Ferns, and a host of other things, make the house very gay.—*B. L., Lindley, Huddersfield.*

Souvenir de la Malmaison Carnation at Tring Park.—A grand houseful of this beautiful flower is just now coming into bloom at Sir Nathaniel de Rothschild's, where some hundreds of sturdy plants are well furnished with immense blooms and countless buds. Mr. Hill's successful culture of these plants is the only instance of a rival to Mr. Jennings's great display at Mr. Leopold de Rothschild's (illustrated at p. 201) which we have seen. The show house of perpetual-blooming Carnations, too, at Tring Park is as gay as ever with finely-bloomed plants of most of the best kinds, prominent among them being, Pride of Penshurst, the best bright yellow; Empress of Germany, a large snow-white, with occasional faint red line; Miss Jolliffe, everybody's favourite, blush; Mrs. Keen, immense velvety crimson; Valentia, fringed crimson; Sir Evelyn Wood, mauve-tinted purple, very much inclined to sport into pink, and pink and crimson flake, but in every form so beautiful that some would fancy one form and some another. The large stock of young Carnations for next winter's blooming are now in 4-in. pots in the span frames outside. Soon they will be potted into their 8-in. pots for flowering, and in September they will be brought into the house. The many varieties of Pinks in pots grown by Mr. Hill are very handsome, useful, and delightfully fragrant. —*J. B.*

Marguerites.—I agree with all Mr. H. Dunkin says respecting these useful decorative plants, except his recommendation to plant them out in rich soil Such a practice would, in my opinion, result in an abundance of sappy, soft growth, the very reverse of what we should desire for winter flowering, viz., firm, well-ripened wood. Those who desire a good show of Marguerites in the winter should grow their plants in pots during the summer, precisely the same as Chrysanthemums, and house them at the same time with those plants. It has been our practice to plant out these plants in beds and borders without turning them out of their pots, which in a great measure restricts their growth and increases their floriferousness. To those who anticipate planting out for summer show and who do not care to see their plants grow too rampant, I can recommend the plan of planting or plunging them in their pots a few inches under the surface.—*Bellis.*

Arbutus Milleri.—We have been favoured by a Malvern correspondent, "J. S. T.," with a panicle of flowers of Miller's Strawberry-tree, a very ornamental shrub, not so common in gardens as Arbutus Unedo, but well deserving of wider cultivation. Our correspondent writes:—"There are upwards of twenty such panicles in bloom on our bush at the present time, which renders it a very conspicuous object on the lawn, and it is greatly admired. The individual flowers so much resemble those of the Lily of the Valley, that it may aptly be called the Lily of the Valley-tree. The bark is of a dark brown colour, and very smooth, and is thrown off annually, so that once a year it has a new coat. Our bush is about 8 ft. high and 5 ft. in diameter." Arbutus Milleri is a very handsome shrub, and stated to be a hybrid between A. Unedo and A. Andrachne (the parents of the beautiful A. hybrida) raised in the Bristol Nursery. It forms quite as large a bush or tree as A. Unedo, and its white flowers are produced in larger panicles than are those of the species named.

Wistaria sinensis.—The fine plants in the Knap Hill Nursery which have been allowed to climb naturally amongst some of the large trees are now a glorious sight, as also are the Azaleas and Rhododendrons. They should be seen at once.—*V.*

VEGETABLES.

The Kitchen Gardener's Calendar.—Transplanting: Advantage should be taken of showery weather to proceed with the thinning-out and transplanting, where not already done, of Beetroot and Parsley, which is an operation that should always be done, if possible, during damp weather, because then the young plants not only draw and transplant better, and with more expedition, but they are obviously less subject to a check than if the work has to be performed when the ground and atmosphere are both in a dry state. The method to be followed in the thinning and transplanting of Onions having been referred to at p. 571, we shall now briefly indicate the manner in which

Beetroot should be transplanted. Half our crop is, in some seasons, secured in this way, and the roots are in every way as good and as well grown as those not so treated. The one essential point, assuming that the ground is of the right description, and has been properly prepared for the young roots, as in the case of the seed, is to make the holes deep enough for the young roots to be transplanted in their entirety, and about the same depth in the soil as they were before, without being curved in the process of transplanting, as in that case deformed roots will be the result.

The advantage above referred to consists in this, that the treatment of the roots is accommodated to existing circumstances, which will admit, say, of ten rows being sown at the proper time, the whole space which it was intended to crop with Beet being then, and for a month or six weeks afterwards, occupied with other crops, this ground to be subsequently planted from the same sowing. We transplant fifty or sixty rows without any loss from having small or deformed roots. The same course can, as stated in a former calendar, be followed, if necessary, with the Onions, provided the transplanting is carried out carefully and at the proper time, that is when the bulbs and roots are quite young and the ground moist, and that the plants are afterwards attended to with water at the roots until they have become established.

Parsley, too, from some cause or other, is not so generally transplanted as it deserves to be; not but that it will, like the Onion and Beet, do equally well if the necessary number of rows is sown at one time; but as a matter of economy a small patch of seed could be sown about the first week in March, and two months later the requisite number of rows be transplanted therefrom, which plants will grow freely, and exhibit as little tendency to run to seed as those sown and afterwards thinned out to 6 ins. or 7 ins. from plant to plant in the rows.—*H. W. Ward, Longford Castle.*

The Chinese Yam (Dioscorea batatas).—As the firm who are bringing into notice this "valuable and novel esculent" to which you refer in last week's issue (p. 612), perhaps you will kindly allow us to mention that we did not introduce it "as a substitute for the Potato"; nor did we ever intend that it should be looked upon as such. What we do aver is, as stated in our circular, that as a change from Artichokes and other well-known edible roots, this esculent, when once fairly tested, and "the proper mode of cooking once hit upon," will most assuredly make way for itself, and soon attain a very prominent position amongst our English vegetables. Since first offering it we find that many of our patrons who have been or are great travellers, appreciate this article immensely, and many state that when roasted and served up with melted butter, it is (as they consider) even more delicious than when boiled. One peculiarity has been brought to our notice by a very old traveller, viz., that when once the palate appreciates the Yam, one is apt to become excessively fond of it. In addition to its edible qualities, another grand point in its favour must not be overlooked, viz., its ornamental appearance. As a climber for verandahs, for covering old tree-stumps, &c., its elegant heart-shaped foliage, and sweet-scented white flowers (which hang in clusters) are very effective.—*Viccars Collyer & Co., Leicester.*—[We insert our correspondents' letter with pleasure, but must state that we have nowhere credited them with introducing the Yam "as a substitute for the Potato"—that was done thirty years ago.—*Ed.*]

FLORICULTURE.

Tulips at Manchester.—If it were not for Manchester, the culture of Tulips as florists' flowers for exhibition would almost cease. It is true there are growers in Warwickshire, Derbyshire, Cheshire, Staffordshire, Yorkshire, and elsewhere, but the home of the Tulip is Lancashire, and at Stakehill the genial, kind-hearted president of the Royal National Tulip Society, Samuel Barlow, Esq., J.P., has the finest collection in Europe. But they are very late this year, and will not be at their very best for a week or ten days.

What a curious physiology the Tulip has. Seed is sown, and for two or three years of its life the seedling plant is one of the most eccentric things under the sun. In five or six years the plant may become strong enough to flower, and then it takes on the Breeder or self-coloured form; but the raiser can easily tell whether it is a Bizarre, a Rose, or a Bybloemen breeder. In a few years, say from two until five, six, or more, it may become rectified, or, as the Tulip fanciers say, "break" into a flamed or feathered flower, and it may be altogether worthless in character. It is wearying work waiting for the breaking of seedling Tulips. On Saturday last, the Rev. F. D. Horner showed me a bizarre Breeder that had flowered as far back as 1862, and had not yet broken into character. But breeders are very useful and very beautiful, and are shown at Tulip exhibitions in their lovely self forms.

On Saturday, May 30th, the annual Exhibition of the Royal National Tulip Society took place in the Botanical Gardens, Old Trafford, Manchester, thus continuing until the week's end the fine display made by Mr. Findlay. Orchid and Palm, Croton and Tree Fern, Anthurium and Gleicheina, had all departed, and here were the Tulip men—clergymen and factory operatives, merchants and artizans—staging their flowers, keenly alive to the importance of presenting them in the best condition. Twenty-two exhibitors took part in the show, and the number would have been larger, but that, in some of the coldest parts of Lancashire, the Tulip buds were yet green. So late a Tulip time has not been known for years, not since 1855, Mr. Samuel Barlow said; that is thirty years ago. But the show was larger and generally better in quality than was expected; and the Rev. F. D. Horner, of Lowfields, Burton-in-Lonsdale, Carnforth, had a splendid lot of blooms, and may be said to have carried everything before him. When the flowers were staged, a quartette of old Tulip-growers set about making their awards, and it was interesting in the extreme to notice how earnestly they went to work, how every flower was overhauled, and the slightest defect noted. Judging at Tulip shows is a serious business, and it was gone into with due gravity on this occasion. Stands of more than two flowers are denominated "pans"; stands of two flowers are termed "pairs"; and single flowers go into what are known as the classes for single blooms, and are regarded as class flowers.

The leading prize was for twelve dissimilar Tulips, two feathered and two flamed in each class. There was no difficulty in placing the Rev. F. D. Horner's stand of splendid flowers first, and, while of large size, they were of the best quality and finish. He had feathered Bizarres, William Wilson, very fine; and Hepworth's Seedling, a fine flower of the Sir J. Paxton type, also very fine; flamed Bizarres, Barlow's fine strain of Polyphemus and Sir J. Paxton; feathered Roses, Heroine and Charmer, both very pretty; flamed Roses, Annie McGregor and Aglaia, the former very rich in colour; feathered Bybloemens, Mr. Cooper, the gem of the whole show, and Friar Tuck, also very fine; flamed Bybloemens, Talisman and Duchess of Sutherland. Mr. D. Woolley, Millgate, Stockport, was second with feathered Bizarres, Masterpiece and Photo; flamed Bizarres, Sir J. Paxton and Masterpiece; feathered Roses, Mrs. Lea and Julia Farnese; flamed Roses, Mabel and Aglaia; feathered Bybloemens, Bessie and King of the Universe; flamed Bybloemens, Chancellor and Duchess of Sutherland. Mr. Thomas Haynes, Free Library, Warick, was third; and Mr. W. Whittaker, of Salford, fourth. The Rev. F. D. Horner was again first with six flowers, having very fine blooms of feathered Bizarre Masterpiece, and flamed Bizarre Sir Joseph Paxton; feathered Rose Julia Farnese, and flamed Bybloemen Mabel; feathered Bybloemen Seedling, and flamed Bybloemen Duchess of Sutherland. Second, S. Barlow, Esq., with feathered Bizarre Dr. Dalton, and flamed Bizarre William Lea; feathered Rose, Hepworth's Seedling, and flamed Rose Mabel; and Bybloemen Talisman, both feathered and flamed. Third, Mr. D. Woolley.

We may pass over the intermediate classes and come to that for three-feathered flowers, and here the Rev. F. D. Horner was first with three charming blooms, named Bizarre, Commander; Bybloemen, Mr. Cooper; and Rose, Modesty; Mr. W. Dymock, Printer, Stockport, second, with Bizarre, Mr. Mill; Bybloemen, King of the Universe, and Rose, Alice; third, Mr. D. Woolley. The first prize for three flamed flowers went also to the Rev. F. D. Horner, who had Bizarre, Orion; Bybloemen, Talisman; and Rose, Annie McGregor. Second, Mr. S. Barlow, with Bizarre, Dr. Hardy; Rose, Mabel; and Bybloemen, May Queen. Third, Mr. T. Haynes.

In the six classes for the best feathered and the best flamed of each division, there were a large number of blooms; but it is not necessary to go into particulars, as we have already given the names of the very best flowers shown on this occasion. But we must give some attention to the Breeders, for they are very handsome, and were shown very fine on this occasion, especially by the Rev. F. D. Horner, who had six beautiful flowers in the class for this number; but it was held by the judges that one of them was defective, which detracted from the value of the stand. Mr. James Thurston, of Merridale, Wolverhampton, was placed first: Bizzares, Sir J. Paxton and a seedling; two seedlings, both very fine, and Roses, Alice Grey and a seedling; a medium-sized lot of very correct flowers. Second, the Rev. F. D. Horner, with large blooms of Bizarres, Sir Joseph Paxton and Dr. Dalton; Bybloemens, Talisman and Glory of Stakehill; Roses, Lady Burdett Coutts and Lady C. Grosvenor; third, Mr. S. Barlow; fourth, Mr. T. Haynes. The Rev. F. D. Horner had the best three Breeders, having splendid blooms of Bizarre Dr. Dalton, Rose Lady Burdett Coutts, and Bizarre Glory of Stakehill; second, Mr. Samuel Barlow with Bizarre Lord Denman, Bybloemen Glory of Stakehill, and Rose Annie M'Gregor; third Mr. W. Whittaker, Salford.

In the classes for Breeders there were a large number of flowers; the best of them were but repetitions of those that have been mentioned before.

It was the duty of the judges to select the Premier Feathered, the Premier Flamed, and the Premier Breeder Tulips in the entire exhibition. The Premier feather was Bybloemen Mr. Cooper, in Mr. Horner's first prize stand of twelve blooms; the Premier flamed, Bizarre Sir J. Paxton, in Mr. Horner's first prize stand of six Tulips; and the Premier Breeder, Glory of Stakehill, in Mr. Horner's second prize stand of three Breeders.

A First-Class Certificate of Merit was awarded to John Hart, a pretty feathered Bybloemen, raised from Adonis, and shown by Mr. W. Dymock, Stockport.

Inventions Exhibition.—Visiting the above on Wednesday night, I cannot refrain from sending you this small contribution of praise for your kind insertion. The interior of the building, replete with all useful and interesting objects, promises to be the most perfect one of its kind. But it is the continental beauty of the grounds that your readers will most admire. This part of the entertainment presents to the entranced spectator an almost unparalled scene of splendour (quite foreign to London). The verdure of the ground is relieved by countless small orbs of electric light, making us imagine that the glow-worms are holding a nightly revel. The foliage is studded with gems of wondrous brilliancy and of many coloured hues, reminding us of the jewel-bearing trees in Aladdin's subterranean palace, whilst the outline of the building is beautifully delineated by beams of refulgent light. The fountains, with their myriads of coloured drops, their slender columns of gorgeously-tinted spray, surpass all description. Words cannot do full justice to their remarkable beauty. We can only say, go, gentle readers, and admire for yourselves. —*W. Victor.*

THE

Orchid Growers' Calendar.

Work of the Month.—The growing Dendrobes, Phalænopsids, Saccolabiums, Aerides, &c., should now be well looked after, water being carefully given to them, and the moisture in the atmosphere of their houses well kept up. The young growths of Cattleya Dowiana, C. gigas and its varieties, and C. aurea will now be well advanced, and in many cases sheathing and pushing up bloom, and care must be taken that water does not lodge in the young growths.

In the matter of water at the root, it is well not to be too liberal with this section of Cattleyas until the roots are pushing strongly, when if potted or basketed in a manner that admits of the free passage of the water, too much cannot well be given. Baskets or suspended pots are certainly the best for the smaller specimens of these plants.

The Temperatures for June should be—

East Indian, or Warm House.—75 degs. to 80 degs. by day; 70 degs. by night.

Intermediate, or Cattleya House.—70 degs. to 75 degs. by day; 65 degs. by night.

Odontoglossum, or Cool House.—60 degs. to 65 degs. by day; 55 degs. by night.—*James O'Brien.*

The Cattleya Fly.—I have been waiting with some interest to see if any of your correspondents would throw new light on the means of getting rid of the very troublesome Isosoma orchidearum (p. 588), the fly which causes such great damage to Cattleyas, but nothing fresh has been revealed. I think I was the first to make the acquaintance of this unwelcome guest, having discovered it among some plants purchased out of one of the first importations of Cattleya Dowiana. Of course, as it and its work was quite unknown to me, it got firm hold before I found it, but I quickly succeeded in getting rid of it entirely by ruthlessly cutting off every young growth as soon as it showed signs of having been bored, and by hunting and catching the fly. This treatment I have always since recommended, and wherever it has been pursued without wavering, the pest has been got rid of entirely, but where the matter is carelessly dealt with, only the partial success merited is attained, and the evil smoulders on until opportunity offers for its spreading again.

The loss of one leader is really not of the consequence many suppose, as there are always others ready to start. I have frequently seen plants thus forced to grow from back eyes flower quite as well as they would have done if the first lead had not been cut, but the sooner the attacked growth is cut off the better.

Fumigating, although giving assistance, I found to be ineffective, as the flies could stand more of it than the plants. I should think that with these gall-flies something might be done with either the sticky or the chemically prepared fly-papers, and I should like trial to be made with them.

Your illustration (p. 588) is a real boon to the Orchid amateur, as it shows him the insect from which the evil of the swollen young growths comes, and places him in a position to deal with it, in many cases, before it can do mischief. Without it many would have to do as I did, and with considerable trouble trace back the injury of the young growth, and connect it with the strange fly not easily noticed unless looked for.

Another insect is now doing much damage in collections, and in some unnoticed until I have called attention to it. This fly attacks the air roots (generally of Cattleyas), causing them to enlarge at the points, become very unsightly, and, of course, injures the plants. These enlarged roots on being cut through when well advanced are seen to contain growths like those shown in your illustration of May 16th. The mischief is to be wholly stamped out by similar treatment to that advised for the swollen young growths, the roots as soon as seen to be affected being cut off about half an inch above the swollen part, the pieces removed being collected, taken outside, and carefully placed on the fire.

No doubt we shall make acquaintance with many other foreign plant destroyers, but if those who receive fresh importations carefully examine the plants and remove suspicious portions before putting them into the houses, a great many of them will be destroyed and much trouble be saved.—*James O'Brien.*

Odontoglossum Pescatorei Thomsonianum.—Considering the remarkable amount of variation exhibited by the more popular species of Odontoglossum, it is singular that the beautiful O. Pescatorei should, comparatively speaking, show so little. It has been imported in large quantities, it has been well grown for years, and all are really beautiful, yet how few varieties stand out as distinct, and by reason of some well-marked characteristics are considered worthy of a varietal name. They are so few, in fact, that a good one when it makes its appearance now claims more attention than a new crispum, unless the latter be a wonder, and is certainly always worthy of recording. Baron Schroder's unmatchable variety, Veitchianum, so admirably pourtrayed in *The Orchid Album*, plate 68, is a pearl among pearls, one among thousands, and may not find its equal for years to come, yet that should not prevent us from doing honour to any well-marked advances in the same direction. Next to the Baron's plant, one of the finest varieties we have seen was exhibited by Messrs. William Thomson & Sons,

ODONTOGLOSSUM PESCATOREI THOMSONIANUM.

of Clovenfords, at the Orchid Conference, and which, as a matter of course, claimed much notice from connoiseurs. The form of the flower, the arrangement of the spots, and the area of the shading is well shown in the accompanying woodcut; but we must add that the colour of the spots is deep crimson, and the shading lovely hues of violet.

A Cattleya Sanderiana, two years imported, has just flowered with G. Hardy, Esq., at Pickering Lodge, Timperley, Cheshire, which perhaps eclipses everything in regard to size that has hitherto been recorded. Across the petals the flowers measure 11 ins., each petal being 3 ins. broad in their widest part. From the top of the upper sepal to the tip of the labellum the same length was measured, viz., 11 ins. The lip was 3 ins. across, and the flattened part below the throat 2¼ ins. deep. The colour of the flower was rich in every way, and every division perfect. A cut flower exhibited at the Whit week show at Old Trafford was seen by many Orchid-growers, all expressing astonishment at its noble size.

Orchid Shading.—Parisian Blinds: Mr. Knox (p. 604) appears to think that the laths are too far apart in the Parisian blinds, but we have not found this to be the case. The space between each lath is $\frac{3}{16}$ of an inch, and although we get a great amount of light through them, there is not sufficient direct sunlight to injure the most delicate plants beneath. I have no doubt the cane blinds which Mr. Knox recommends would do equally as well, if they were made on the chain principle of the Parisian, but fastened together with string I believe they would barely last a season in this country, and would consequently become very expensive. I have had some experience with string exposed to the weather, and have never found it to retain its durability for more than twelve months. We have many visitors to our garden, and several competent judges have expressed their good opinion of the blinds, while others after seeing them have ordered the same kind of shading for their own houses.—*G. W. Cummins, The Grange, Hackbridge.*

Orchids in Flower at Clovenfords.—The following Orchids were in flower last week in Messrs. William Thomson & Sons' collection at Clovenfords, Galashiels:—

Ada aurantiaca.
Aerides Fieldingii.
,, crispum.
,, affine.
,, quinquevulnerum.
Anguloa Ruckeri.
,, ,, sanguineum
,, Clowesii.
,, eburnea.
Cattleya Skinneri.
,, Mossiæ, various.
,, Mendeli, various.
,, Wagnerii.
,, Warneri, various.
Cypripedium barbatum.
,, ,, nigrum.
,, ,, Warneri.
,, caudatum.
,, ,, roseum.
,, argus.
,, ciliolare.
,, lævigatum.
,, Dominianum.
,, Harrisianum.
,, hirsutissimum.
,, Lawrenceanum.
,, Crossianum.
,, Swanianum.
,, Hookerii.
,, Veitchii.
Dendrobium Falconeri.
,, Parishii.
,, tortile roseum.
,, thyrsiflorum.
,, Cambridgeanum.
,, alba sanguineum.
,, macrophyllum.
Lælia elegans, various.
,, ,, alba.
,, purpurata, various.
,, ,, alba.
Lycaste plena.
,, Skinneri.
Masdevallia Harryana.
,, Bull's Blood.
,, Denisoniana
,, Lindeni, various.
,, ignea, various.
,, Chelsoni.
,, Veitchii.
,, chimera.
,, amabilis.
Maxillaria grandiflora.
Odontoglossum crispum, var.
,, Andersonianum.
,, Ruckerianum.
,, Coradinei.
,, Halli.
,, Pescatorei.
,, Rossi magus.
,, citrosmum.
,, cordatum.
Oncidium hastiferum.
,, flexuosnm.
,, tigrinum Barkeri.
Phalænopsis Luddemaniana.
Saccolabium ampullaceum
Tricopilia coccinea.
,, crispa.
,, tortilis.
,, ,, alba.
Vanda suavis, various.
,, tricolor, various.
Zygopetalum Clayii.

Orchids at Kew.—The following letter from Sir Charles Strickland reached us too late for insertion in our last:—May 28th, 1885.—I am very glad to learn that your correspondent "A. F. L." himself cultivates the "rubbish" which he treats so contemptuously at Kew. I also take a good deal of interest in this kind of "rubbish," and shall very gladly avail myself of "A. F. L.'s" invitation to go and see his plants when I have an opportunity of doing so. I am sorry to have said anything unpolite, but I think that "A. F. L." will allow that his own remarks were not very polite to the managers of the Kew Gardens, and that I only expressed what many of your readers must have felt when they read his letter. Lastly, my remarks only related to the plants in the large house, which is open to the public. I do not remember noticing anything particularly in the other houses, except a number of the terrestrial Orchids from the Cape, in a small lean-to, which I hope they will succeed with better than I have hitherto done, or than, I think, most others have done.—*C. W. Strickland, Hildenley, Malton.*

Mr. Rolfe also asks us to publish the following: As "A. F. L." asks me a question in his last letter, I must ask you to let me answer it, and I will try to do so without reopening the discussion. He asks, "As I have nothing to do with the Orchids, why do I write about them?" I might ask him the same question. He does not see why he "should join in the chorus of praise to please any one." I did not praise them, did not compare them with any other collection, did not even write about them, till I saw his letter. But he adds, "Let him beware of picking a quarrel with a man in the crowd who disagrees with his bombast." I am sorry he used that word, for I have written nothing about them elsewhere. He admits my statement that Kew possesses 1,000 species of at least 130 genera, and I should not have taken the trouble to ascertain the fact had I not seen a statement so very different, and, as he thinks the thirty-seven species came into bloom in those thirteen days, the collection cannot be quite so bad after all. He adds, "If my remarks have annoyed Mr. Rolfe, I am very sorry." I will say the same, for I did not write to annoy any one.

In conclusion, let me assure "A. F. L." that the Latin explanation was quite unnecessary.—*R. A. Rolfe.*—[With Mr. Rolfe's amicable reply this correspondence must now cease as far as our columns, at all events, are concerned. Mr. Rolfe is an assistant botanist in the Kew Herbarium, and we are quite satisfied that his remarks were in no way prompted by a desire either to pick a quarrel or to mislead any one.—*Ed.*]

REVIEWS.

Cactaceous Plants: their History and Culture.—By Lewis Castle. London: *The Journal of Horticulture* Office, 171, Fleet Street, E.C.

Under this title a useful little book from the pen of Mr. Lewis Castle has recently been published, and which we can recommend to all those of our readers who cultivate this grotesque and beautiful family as both interesting and practical. In the introduction the author points out that these plants are amongst the most remarkable of vegetable curiosities. He remarks:—"They do not possess beautifully-coloured or elegantly-formed foliage to recommend them; on the contrary, true leaves are absent from nearly all, but in contrast to some of the most gorgeous flowers produced by plants, we see unwieldy masses of vegetable matter, spherical, cylindrical, or angular, armed with stout and formidable spines, and resembling what we might almost imagine to be the relics of a vegetation belonging to a period long prior to the development of the plant-life familiar to us in the present age."

An interesting chapter on the structure and general appearance of the family, with an account of their geographical distribution, is followed by a brief historical account of their introduction to cultivation. Then follows a chapter on General Culture, in which temperature, soil, water, and potting are dealt with; also Propagation, by cuttings, grafting, or seeds, with a few words on hybridization. As to classification, the author points out that he follows that of Bentham and Hooker's *Genera Plantarum*, as the "simplest and best." An account of each of the thirteen genera is then given, with a list of select species, each with a short popular description, and often with additional cultural notes in cases where special treatment is advantageous. A short account of the Diseases and Insects which Affect the Family is also given. Several woodcuts are given, and at the end of the work we notice a list of figures, or portraits, which will be a valuable aid in the identification of species.

So much for the contents of this little book, which is published at the moderate price of one shilling—a work which is especially valuable as the only treatise in the English language which is wholly devoted to this interesting family.

HORTICULTURAL SOCIETIES.

Scottish Horticultural Association. — The monthly meeting of this Association was held on Tuesday night, at 5, St. Andrew Square, Edinburgh. The Vice-President, Mr. R. Lindsay, Curator of the Royal Botanic Gardens, occupied the chair. Between forty and fifty gentlemen were present. A number of rare and beautiful flowers and plants were exhibited by various members of the Association. A very beautiful show of Pansies from Messrs. Dickson received the award of a First-Class Certificate from the Flower Committee. A paper was read by Mr. Alexander Hutton, F.L.S., Arbroath, on "The Lily and its Allies," in which the characteristics of the botanical order "Liliacæ" were fully explained. The Amaryllis family was afterwards referred to as one of the nearest allies. The history, geographical distribution, and economic uses of many of the Lilies were given, special reference being made to the floras of Palestine and Japan, which are so rich in that family of plants. The part played by insects in the fertilization of the Lily family was referred to, several curious instances being mentioned, among which the Yucca was named as being associated with a small moth (*Pronuba yuccasella*), the existence of the one being entirely dependent on the other. Concerning the Hyacinth and Tulip, reference was made to their commercial importance, and to the extensive trade carried on between Holland and Great Britain in these bulbs. In connection with the Amaryllis group, the history of the American Aloe was sketched, and it was pointed out that this has no connection with the Aloe of the Cape of Good Hope, as the latter belongs to the Lily family, the former being an Amaryllid. In dealing with the Narcissus, an account of that interesting plant was given, dating its history back from the classic days of Greece and Rome. The arrangement and nomenclature of that popular flower had been much simplified by Mr. J. G. Baker, F.R.S., of Kew, and also by the Daffodil Conference of last year.

Manchester Botanical and Horticultural Society.—The late Whitsun show proved highly successful from a financial point of view, and we are informed by Mr. Bruce Findlay that the sum of £700 can be reckoned upon as clear gain to the Council. The attendance on Whit Monday was very large, only second in point of numbers to a Whit Monday four or five years ago, and the day was brilliantly fine, and thus in marked contrast to the state of the weather in London and thereabouts. The attendance at the Tulip Show was large, and the sum of over £67 was taken at the gates in sixpenny admissions. The day was fine, the gardens in admirable condition, and there were two bands discoursing sweet music.

HISTORY OF THE GOURDS.

Of Gourds, as we all know, there are several varieties, some of them beautiful in form and colour, others of very large size. Those which are commonly cultivated in England for food are the pumpkin (Cucurbita Pepo), and the Vegetable Marrow (C. Succada). Gourds were well known to the ancients, and we find them mentioned in several places in the Scriptures. They furnished models, according to the marginal reading of Knops (1 Kings, vi. 18), for some of the carved work in Cedar in the Temple of Solomon. The Greeks appear to have been acquainted with several varieties of the Gourd, and they were to be seen at Athens with other products of the spring and summer, in the cold season of the year: for Aristophanes, in his "Season," speaking of the glories of that luxurious city, says:—

There you shall at mid-winter see
Cucumbers, Gourds, Grapes, and Apples,
And wreaths of fragrant Violets,
Covered with dust as if in summer.
* * * * *
There you may see fine Pumpkins joined
To the round Rape and mighty Turnip,
So that a stranger well may fear
To name the season of the year.

Athenæus, b. 9, 14.

Diocles states that the best round Gourds are those grown near Magnesia, a town of Asia Minor. Euthydemus, the Athenian, in his book on vegetables, states that the seeds of the long Gourd were originally introduced from India. Pliny, in his *Natural History*, tells us that Gourds resemble the Cucumber in their manner of growing, and he classifies them into two primary kinds; the first, which, from the rapidity of its growth, shoots upwards and creeps along the rough surfaces of walls and covers the roofs of houses in a very short time, he calls the "Roof Gourd." This kind, he says, bears a fruit of considerable weight, which is quite immovable by the action of the wind, although the stalks are of a remarkable thinness. This plant is considered by Fee to be C. longior of Dodonæus and J. Baubim, the long Gourd and other varieties probably of the Calabash Gourd—the C. leucantha of Duchesnes.

The second kind mentioned by Pliny is that which creeps upon the ground, most probably the Pumpkin and its varieties. Gourds were held in higher estimation by the Romans than either Melons or Cucumbers, as they were employed for more useful purposes than the former fruits. They were considered a light, mild wholesome food. The young and tender stalks used to be cooked and served up to table as a good dish. The fruits of the Roof Gourds were considered superior to those which crept on the ground. In Pliny's time large Gourds were used as jugs and pitchers in the baths; but long before that time he tells us they had been employed as casks for keeping wine. Nisander tells us that the ancient Greeks used to preserve Gourds by the following methods:—Cutting them into moderate-sized pieces and stringing them like beads to dry in the air; then smoking them. When wanted for use, each piece was well washed and put into the stewpan with various herbs, such as Cabbages, Endive, and dried Mushrooms. The Romans also preserved Gourds and Cucumbers, we are told, for some months, by putting them into brine. Pliny states that the seeds of the Gourd ought to be steeped in water before sowing, and the proper time for that operation should be between the vernal equinox and summer solstice, about the season of the festival celebrating the anniversary of the foundation of Rome called Purilia. The Roman cultivators used to force Gourds to grow into various fantastic shapes by putting them into moulds when quite young; thus we are told that they were made to resemble a dagon, a leg of a man, &c.

Pliny speaks of wild Cucumbers and Gourds which were possessed of certain medicinal properties, and gives us a list of eleven remedies for which they were applied. The leaves of the Pumpkin steeped in wine were considered good for the bites of dogs and insects, called Sop by the Greeks, perhaps one of the centipede tribe. The seeds were used as a charm to cure the ague. According to L'Obel, the Pompion or Pumpkin was introduced into this country from the Levant in 1370, and till about 1815 this was the principal plant of the Gourd kind cultivated in the British gardens. Parkinson mentions in his *Paradisi* (1629), that in his time only one kind of Pompion was cultivated, but that it would be a waste of time to recite all the forms and colours in which Nature listeth to show herself in this plant. In using it as a culinary vegetable, he tells us that it was customary to take out the inner watery substance with the seeds and fill up the place with pippins, and, having laid on the cover which was cut off from the top to take out the pulp, bake them together; and the poor of the city as well as the country people do eat thereof as a dainty dish. Gerard, in his *Herbal* (1636), says there be divers sorts of Gourds—some wild, others tame for the garden; some bearing fruit like unto a bottle, others longer and bigger at the end, keeping no certain form or fashion. He tells us that the juice of the Gourd being popped into the ear with oil of Roses is good for the pain thereof, proceeding from a hot cause.

According to Miller, Pompions were the Melons of our early horticulturists, which word was corrupted into millions, a name by which they are still known in some parts of England by the uneducated classes. It was usual in Miller's time, as in the present day, for the English cottagers to plant Pumpkins on their manure-heaps in the fields and gardens, letting the shoots trail along the Grass without taking much trouble or care of them. In the second volume of *The Transactions of the Royal Horticultural Society*, there is a description, with an account of the cultivation and figure of the Gourd called Vegetable Marrow, read in December, 1816, by Mr. Sabine. It had not then been long known in this country. The most probable account of its introduction is that the first seeds were brought here in one of our East Indian ships, and came most likely from Persia, where it is known and called Cicrader. Phillips states that the Vegetable Marrow was not seen for sale in our shops or markets before 1819. It is now, as we all know, extensively grown, and the fruit is used for culinary purposes in every stage of growth. This plant is considered as a variety of the Pumpkin. Where the climate is warm enough for them, all the varieties of Gourd are cultivated, and form important articles of food; the superabundant shoots are also used for feeding cattle. In America and the islands of the West Indies they are extensively cultivated, and some species grow to a great size. The Rev. Mr. Griffiths, in his *Natural History of Barbadoes* (1750), mentions some which, when cleared of their pith, are capable of containing twenty-two gallons; but he adds, however, such are very uncommon. Phillips relates that in some parts of America the jugglers or quacks extract the pulp out of the Pumpkins, and fill them with stones, with which they make a great noise and pretend to frighten away all complaints from their superstitious patients.

The Squash (C. Melopepo) is another kind of Gourd, which is a great favourite with the Americans. Gourds of large size were found growing by Captain Cook in the Sandwich Islands. The inhabitants

applied them to all manner of domestic purposes; and in order to fit them better for their respective uses, they had the ingenuity to give them different forms by tying bandages round them during their growth; they also had a method of scorching them with a heated instrument, so as to give them the appearance of being painted in a variety of neat and elegant forms. Specimens of these Gourds are to be seen in most museums and collections of natural history in this and other countries. The Gourd and its varieties may have sprung from one original species, and, like other plants, have been greatly improved by cultivation. De Candolle, in discussing the history and origin of cultivated plants, refers all the Squashes and Pumpkins to the Old World, but not to India, because they have no name for them in Sanscrit. Some American botanists believe that the Pumpkin and its varieties are indigenous to that continent, as the Indians declare Gourds had been a common food among them long before the Europeans discovered that country; and Champlain, who, in 1604, made a voyage along the coast of what is now the State of Maine, found the inhabitants cultivating Citrouilles (Gourds) along with Maize.

Pickering, in his *Races of Men*, says that specimens of a small variety of Gourd were exhumed from an ancient cemetery in Peru, like those which are still seen in the markets of Lima. M. Naudin, an indefatigable and distinguished French botanist, has, during many years, observed and experimented upon all the known forms of Gourds, collected from all parts of the globe, and cultivated at the Jardin des Plantes. He reduces them to six species, only three of which, with their numerous varieties, are used as esculents, viz., Cucurbita maxima, the large yellow Gourd; C. Pepo, the Pumpkin, which he considers as probably the most variable plant in the world; and C. moschata, the Water Melon. An interesting paper on this subject will be found in *The American Journal of Science and Art*, 2nd ser., vol. xxiv., and also in Darwin's *Variation of Animals and Plants under Domestication*. The only plant among our English wild flowers that belongs to the Gourd tribe is Bryony (Brionia dioica), which may be seen climbing over our hedges and thickets in the summer, with its whitish flowers with green veins, and red berries in the autumn. This plant abounds with a fetid and acrid juice.—*Science Gossip.*

ANSWERS TO CORRESPONDENTS.

Hardy Perennials.—*Scotus.*—As almost all are grown in pots for sale by the nurserymen, you can buy them at any time, and with care in watering, and partially shading for a day or two, they may be planted as well now as at any other season. See an article in another column for a selection.

Grape Hyacinths.—*T. B. J.*—They are pretty spring flowering bulbs, botanically known under the generic name of Muscari, and certainly not rare. Any nurseryman or seedsman will supply you with them.

Names of Plants.—*James Clark.*—1. Deutzia gracilis; 2. Deutzia crenata flore-pleno; 3. The Common Bird Cherry, Prunus Padus; 4. Spiræa opulifolia aurea.—*C. B.*—1. Lycaste cruenta; 2. Dendrobium Wardianum; 3. Cattleya Mendeli, a poor variety.—*Bertha.*—1. Saponaria ocymoides; 2. Trollius asiaticus; 3. Anemone sylvestris.—*Coton.*—Phlox Nelsoni.

Scarlet Musk.—*Dorothy.*—It is not only a good old-fashioned hardy border plant, but a good subject for growing in pots to flower in the greenhouse. The best way of treating it is to divide the fleshy roots in spring, potting off in a good compost as many as may be desirable, and plunging them up to the rim in an open border. Here they grow to the height of about 12 ins., and may be taken into the house as they come into flower.

Orchids.—*W. T., Jun.*—If the Dendrobium from Burmah is evergreen, it is D. clavatum; if deciduous, a form of D. fimbriatum. The other flowers are D. moschatum, always identified by their odour of new-mown hay.

Communications received.—V. C. & Co.—J. L.—J. D.—E. J.—S. & S.—W. Victor.—W. T.—W. S.—A. & H.—J. D. D.

LONDON SEED TRADE.

June 4th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report the demand for Agricultural Seeds to be almost nil, the sowing season for Clovers being generally over in all parts of the country, and present quotations do not appear sufficiently attractive to induce speculation; stocks being comparatively low all round, holders are not anxious to sell except at full rates. Sowing Rape and Mustard meet with some inquiry, and there is an upward tendency in the value of the better qualities New French Trifolium is on offer, but the figures quoted are too high to lead to business in the face of the prospect of a good crop of home seed. Perennial Rye Grass has been the medium of speculation in some quarters, and heavy weights fully maintain last quotations. Hemp and Canary show no change in value. Linseed a shade cheaper.

COVENT GARDEN MARKET.

June 4th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6- 6 0	Pine-apples, Eng., lb.	1 0- 2 0
— Nova Scotian, per barrel	15 0-21 0	—St. Michaels, each	3 0- 7 0
Grapes, New, per lb.	2 0- 5 0	Kent Filberts and Cobs, per 100 lb.	-
Melons, each	2 0- 3 6	Strawberries, per lb.	1 6- 4 0
Peaches, per doz.	12 0-21 0		

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Horse Radish, bundle	3 0- 5 0
Asparagus, English, per bundle	6 0- 8 0	Lettuces, Cabbage, per dozen	2 0-
Beans, French, per lb.	- 2 6	— Cos, each	0 6-
Beet, per dozen	2 0- 3 0	Mushrooms, p. basket	1 0- 2 0
Cabbages, Spring, doz.	1 6- 2 0	Onions, per bushel	5 0- 7 6
Carrots, per bunch	0 6-	Parsley, per bunch	0 6-
Cauliflowers, English, per dozen	4 0- 6 0	Radishes, per dozen	1 6-
Celery, per bundle	1 6- 2 6	Small salading, per punnet	0 4-
Cucumbers, each	0 6- 1 0	Spinach, per strike	2 0-
Endive, French, per dozen	2 6- 3 6	Tomatos, per lb.	2 0-
Garlic, per lb.	0 6-	Turnips, per bunch	0 6-
Herbs, per bunch	0 2- 0 4	Young Carrots	1 6-
		Young Turnips	1 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lily of the Valley, 12 bunches	0 3- 0 9
Anemone, 12 bun.	1 6- 2 6	Marguerites, 12 bun.	3 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Narcissus, various, doz. bun.	2 0- 6 0
Azalea, 12 sprays	0 6- 1 0	Pelargoniums, per 12 sprays	0 9- 1 0
Bourvardias, per bun.	0 9- 1 6	—scarlet, per 12 sprays	0 4- 0 6
Camellias, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	4 0- 6 0
Carnations, 12 blooms	1 0- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun.	-
— large, 12 blooms	-	Pyrethrum, 12 bun.	2 0- 4 0
Cyclamen, doz. blooms	-	Rhodanthe, 12 bun.	6 0- 9 0
Cineraria, per bunch	0 6- 1 0	Roses (coloured)	2 0- 4 0
Epiphyllums, 12 blms.	-	Roses, indoors, p. doz.	1 0- 3 0
Eucharis, per dozen	3 0- 6 0	Roses (French), per doz.	0 6- 1 0
Gardenias, 12 blms.	1 0- 4 0	Spiræa, 12 bun.	6 0- 9 0
Heliotropes, 12 sprays	0 6- 1 0	Stephanotis, 12 spr.	2 6- 4 0
Hyacinths, Roman, doz. sprays	-	Tuberoses, per dozen	0 6- 1 0
Lapageria, white, 12 blooms	2 0- 3 0	Tulips, per doz.	-
Lapageria, red, 12 blms.	1 0- 2 0	Violets, doz. bun.	-
Lilium candidum, 12 blooms	1 6- 2 0	— French, per. bun.	-
— Longiflorum, 12 blooms	4 0- 8 0	— Parma, per. bun.	-
Lily of the Valley, doz. sprays	0 6- 1 0	White Jasmine, bun.	0 6- 1 0
		Woodroffe, 12 bunches	2 0- 4 0

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Genista, per dozen	6 0- 9 0
Arum Lilies, per doz.	6 0-18 0	Heaths or Erica, var., per doz.	12 0-42 0
Azalea, per doz.	-	Hyacinths, doz.	-
Begonias, per dozen	4 0-12 0	Hydrangea, per doz.	9 0-18 0
Bouvardias, dozen	9 0-18 0	Ivy Geraniums, per dozen	3 0- 6 0
Calceolarias, per doz.	6 0- 9 0	Lilium longiflorum, per doz.	30 0-60 0
Cineraria, per dozen	-	Lobelias, per doz.	4 0- 6 0
Cockscombs, dozen	4 0- 6 0	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	-	Mignonette, per doz.	5 0- 9 0
Cyperus, per dozen	4 0-12 0	Palms in variety, each	2 6-21 0
Deutzia, per dozen	-	Pelargonium, per doz.	9 0-21 0
Dracæna term., doz.	30 0-60 0	Pelargoniums, scarlet per dozen	3 0- 9 0
— viridis, per dozen	12 0-24 0	Petunias, per dozen	6 0- 9 0
Epiphyllums, doz.	-	Poinsettia, doz.	-
Evergreens, in var., per dozen	6 0-24 0	Rhodanthe, per doz.	6 0- 9 0
Ferns, in var., dozen	4 0-18 0	Spiræa, per dozen	9 0-12 0
Ficus elastica, each	1 6- 7 0	Stocks, per dozen	3 0- 5 0
Fuchsias, per doz.	6 0-12 0	Tropæolums, per doz.	3 0- 6 0
Foliage Plants, various, each	2 0-10 0		

Bedding Plants, in variety, 8*s.* to 16*s.* per hundred.

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Geraniums, for bedding from 1*s.* 6*d.* to	4 6
Several thousands, including Gold and Silver Tricolors and Bicolors, Bronzes, &c., &c.	
Lavender. Old English Sweet-scented	1 0
Extra Strong Plants	3 0
Lobelia. Dark Blue and Compact	1 6
☞ Special Price for large quantities.	
Nasturtium. Hermine Grasshoff. The Double Variety—useful for summer bedding or as a greenhouse plant	2 0
Marguerites (Paris Daisies)	2 0
Pansies. Strong Plants, from English Show and Fancy, Belgian, French, and all the leading varieties from	1 0
Phlox Perennial. Choice varieties, mixed colours	2 6

* Detailed lists on application. Selections left to J. L. are guaranteed to give entire satisfaction.

N.B.—The above sent carriage free. Dozens may be divided at the same price, but no order for less than 1*s.* *sent free.*

Asters, Stocks, Phlox-Drummondii, Zinnias, Golden Feather, Everlastings, Marigolds, &c., &c., of the best-known varieties, to be had in season.

NOTICE.—Please mention this Paper when ordering. Post Office Orders payable at **Whittlesea.** Cheques crossed "National Provincial Bank."

GARDEN NETTING, GREENHOUSE BLINDS, AND OTHER SHADING.

EXCELSIOR SHADING.—This shading is stronger and more durable than Frigi Domo, and from its make being principally manufactured cotton and wool it keeps the morning frost off and the heat in, as well as forming an efficient shade from the burning sun, 36 ins. wide, 1*s.* per yard.

SCRIM CANVAS.—An efficient, durable, and strong shading, very much used by Orchid growers, 6 ft. wide, 6*d.* per yard run.

SCRIM CANVAS metallized by the Willesden process, 36 ins. wide, 10½*d.* per yard run.

GARDEN NETTING for protection of Fruit Trees and Seed Beds from Birds, 2*d.* per yard run of 2 yards in width.

Prices for Tennis and other Nettings on application.

THE TRADE SUPPLIED.

All Communications and Correspondence to be addressed to

WM. GORDON,

THE NURSERIES,

AMYAND PARK ROAD, TWICKENHAM, MIDDLESEX,

And not to City Office, 10, Cullum Street, London, E.C.

HUGHES' APHICIDE

1/6 Post Free 1s. 8d.

Enables the operator to apply the Insecticide underneath the leaves, the superfluous liquid falling on the upper surface while descending

One or two tablespoonsful of the Fir Tree Oil to a pint of soft water will answer for all insects on plants. For further directions see label on bottle.

E. GRIFFITHS HUGHES, Operative Chemist,
VICTORIA STREET, MANCHESTER.

WHAT IS IT?

WHY, A FACT, THAT

"HEAPS' FOOD FOR PLANTS"

Is destined to become a lasting boon to the

GARDENING WORLD.

All using it are delighted.

Sold everywhere, boxes 2*d.* each. Try it.

Manufacturers, HEAPS & SON,
LORDSHIP LANE, LONDON, S.E.

List of Wholesale Agents will appear in this paper on July 11th, 1885. AGENTS WANTED.

THE CELEBRATED

IS unrivalled for Gardeners', Foresters', Farmers', Joiners', and Amateurs' use. It requires no oil. Sharpen with a spittle or water. Puts on a keen sharp edge; no humbug about this. Cut in Hones for Axes, Hedge Knives, Razors, Penknives, and Plane Irons, &c. Honourable mention Paris Exhibition, 1878; and Bronze Medal London International Exhibition, 1884. Ask your ironmonger or other retail house to get you one, and give my address; if he won't, drop me a note.

JOHN C. MONTGOMERIE, Tam O'Shanter Stone Hone Works, Dalmore, Tarbolton Station R.S.O., Ayrshire.

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE, 4-bushel bag, 1*s.* 3*d.*; 10 for 11*s.*; 30 for 30*s.*; truck (loose) free on rail, 28*s.*; **Best Brown Fibrous Peat**, 5*s.* per sack, 5 for 22*s.* 6*d.*; **Black Fibrous Peat**, 4*s.* 6*d.* per sack, 5 for 20*s.*; **Coarse Silver Sand**, 1*s.* 6*d.* per bushel., 25*s.* per ton; Yellow Fibrous Loam, Leaf, and Peat-mould, 1*s.* per bushel; **Wood Lattice, Orchid Baskets, Fresh Sphagnum Moss**, Garden Hose, Artificial Manures, Garden Sticks (Bamboos) and Labels. **Tobacco Cloth and Paper.**

Write for Price List.

W. E. WARD & CO.,

11, Union Court, Wormwood Street, London, E.C. (close to Broad Street and G.E.R. Stations.)

STEVENS & CO.'S AMORTISER

(NON-POISONOUS).

1s., 2s., and 3s. per Bottle.

Observe the Company's Signature round the Cork, without which none are genuine.

BEWARE OF SPURIOUS IMITATIONS.

THE AMORTISER we particularly recommend for Greenhouses, it being so pleasant for use and for its perfume. Its properties for destroying insect pests, &c., is equal to our Carbon Paste. We guarantee, if used as per directions, it will not injure the most delicate foliage or blooms any more than water.

P.S.—We highly recommend "BRAY'S" Spray for light work; it is a cork spray and will fit any bottle. It sends a very fine spray about 4 feet, and if the rose is removed will send it 12 feet with the greatest ease. This is the most useful spray we have ever seen, and may be used for many purposes; it requires no strength, and a child can use it.

STEVENS & CO.'S CARBON PASTE

(NON-POISONOUS).

Four Gallons for One Shilling.

Will destroy in a few moments the Larvæ of the Aphides, Hop-Flea, Green and Black Fly, Mealy Bug, Thrip, Red and White Spider, Brown and White Scale, American Blight, Woolly Aphis, Ants, Mildew, Ear-Wigs, Caterpillars, and all insect pests.

1-lb. Tins, 1s.; 3-lb., 2s. 6d.; 7-lb., 5s. 6d.

TO HOP AND FRUIT GROWERS, FLORISTS, FARMERS, &c. IT IS INVALUABLE.

STEVENS & Co.'s CARBON PASTE is a most wonderful and economical preparation, and is certain destruction to every kind of Insects that infests Trees and Plants, and we guarantee, if used as per directions, it will not injure the most delicate foliage or bloom any more than water.

Manufactured only by

STEVENS & CO.,

CHEMISTS,

67, HIGH ST., BOROUGH, LONDON.

RETAIL OF ALL CHEMISTS AND SEEDSMEN.

Special Quotations for large quantities. Sample sent for 1s. 6d.

STANDEN'S MANURE,

For Twenty Years acknowledged by practical gardeners to be the most economical and efficacious of concentrated manures.

In tins, 1*s.*, 2*s.* 6*d.*, 5*s.* 6*d.*, and 10*s.* 6*d.* each. In bags at reduced prices, 28 lbs., 12*s.* 6*d.*; 56 lbs., 23*s.* 112 lbs., 42*s.*

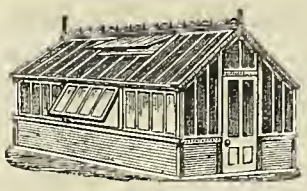
TO BE OBTAINED of ALL NURSERYMEN and SEEDSMEN.

SOLE MANUFACTURERS:

CORRY, SOPER, FOWLER, & CO.
(LIMITED),
18, FINSBURY STREET, E.C.

C. G. FRAZER,

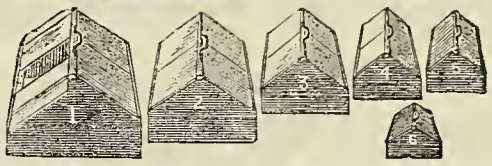
Horticultural Builder, Norwich.



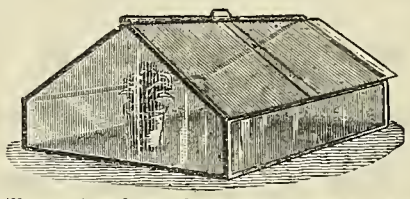
Span-Roof Greenhouses, fitted complete, glazed with 21-oz. glass, and painted three coats.

Tenant's Fixture, 10 ft. by 8 ft., £15.

For Brickwork, £13 7*s.*



Set of Six Handlights to cover 15 square feet, diminishing sizes, painted three coats, glazed with 21-oz. glass, per set £1 15*s.*



The illustration shows the largest of the set of six

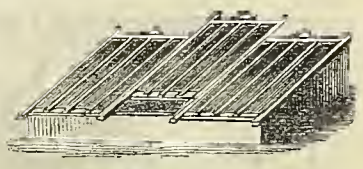
NEW "IMPROVED" HANDLIGHTS.

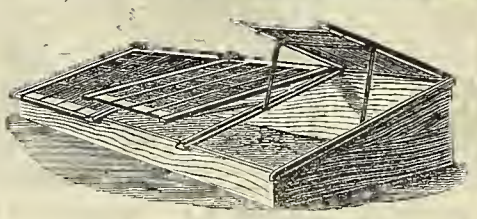
Made diminishing sizes, covers 17 square feet; painted three coats, and glazed with 21-oz. glass; per set, £2 7*s.* 6*d.*

Cucumber Frames, Lights, 2 in. thick, glazed with 21-oz. glass, painted four coats.

	£	s.	d.
4 ft. by 6 ft.,	1	18	0
8 ft. by 6 ft.,	3	4	6
12 ft. by 6 ft.,	4	12	6

Cases, 5*s.*





Cheap Cucumber Frames, with sliding lights, glazed with 21-oz. glass, and painted three coats, 6 ft. by 4 ft., £1 7*s.*; 12 ft. by 4 ft., £2; or fitted with joints and (registered) set-opes (as shown), 6 ft. by 4 ft., 10*s.* extra; and 12 ft. by 4 ft., 15*s.* extra. Cases, 5*s.*

Carriage paid to any Railway Station in England and Wales; also to Edinburgh, Glasgow, Dublin, and Belfast.

Illustrated Catalogues, post free, two penny stamps.

CHOICE IRISH FERNS FOR SALE,

Indigenous to the Burren Mountains of Ireland.

800 SPECIES and VARIETIES, botanically named, at moderate prices; three Maiden-hair ferns, and one of each of lady fern (Moulin), Black Maiden-hair Spleenwort, evergreen, Asplenium marinum, Blechnum spicant, Ceterach crenatum, Lastrea aemula (like parsley), and the beautiful Lastrea thelypteris, Cystopteris frigilis, hard shield fern, with thorns, and C. Dickieana moonwort; Royal fern, and the very rare Polypodium semilacerum, Scolopendrium cristatum and marginatum, and the exquisite Scolopendrium obtusidentatum, extremely rare; Serpent's-tongue Fern, Soft Shield Fern, and the fine minute Filmy-leaved Fern, all large and well rooted. The twenty rare and assorted species and varieties, 5*s.* 6*d.* post free, or 10*s.* per 100.

100 DIFFERENT ALPINE PLANTS and ORCHIDS, named and labelled, at 12*s.* per 100, post free; 300 medicinal plants, well rooted, named and labelled, 30*s.* post free.

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Wholesale and Retail Botanist, Fernist, Medical Herbalist, Geologist, &c.

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SILVER SAND.

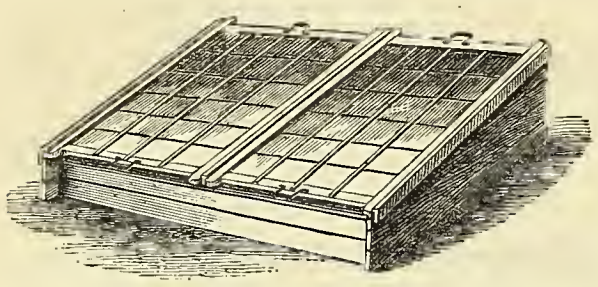
For lowest prices send to the Sole Proprietor,

JOSEPH ARNOLD,

32, POLYGON, CLARENDON SQUARE, LONDON, N.W

Peat direct from grounds in truck loads by special quotation.

THE TRADE SUPPLIED.



PORTABLE CUCUMBER FRAMES.

R. HALLIDAY & CO. desire to draw special attention to their Cucumber Frames, of which they always have a large stock, ready glazed and painted. They re made of the best materials and can be put together and ken apart in a few minutes by any one.

Prices, delivered to any station in England.

		£	s.	d.
2-light frame, 8 ft. by 6 ft.	Packing cases free.	3	10	0
3-light frame, 12 ft. by 6 ft.		5	5	0
6-light frame, 24 ft. by 6 ft.		10	0	0

TESTIMONIAL.

"The Gardens, Burghley, Stamford,
"September 11th, 1884.

"GENTLEMEN,—I have received the Garden Frames, and I am quite delighted with them. They are really well got up, well timbered, and the sides and ends being grooved, will prevent that objectionable swaging so prevalent in these kind of boxes. I shall certainly recommend them to my brothers in the trade.—R. GILBERT, Head Gardener to the Marquis of Exeter."

R. HALLIDAY & Co.,

Hothouse Builders and Engineers,

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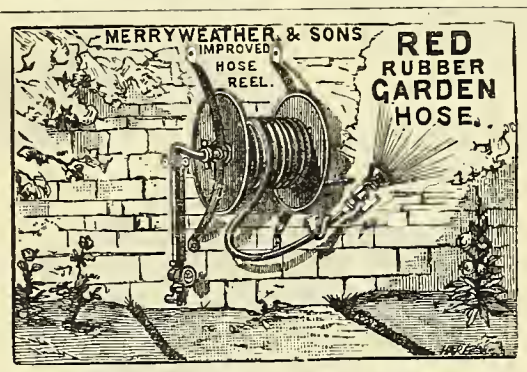
PEAT, SAND, &c.

Before purchasing elsewhere, please send for Samples and Prices, Gratis and Post-free.

Liberal Terms to the Trade and Gentlemen's Gardeners.

BRINKWORTH & SONS, READING.



HOSE! HOSE!! HOSE!!!

PATENT ANTIMONIAL RED RUBBER GARDEN HOSE.

For watering Gardens, Parks, Lawns, Terraces, Conservatories, &c., our Antimonial Red Rubber Hose is rapidly replacing every other kind of Garden Hose, because it neither blisters, cracks, or decays. Is wonderfully light in weight, exceedingly clean and strong, and a pleasure to use. Customers say they are fifty per cent. in pocket and spared the inconvenience and annoyance they used to experience. Catalogue of Hose, Patent Reels, Engines, and Fittings, free. Beware of common quality hose, *coloured* red, and order any length direct from

MERRYWEATHER & SONS,

FIRE ENGINE AND HOSE MANUFACTURERS,

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SKIPPERS AND SHELLBACKS,

BY JAMES RUNCIMAN,

NOW APPEARING IN

THE WEEKLY DISPATCH,

Sent post free: 3 months, 1s. 8d.; 6 months, 3s. 8d.; 12 months, 6s. 6d.; single copy, post free, 1½d.

JOHN P. FULLER,

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£20.—TOBACCONISTS COMMENCING.—An Illustrated Guide (110 pages) "How to Open respectably from £20." three stamps.—H. MYERS & CO., Cigar and Tobacco Merchants, 109, Euston Road, London. Telephone No. 7,541.

SHE, The Enthusiast—

Oh! tell me why my flowers droop,
Why leaves and blossoms fade,
Although the Florist sent them home
In gorgeous bloom arrayed.
I 'tend to them with constant care,
And water them each day,
They have sunshine and purest air,
And yet they fade away!

TRADE MARK.

HE, The Philosopher—

Fair Maid, your plants shall bloom again,
But first I'll tell the cause:
They pine for want of nourishment—
Rich Chemical Manures.
You foolishly but water gave,
The Florist he was wiser;
He gave them food as well as drink—
Use TOBIN'S FERTILIZER.

TOBIN'S MAGIC FERTILIZER

Is a highly concentrated Chemical Manure, and a small teaspoonful sprinkled over the surface of the soil ACTS LIKE MAGIC, changing weak and straggling stems into sturdy and vigorous growth and wealth of blossom. It is equally invaluable for Rose Culture, the Hot House, Conservatory, Window or Kitchen Garden.

Sample 3d., 6d., and 1s. size, sent free for 3d. extra; 1d. size, 2d. extra.

TOBIN'S MAGIC FERTILIZER

Is sold by Grocers, Oilmen, Seedsmen, Florists, Corn Chandlers, and Ironmongers all over the Kingdom, at following prices:—

Per Packet.	s.	d.	In bags.	s.	d.
Sufficient for 12 Plants	1		10 lbs.	2	6
,, 36 ,,	3		28 ,,	6	0
,, 72 ,,	6		50 ,,	10	0
,, 150 ,,	1	0	1 cwt.	18	0

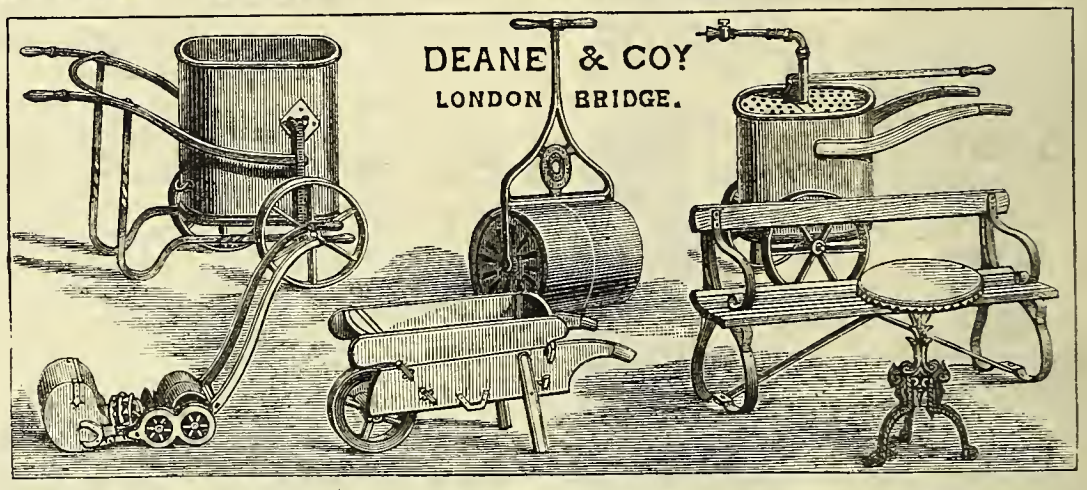
ADDRESS—**TOBIN'S CHEMICAL MANURE CO.,**

19, Aldersgate Street, London, E.C.; Works, Wood Green, London, N.

AGENTS WANTED. TRADE SUPPLIED. LIBERAL TERMS.

Most attractive Show Cards (samples free on application). Selling in Thousands all over the country.

DEANE & CO.'S GARDEN FURNITURE.



LAWN MOWERS,

20 PER CENT. FOR CASH OFF MAKERS' PRICES. CARRIAGE PAID.

All the Best Makes in Stock, Excelsior, Invincible, Shanks', Green's, Ransome's.

SWING WATER BARROWS,

Strongly made, with galvanized iron cistern.

15 Gallon.....30s. | 30 Gallon.....46s.
20 Gallon.....36s. | 40 Gallon.....54s.

GARDEN ROLLERS.

Fine cast, highly finished, and well-fitted, with balance handles.

DOUBLE CYLINDER.

20 in. by 18 in., 50s. | 24 in. by 22 in., 65s.
22 in. by 20 in., 55s.

SINGLE CYLINDER.

16 in. by 16 in., 32s. | 20 in. by 20 in., 45s.
18 in. by 18 in., 35s. | 22 in. by 22 in., 52s.

STRONG WOOD BARROW,

Well constructed of seasoned elm, well painted, and cheap. Price 24s. 6d.
With loose top (as engraving), 32s. 6d.

GARDEN ENGINES.

12 Gallon.....63s. | 24 Gallon .....100s.
16 Gallon.....80s. | 30 Gallon .....120s.

SUBURBAN SEAT

(as engraving), strong and easy, the cheapest seat made.
Length, 5 feet, 17s.; 6 feet, 19s.
GARDEN SEATS IN GREAT VARIETY

BRONZED IRON TABLE.

With solid walnut top.
18 in. diameter, 12s. | 24 in. diameter, 16s.
21 in. ,, 14s. |

Summer Houses, Vases, Water Carts, Wire Netting, Hurdles, and Tools of all Descriptions.

DEANE & CO.'S ILLUSTRATED CATALOGUE OF GARDEN FURNITURE GRATIS AND POST FREE.

All orders sent carriage paid to any railway station. Discount on cash payments.

DEANE & CO., 46, KING WILLIAM STREET, LONDON BRIDGE, E.C.

Hooper's—The Covent Garden Seed Warehouse

Splendid Seeds and Bulbs at low prices

Catalogues free to Buyers

COCOA-NUT FIBRE REFUSE.

ONE BAG, 1s.; 10 bags, 8s.; 15 bags, 12s.; 20 bags, 16s.; 30 bags, 22s. No charge for bags.

Cart and Van loads, at Works, from 3s. to 7s. 6d., according to size. Truck loads, containing upwards of 2 tons weight, 25s.

FREE ON RAIL.

TERMS—STRICTLY CASH WITH ORDER.

BULBECK & SON, Manufacturers,

SUFFOLK PLACE, Snow Fields, Bermondsey, S.E.

SAMPLES AND PRICE LISTS POST FREE.

CAMBRIC POCKET HANDKERCHIEFS.

Children's, 1/5 | Hemstitched.
Ladies'.....2/6 per dozen | Ladies'..3/11 per dozen
Gents'.....3/8 | Gents'...6/9

ALL PURE FLAX.

By Appointments to the Queen and Crown Princess of Germany.

"The Cambrics of Robinson and Cleaver have a world-wide fame."—*Queen.*

ROBINSON and CLEAVER, BELFAST.

GARDEN REQUISITES.

TWO PRIZE MEDALS.

Quality, THE BEST in the Market.

(ALL SACKS INCLUDED.)

PEAT, best brown fibrous, 4s. 6d. per sack; 5 sacks for 20s.
PEAT, best black fibrous, 3s. 6d. ,, 5 sacks for 15s.
PEAT, extra selected Orchid, 5s. ,,
LOAM, best yellow fibrous .. ..
PREPARED COMPOST, best .. ..
LEAF-MOULD, best only .. ..
PEAT-MOULD, ditto ... ...
} 1s. per bushel (sacks included).
SILVER SAND (coarse) 1/3 per bushel, 12/- half ton, 22/- ton.
RAFFIA FIBRE, best only... ... 1s. per lb.
TOBACCO CLOTH, finest imported 8d. per lb., 28 lbs. 18s.
TOBACCO PAPER, ditto (Spécialité) 8d. per lb., 28 lbs. 18s.
MUSHROOM SPAWN (finest Milltrack), 5s. per bushel.
SPHAGNUM MOSS, all selected, 2s. per bushel, 6s. per sack,

COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1s. each; 10 sacks, 9s.; 15 sacks, 13s.; 20 sacks, 17s.; 30 sacks, 25s.; 40 sacks, 30s. Truck-load, loose, free on rail, 25s. Limited quantities of G special quality, granulated in sacks only, 2s. each.

TERMS, STRICTLY CASH WITH ORDER.

(The Trade Supplied.)

CHUBB, ROUND & CO.,

West Ferry Road, Millwall, London, E.

Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex, Saturday, June 6th, 1885.

THE GARDENING ILLUSTRATED WORLD

No. 41.—1885. SATURDAY, JUNE 13TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

FLOWER SHOWS.

Shepperton and District Flower Show.

Including all places within a radius of Six miles from Shepperton Church.

THE SECOND ANNUAL SHOW will be held on THURSDAY, 2nd JULY, in the grounds of SUNBURY COURT, SUNBURY, by kind permission of Lieut.-Col. W. H. Harfield.

EXHIBITION of Roses and other Flowers, Orchids, Foliage Plants, Fruit and Vegetables.

Special Classes open to all England. Third Prizes will be given where considered worthy.

The Band of Her Majesty's Royal Horse Guards (by kind permission of Colonel Milne Home, M.P.) will attend, conducted by Mr. Charles Godfrey.

Further particulars, Schedules of Prizes, and Entrance forms to be obtained from ARTHUR E. STEARNS, Hon. Sec., The Lodge, Upper Halliford, Walton-on-Thames.

Sheffield Botanical Gardens.

GRAND HORTICULTURAL EXHIBITION, 17th and 18th JULY, 1885.

£250 in Prizes.

Entries close 13th July.

Prize Schedules may be obtained from the Curator, Mr. JOHN EWING.

J. WEEKS & CO., HORTICULTURAL BUILDERS and HOT-WATER APPARATUS MANUFACTURERS, KING'S ROAD, CHELSEA, S.W.

"Book of Designs" and Estimates post free on application.

JOHN DOWNIE, BEECHHILL NURSERIES, near EDINBURGH, begs to intimate that his Stock of PANSIES, including the newest and best in cultivation, ARE NOW IN FULL FLOWER, in one section alone there being at present over 30,000 fully expanded blooms. Inspection invited.

GRAPE VINES.—IRELAND & THOMSON beg to announce that their stock of the above is this year specially fine and now ready for present planting. All the leading sorts from 3*s.* 6*d.* to 5*s* each.

Nurseries: Craigleith, Comely Bank, and New Golden Acre, Granton Road, Edinburgh.

POT ROSES.—IRELAND & THOMSON have a splendid stock of all the best H.P. and Tea Roses for conservatory decoration or for planting out, from 18*s.* to 36*s.* per dozen.

Nurseries: Craigleith, Comely Bank, and New Golden Acre, Granton Road, Edinburgh.

"YE NARCISSUS OR DAFFODYL." An interesting history of the Daffodil, covering a period of the 300 years, with its poetry, and notes on hybridization, with many illustrations. Price one shilling, published by BARR & SON, 12 and 13, King Street, Covent Garden, W.C.

CLEMATIS, 12*s.* to 24*s.* per doz., strong plants in pots. List, containing descriptions of best singles and doubles of every shade from white to dark purple (some of the flowers of which become 10 ins. across), free.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

ROSES IN POTS, "New of 1885," 30*s.* and 36*s.* per doz. "Teas," Noisettes, &c., 18*s.*, 24*s.*, and 30*s.* per doz. Very strong H. Perpetuals for forcing, 24*s.* to 30*s.* per doz.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

HARDY AQUATICS.—Finest collection in the country, Herbaceous, Alpine, and old-fashioned border plants, from per doz. in 12 sorts, 4*s.*; from per 100 in 50 sorts, 30*s.* Catalogue on application to J. VANDER REES, Exotic Nursery, Tooting, S.W.

CHRYSANTHEMUMS, well-rooted, good, 12 sorts, 1*s.* per doz. post free; to name, 1*s.* 6*d.* per doz.—T. GAYTON, Prospect Nursery, Hornsey, N.

JOHN LAING & Co.

Laing's Prize Begonias

GOLD MEDAL BEGONIAS NOW IN FULL BLOOM.

Presenting an unrivalled floral display.

Visitors are cordially invited.

Frequent trains from the City and from the West End to Catford and Forest Hill Stations.

Begonia Growers, Forest Hill, S.E.

1885. Scotch Florists' Flowers. 1885.

R. B. LAIRD & SONS (successors to Downie & Laird), will have much pleasure in posting their new Catalogue of the above.

OUR COLLECTION has been well known for many years to be the largest and best in Scotland.

ROYAL WINTER GARDEN, EDINBURGH.

Ferns! Ferns! Ferns!

H. B. MAY offers the following varieties—clean, established plants. Adiantum Paccottii, A. decorum, A. grandiceps, Pteris argyrea, P. hastata, Nephiodium corymbiferum, Cyrtomium falcatum, Lastrea aristata variegata, Gymnogramma Wettenhalliana, 2*s.* per doz. Pteris alba lineata cristata, Lygodium scandens, and Aspidium trifoliatum, 4*s.* per doz. Packing free; cash with order.—Dyson's Lane Nursery, Upper Edmonton.

Roses and Ficus.

H. B. MAY offers fine strong plants of Niphetos and other Tea Roses, clean and full of buds. Price per doz. or 100 on application. Ficus elasticus, well furnished plants, 20 to 24 inches high, 18*s.* per doz.—Dyson's Lane Nursery, Upper Edmonton.

NEW FUCHSIA, MR. STEPHENS.—A splendid free-flowering variety, and one of the best for training or cutting purposes. It is a very robust grower, and a good winter-blooming variety, 2*s.* 6*d.* each. Catalogue, with full directions as to cultivation of the Fuchsia (the best guide for amateurs), post-free, four stamps.—W. E. BOYCE, F.R.H.S., Yerbury Road, Holloway, London.

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LAST OFFER.—A few thousand strong rooted plants of CHRYSANTHEMUMS still for sale (see previous advertisements), at the following reduced prices:—Large-flowering and Japanese varieties, 12, 1*s.* 6*d.*; 24, 2*s.* 9*d.*; Single varieties, 6, 1*s.* 3*d.*; 12, 2*s.*; Early-flowering varieties (the best for out-door culture, bloom all the summer), 6, 1*s.* 3*d.*; 12, 2*s.* Cuttings, 1*s.* doz. All correctly named.—BOYCE, as above.

CACTUS DAHLIAS, Picta Formosissimus, Mr. Tait, Cochineal, Prince Imperial, Lord Lyndhurst, and Annie Harvey, 1*s.* each; the 6, 5*s.* Juarezii, Constance, and Fire King, 6*d.* each. Seedling Cactus saved from the above, 12, 3*s.* 2*d.*; 6, 1*s.* 8*d.*; sure to produce some novelties. The best Show, Fancy, and Pompon, 12, 3*s.* 2*d.*; 6, 1*s.* 8*d.* Single, to include several of Ware's best new varieties, 12, 3*s.* 2*d.*; 6, 1*s.* 8d.; 12 seedlings, single, 1*s.* 6*d.*—ZONAL GERANIUMS, single, 12 grand kinds, to include Cannell's splendid new white "Queen of the Belgians," 4*s.*; 12 best doubles, to include the very fine new white Le Cygne, 4*s.*—HELIOTROPES, the 5 best, 1*s.* 6*d.*; White Lady, Swanley Giant, President Garfield, Albert Delaux, the beautiful golden varieties, and White-eyed Beauty, the prettiest ever seen; a unique collection. Mimulus, Tropæolum Fireball Improved, Verbenas, Harrison's Musk, Nicotiana affinis, and blue Marguerites, 1*s.* 6*d.* per dozen; Asters, Phlox Drummondi grandiflora, French and African Marigolds, Dianthus Easter's Queen and crimson Belle, 6*d.* per dozen. The above are guaranteed thoroughly good plants.—H. J. JONES, Hope Nursery, Lewisham. Catalogue free.

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WHEN you can get 18 square yards of best netting, or 24 square yards of second quality netting for 1*s.* By the chemical process this netting has gone through to preserve it for the sea it is warranted to protect the fruits from the birds, wasps, and the dolphin, or small insect. Can be sent any width. Carriage paid on all orders over 5*s.*—HY. JOHN GASSON, Fish Merchant, Rye, Sussex.

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GISHURSTINE keeps Boots Dry and Soft on wet ground. Boxes—6*d.* and 1*s.*, from the trade. Wholesale from PRICE'S PATENT CANDLE CO. (Limited), LONDON.

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GOLD MEDAL BEGONIAS.

Orders now booked for July delivery. Catalogues Gratis.

OUR OWN UNRIVALLED VARIETIES.

Laing's Prize Begonias

Named Sorts, per dozen, Singles: A, 42*s.*; B, 36*s.*; C, 30*s.*; D, 24*s.*; E, 18*s.*; F, 12*s.* Named Sorts, per dozen, Doubles: R, 63*s.*; S, 48*s.*; T, 42*s.*

Unnamed Sorts, per dozen, Singles: G, 21*s.*; H, 18*s.*; J, 15*s.*; K, 12*s.*; L, 9*s.* For Bedding, per 100: M, 40*s.*; N, 30*s.*; O, 24*s.* Unnamed Sorts, per dozen, Doubles: W, 80*s.*; X, 24*s.*; Z, 18*s.*

Begonia Growers, Forest Hill, S.E.

SALES BY AUCTION.

Sales for next Week.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, during the ensuing week as follows, at half-past twelve precisely each day:—

MONDAY.—Extensive Importations of MEXICAN and BRAZILIAN ORCHIDS, TREE and other FERNS from New Zealand, BULBS and ROOTS from the Cape, &c., &c.

WEDNESDAY.—Valuable Imported ORCHIDS, collected by Mr. EDWARD WALLACE, of the New Plant and Bulb Company, and EAST AFRICAN ORCHIDS collected by Mons. LEON HUMBLOT.

THURSDAY.—Splendid importations of ORCHIDS from Mr. F. SANDER, in fine condition, including many rare species.

On view mornings of Sale, and Catalogues had.

WEDNESDAY NEXT, SALE No. 6,927.

A New and Beautiful Masdevallia.

MR. J. C. STEVENS has received instructions to SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY next, June 17th, at half-past twelve o'clock precisely,

Mr. Edward Wallace's Plants,

collected in Venezuela and Colombia, mostly in flower.

MASDEVALLIA PICTURATA, imported alive for the first time, a few only surviving out of thousands collected. Epidendrum Paytense, in flower; Cattleya Mossiæ and C. Trianæ from Ibague. THE TWO GRANDEST FORMS OF THE WHITE CATTLEYA MOSSIÆ, REINECKIANA AND WAGNERII. Epidendrum Humboldtii, RESTREPIA TAURICA, &c., &c., and a few Amaryllis. Also about 100 lots of ESTABLISHED ORCHIDS, including a plant of the rare Dendrobium nobile Cooksonianum, Cattleya Meudelii Wallacei, with striped petals; Cattleya labiata, with sheaths; Odontoglossum polyxanthum; some Odont. vexillarium out of their well known, richly-coloured strain, &c., &c.

On view morning of Sale, and Catalogues had.

Sales next Week.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., as follows:—

TUESDAY, June 16th.—Sale of a Grand Importation of DENDROBIUM SACCOLABIUMS and other Orchids from Mr. F. SANDER.

WEDNESDAY, June 17th.—Sale of 2,400 CARNATIONS and PICOTEES, from the well-known collection of the late Mr. CHARLES TURNER, Slough; Plants in Flower, Ferns, Gold Fish, &c.

FRIDAY, June 19th.—Imported and Established ODONTOGLOSSUMS and MASDEVALLIAS from Messrs. SHUTTLEWORTH, CARDER & CO., for sale almost without reserve, together with a grand lot of the rare and beautiful ODONTOGLOSSUM JONESIANUM, CATTLEYA CITRINA, ONCIDIUM MARSHALLIANUM, and other Orchids from Messrs. F. HORSMAN & CO.

On view mornings of Sale, and Catalogues had.

Flowering Orchids.

MESSRS. PROTHEROE & MORRIS beg to announce that their next SPECIAL SALE of FLOWERING ORCHIDS will take place on TUESDAY, JUNE 30th, for which they will be glad to receive entries as early as possible.

Important Sale of Valuable, Rare, and Choice Established Specimen Orchids.

Comprising over two thousand plants, and includes the whole of the fine Collection purchased from OSKAR SCHNEIDER, ESQ., previous to his departure from England, amongst which may be named Cattleyas Dowiana, exoniensis, Mossiæ, Mendelii, Sanderiana, Trianæ, and Wallisii; Dendrobium Ainsworthii, densiflorum album, crassinode, Findleyanum, Falconerii, thyrsiflorum, and nobile intermedium; Cypripediums caudatum, Dominianum, Sedeni, Swanianum, Spicerianum, and Veitchii; Cymbidium eburneum and Lowianum; Cœlogynes cristata Chatsworthii, Lemoniana and Trentham varieties; Lælia anceps Dawsonii; Phalænopsis Schilleriana; Odontoglossums Alexandræ, Hallii xanthoglossum, Pescatorei, and vexillarium; Vanda Suavis Gottschalkii, and others.

ARTINGSTALL & HIND beg to announce that they are favoured with the receipt of instructions from Mr. BENJAMIN ARMITAGE, of Sorrel Bank, Pendleton, near Manchester, to SELL BY AUCTION, on WEDNESDAY and THURSDAY, June 17th and 18th, 1885, commencing at twelve o'clock each day, at their spacious central Sale Rooms, No. 45, Princess Street, Manchester, a large and valuable Collection of ESTABLISHED ORCHIDACEOUS PLANTS.

May be viewed on the day prior to Sale, and Catalogues then obtained, or earlier on application to the Auctioneers, 45, Princess Street, Manchester.

Special Offer of Orchids.

CHEAP ORCHIDS.—In consequence of having received large importations, I am able to dispose of my stock of plants received last year, now nice established plants, at very low prices; all are healthy, and those who prefer it can have this season's imported pieces. Growers of Orchids would do well to order at once, as many fine gems are contained in the numerous importations received, which are mostly unflowered. Established plants which have flowered and are flowering can also be had if required, but many growers prefer unflowered plants, because there are frequently valuable varieties which well repay the purchaser, shillings well invested being quickly converted into pounds.—Apply to W. GORDON, The Nurseries, Twickenham, Middlesex.

F. SANDER & Co., ST. ALBANS,

ORCHID GROWERS & IMPORTERS.

An immense Stock of fine robust Plants always on hand.

THE FINEST CATTLEYAS EVER SEEN.

WILL BE SOLD BY AUCTION at Mr. J. C. STEVENS'S Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, JUNE 17th, at Half-past Twelve precisely.

THE FINEST VARIETIES OF

CATTLEYA REINECKIANA & C. WAGNERII,

Collected by Mr. EDWARD WALLACE, in Flower, the wonder of all Caracas.

CATTLEYA MOSSIÆ and C. TRIANÆ (collected in flower).

THE GRAND NEW MASDEVALLIA PICTURATA,

The most beautiful of all the small kinds; spotted with red; never before brought home alive.

RESTREPIA TAURICA.

EPIDENDRUM HUMBOLDTII, enormous masses.

EPIDENDRUM PAYTENSE, in flower.—*Gard. Chron.*, p. 726.

With other fine things, and some ESTABLISHED ORCHIDS and AMARYLLIS. For full particulars see Catalogue.

ONCIDIUM JONESIANUM.

MESSRS. F. HORSMAN & CO. are the sole importers of this plant, and should any other firm say that they have some of the same species on the way to this country, please do not believe them.

Catalogues Free on application.

F. HORSMAN & CO., Colchester.

OUR JAPANESE MAPLES

ARE NOW IN FULL BEAUTY.

A visit is respectfully solicited.

OUR JAPANESE LILIES

Will be on View in about a Fortnight.

NEW PLANT AND BULB COMPANY,

LION WALK, COLCHESTER.

ORCHIDS! ORCHIDS!

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), LIM.,

Beg to announce the arrival of a fine consignment of East Indian Orchids, including a grand lot of DENDROBIUM BENSONI, and many other fine varieties. Full particulars on application to the Company,

THE VINEYARD, GARSTON.

GARDEN REQUISITES.

TWO PRIZE MEDALS.

Quality, THE BEST in the Market.

(ALL SACKS INCLUDED.)

PEAT, best brown fibrous, 4*s.* 6*d.* per sack; 5 sacks for 20*s.*
PEAT, best black fibrous, 3*s.* 6*d.* ,, 5 sacks for 15*s.*
PEAT, extra selected Orchid, 5*s.* ,,
LOAM, best yellow fibrous .. ..
PREPARED COMPOST, best ..
LEAF-MOULD, best only .. ..
PEAT-MOULD, ditto ... ...
} 1*s.* per bushel (sacks included).
SILVER SAND (coarse) 1/3 per bushel, 12/- half ton, 22/- ton.
RAFFIA FIBRE, best only... ... 1*s.* per lb.
TOBACCO CLOTH, finest imported 8*d.* per lb., 28 lbs. 18*s.*
TOBACCO PAPER, ditto (Spécialité) 8*d.* per lb., 28 lbs. 18*s.*
MUSHROOM SPAWN (finest Milltrack), 5*s.* per bushel.
SPHAGNUM MOSS, all selected, 2*s.* per bushel, 6*s.* per sack,

COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1*s.* each; 10 sacks, 9*s.*; 15 sacks, 13*s.*; 20 sacks, 17*s.*; 30 sacks, 25*s.*; 40 sacks, 30*s.* Truck-load, loose, free on rail, 25*s.* Limited quantities of G special quality, granulated in sacks only, 2*s.* each.

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HUNDREDS OF THOUSANDS OF

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The Largest Stock in the Trade.

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FERN NURSERY,

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(90 Pages Double Column)

Of the *newest* and *finest* varieties of all classes of Plants for Greenhouses, Stoves, &c., may now be had for two stamps. It includes only the best varieties of their respective classes. Every season new sorts are added. Comparisons of the varieties when in bloom carefully made, and the inferior kinds discarded. Intending purchasers may rely when selections are ordered as under on being supplied with varieties of merit only.

The following cheap Collections of finest named kinds consist entirely of our selection. Purchasers may select from the Lists at Prices as per CATALOGUE, which please see before ordering elsewhere.

12 Abutilons, 12 sorts, 3*s.*
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50 ,, ,, 10*s.*
100 ,, ,, 18*s.*
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12 Ferns, 12 sorts, 9*s.*
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25 ,, 25 sorts, 5*s.* 6*d.*
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12 Geraniums of any kind or all classes, Zonals for pots, or beds, Ivy-leaf, Doubles &c., 3*s.*
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W. CLIBRAN AND SON'S NEW CATALOGUE (free for two stamps) of Hardy Plants and Florists' Flowers for outdoors, is a list of the finest Collections in the Country of Low Priced Plants, and includes only varieties which are annually tested and compared to ensure the weeding out of all inferior plants. The following cheap Collections are of our selection only, all named sorts for Garden or Exhibition:—

12 each of ANTIRRHINUMS, PENTSTEMONS, PHLOXES, for 9*s.*, or 12 of any separate for 3*s.* 6*d.*
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12 CARNATIONS, 6*s.*; 12 PICOTEES, 6*s.*; 12 PINKS, 3*s.* 6*d.*; 12 Show or Fancy PANSIES, 3*s.*; or 12 of each for 17*s.* 6*d.*
12 DAHLIAS of any class, Show, Fancy, Bedding, Boquet, or Single, 3*s.*; 50 varieties, 12*s.* 6*d.*; 100 varieties, 25*s.*
12 lovely IRIS, 3*s.*; 12 beautiful MIMULUS, 3*s.*
12 lovely PRIMROSES, Double, 6*s.*; 12 SAXIFRAGAS, 3*s.*; 12 SEDUMS, 3*s.*
12 Sweet VIOLETS, 2*s.* 6*d.*; 12 VIOLAS, 2*s.* 6*d.*; or 100 in four colours, 12*s.*
12 beautiful Seedling HOLLYHOCKS, 4*s.*; 50 for 12*s.* 6*d.*; 100 for 21*s.*
12 beautiful PRIMULAS SIEBOLDII, 12 sorts, 6*s.*

40 Acres fine NURSERY STOCK.
5 ,, HERBACEOUS PLANTS.
2 ,, GLASS HOUSES.

The Oldfield Nurseries, Altrincham, Cheshire, and the Seed and Bulb and Cut Flower Depôt, 12, Market Street, Manchester.

STEVENS & CO.'S
AMORTISER
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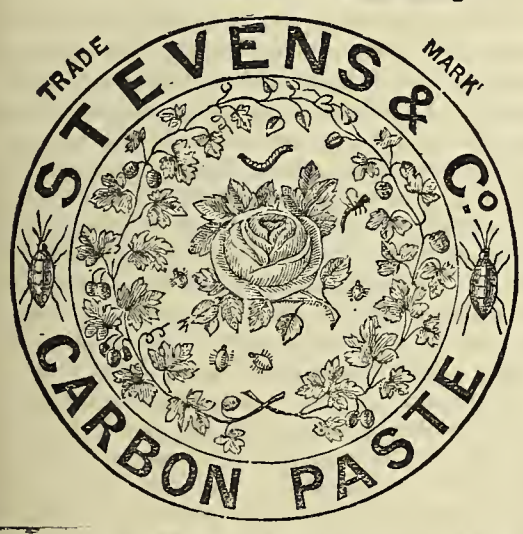
1s., 2s., and 3s. per Bottle.

Observe the Company's Signature round the Cork, without which none are genuine.
BEWARE OF SPURIOUS IMITATIONS.

THE AMORTISER we particularly recommend for Greenhouses, it being so pleasant for use and for its perfume. Its properties for destroying insect pests, &c., is equal to our Carbon Paste. We guarantee, if used as per directions, it will not injure the most delicate foliage or blooms any more than water.

P.S.—We highly recommend "BRAY'S" Spray for light work; it is a cork spray and will fit any bottle. It sends a very fine spray about 4 feet, and if the rose is removed will send it 12 feet with the greatest ease. This is the most useful spray we have ever seen, and may be used for many purposes; it requires no strength, and a child can use it.

STEVENS & CO.'S
CARBON PASTE
(NON-POISONOUS).
Four Gallons for One Shilling.



Will destroy in a few moments the Larvæ of the Aphides, Hop-Flea, Green and Black Fly, Mealy Bug, Thrip, Red and White Spider, Brown and White Scale, American Blight, Woolly Aphis, Ants, Mildew, Ear-Wigs, Caterpillars, and all insect pests.
1-lb. Tins, 1s.; 3-lb., 2s. 6d.; 7-lb., 5s. 6d.

TO HOP AND FRUIT GROWERS, FLORISTS, FARMERS, &c. IT IS INVALUABLE.

STEVENS & Co.'s CARBON PASTE is a most wonderful and economical preparation, and is certain destruction to every kind of Insects that infests Trees and Plants, and we guarantee, if used as per directions, it will not injure the most delicate foliage or bloom any more than water.

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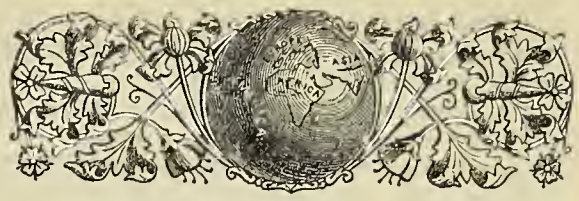
RETAIL OF ALL CHEMISTS AND SEEDSMEN.

Special Quotations for large quantities. Sample sent for 1s. 6d.



"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JUNE 13TH, 1885.

VEGETABLE PRODUCTION.—A leading daily newspaper asks, as other inquirers have asked time after time, "Why do we continue to pay vast sums for poultry, cheese, bacon, eggs, and even vegetables, which are grown abroad, and which might be grown at our own doors? No satisfactory answer has ever been given to this question." This is a question easier asked than answered, not that it cannot be replied to, though not satisfactorily. Still, the answer involves so much that it is difficult to explain and hard to understand, that the attempt is seldom made.

Why we do not more extensively produce many of the first-named products which are now so largely imported, it is hardly our province to refer to, but whilst we must not, in the consideration of topics of this economical character, entirely overlook the fact that we have, for the limited area of these islands, a remarkably dense population, we must equally remember that our land tenure and system of farming has for the past generation tended to the crushing-out of all effort to produce these important articles of food, for it is obvious that they are part and parcel of small holding products, and not of large ones.

If we would raise eggs, poultry bacon, &c., we must start afresh a myriad of small farmers or yeomen, and they may once more bring back to agriculture that goose, literally, which once laid for farmers golden eggs. But when it is said that we import large quantities of vegetables which may be grown at our own doors, a subject is broached that admits of considerable discussion. There is no evidence to be found that vegetable production has, during the growth of the enormous foreign trade seen in these things, fallen off in this country. Rather, we are certain that it has also increased, and that it continues to do so, and to not only utilize a large area of land, but to give well-paid employment to a large army of labourers.

On the other hand, it is obvious that we have ample space for the greater growth of vegetables, and ample capital at disposal for the purpose, the moment it can be shown that such investments would be profitable; and therein lies the whole secret of the matter. The vegetable-growing trade tells us now that it is not possible to obtain prices in the open markets that are more than barely remunerative, and that, too, for fresh, sweet, home-grown vegetables that have the merit of being well cultivated. It is not correct to assert that these low prices result from foreign competition in all cases; indeed the staple vegetable crops grown here are just such, as a rule, that foreigners cannot contend against us in the production of satisfactorily, because they are so bulky. If the matter were closely inquired into it would be found that not only do foreign growers send us diverse products from those we can best raise, but that also they send them to us at seasons when our gardens are non-productive.

It is in the production of tender vegetables raised and sent over here so largely during the winter and early spring months, when we have little else but coarse, hardy things to put into the market, that the importation statistics loom so large in the imagination of the political economist, who, as a rule, fails to understand that difference of climate has all to do with difference in means and powers of production. As we pointed out last week in referring to Guernsey, not only has that island always greater warmth, but far more of sunshine, and those are advantages which no amount of cultural skill can compensate for, even with the aid of fire, heat, and glass, because in such case there is no margin of profit left.

The present season affords excellent evidence of the difficulty which vegetable growers have to contend with, because, though so generally fine, yet it is generally backward, rendering production of early vegetables impossible. It is true that with the extension of small holdings we may largely increase our fruit and vegetable breadths, but the seasons will still be no more favourable, the springs no more genial, or nature less coy than is the case now, so that if we want choice or tender vegetables during the non-productive seasons here we must either purchase them from abroad or else dispense with them. In any case we may be thankful that, having the means to purchase, they are brought so abundantly to our markets.

THE CHERRY CROP.—There is ever a fly in our pot of ointment; and thus it happens, if common report be true, that the sweet Cherry crop will be a small one. Perhaps it is not so well that all kinds of fruit should be largely productive in one season, for some saved over to another year certainly would prove more helpful and profitable. A market-grower who has Cherry orchards, lamenting the other day the non-setting of the bloom on his trees, said that a good crop once in ten years was as much as could be looked for now; not a very hopeful remark, as far as open Cherry culture is concerned. It is true that throughout the orchards of the kingdom we may get a fair quantity of fruit, but it amounts to a mere sprinkle over all the trees after all, and such a thin crop it does not pay to gather, for Cherries are troublesome to collect, must be gathered carefully, and also run into market speedily.

No doubt we shall find an ample supply of these popular fruits in our markets presently, for the warmer portions of Europe will pour forth of their abundance crops for our behoof, and the great mass of consumers, as long as they can purchase, will trouble little how or where the fruit was produced. It is not that we have not plenty of trees, and good sorts. Our May Dukes and Bigarreaus will, for richness and flavour, compare with the best products of France, when we can get them. If we could but transfer to our island some of that warmth and sunshine which is so lavishly bestowed elsewhere, we, too, might have Cherries enough, but the blame for deficiency must be laid upon the back of nature, and not upon those of growers at home, who have planted and planted, but still find no increase.

Even Morello Cherries, usually so hardy and productive as standards, have in many places suffered unusually from frost, the blooming wood being destroyed whilst yet full of flower. If any enterprising raiser could obtain for us sweet Cherries that would bloom quite a month later than they do now, we would gladly wait longer for our fruit, and no doubt we should get abundant crops then. Our present lack arises solely from the fact that, just when the bloom is performing its functions, bleak winds and frost destroy the fertilizing properties of the flowers.

Gardening Miscellany.

Flower Shows for Next Week.—*Tuesday:* Oxfordshire Horticultural Society's First Summer Exhibition. *Wednesday:* Royal Botanic Society's Summer Exhibition at Regent's Park.—York Floral Fête and Gala commences. Closes on Friday.

At a meeting of the Ghent Chambre Syndicale des Horticulteurs, held on Sunday last, Certificates of Merit were awarded to Mr. J. Vander Swaelmen for Oncidium pulchellum; to Mr. A. Van Geert, Jun., for a new species of Lastrea; to Messrs. Vervaet & Co., for a species of Calamus; and to Mr. L. Desmet-Duvivier, for Odontoglossum vexillarium purpureum.

There was a capital lot of flowering Orchids in Stevens's Rooms on Wednesday, and, as usual, good prices were obtained for the best varieties.

The Jury appointed for Group 1—Agriculture, Horticulture, and Arboriculture—at the Inventions Exhibition, consists of Lord Thurlow, chairman; Mr. Clare Sewell Reed, M.P., vice-chairman; Mr. Daniel Pidgeon, reporter; Mr. Thiselton Dyer, F.R.S.; Mr. H. M. Jenkins; Sir Trevor Lawrence, Bart., M.P.; Mr. J. Ruston, M.P.; Professor J. P. Sheldon; Sir J. H. Thorold, Bart.; and Mr. Jacob Wilson.

On the 1st inst., Mr. Leonard Goodhart Sutton was taken into partnership by the firm of Messrs. Sutton & Sons, Reading. Mr. L. G. Sutton is a son of the senior partner of the firm, and commences business with strong credentials. He passed with great credit through the Royal Agricultural College, Cirencester, and obtained the coveted diploma of the College in December, 1883. Since then he has passed through the routine in each department of the great Reading establishment, has resided for some time among the seed-growers of Germany, and visited the principal seed-producing districts in this country.

The Annual Exhibition of the Ludlow Horticultural Society will be held on Thursday, August 27th.

Mr. J. Robertson Garraway, and Mr. W. Alexander Garraway, who have for some years carried on the Durdham Down Nursery business under the style and title of James Garraway & Co., have dissolved partnership, and the business will in future be carried on under the same title by Mr. W. A. Garraway.

Sir Henry W. Peek, Bart., Wimbledon House, has announced his intention of placing the sum of £20 in the hands of the Council of the Royal Horticultural Society, to be awarded as prizes for Marguerites, Chrysanthemum frutescens.

The President of the Lee, Blackheath, and Lewisham Horticultural Society, John Penn, Esq., has presented a silver cup in memory of the late president, Dr. Carr, which will be held for one year by the employer of the gardener who wins the largest amount of prize money at the Society's Summer Show, the gardener to have permanent possession of a silver medal commemorating the event. The next show will be held on July 8th and 9th.

Mr. Fyffe, gardener to W. F. W. Dick, Esq., Thames Ditton House, Kingston-on-Thames, is leaving that place, and Mr. W. Palmer, foreman at Rood Ashton, Wilts, has been engaged to succeed him.

In Mr. R. Owen's Nursery at Boyne Hill, Maidenhead, Chrysanthemum Coquette de Castille, a new one for next year, has lately borne a fine bloom, 6 ins. across, though only in a 48 size pot. It is a Japanese variety, and in colour a soft, pleasing rose and silvery lilac.

Messrs. Saltmarsh & Son, Chelmsford, received a vote of thanks at South Kensington, on Tuesday, for foliage and flowers of the very handsome, but too seldom seen, Paulownia imperialis, which should be flowering more freely than usual this season. In the Southern counties it is worth planting for its handsome foliage alone, but it is doubly handsome when in bloom, so distinct and beautiful are its Gloxinia-like violet-purple blossoms.

The Council of the Society of Arts have awarded one of the Society's silver medals to Mr. P. L. Simmonds, for his paper on "Present and Prospective Sources of the Timber Supplies of Great Britain."

BADLY SOLD.

"What is it?" said Mr. Peter Henderson to the writer, a short time ago, as he tossed down a faded, yet still beautiful rosy-pink flower.

"A Brunsvigia, I guess," was the answer; but noticing a dangerous glimmer in the veteran's eye, we hastened to make a closer examination. Throwing back the petals, the anthers and stigma of a Lily were revealed.

"A Lilium, by Jove! Longiflorum, too, at that. Where on earth did you get it?"

"Yes, sir, a Lilium; Lilium Harrisii, raised in Bermuda. What do you think such a Lily would be worth?"

"Well, of course, it never would be in great demand for forcing, and you know that is what uses up the immense number of Harrisii that are sold. It would be valuable chiefly in private collections and ought to bring at least ten dollars each—as large a price as Auratum did when first introduced."

"I can sell them less than that. At what do you sell Harrisii now?"

"Very low—almost as low as Longiflorum."

"Well, I will sell you these at the same price."

The latter answer was uttered with altogether too much satisfaction, and we sadly turned to where the flower had been severed from the stem, remarking, as we began to be enlightened, "Ah! you have been doctoring this with chemicals."

"No, sir," replied Mr. Henderson, "we have not been doctoring this with chemicals, but it has been stuck in a bottle of red ink for the last three hours."

Moral: Don't take every child wearing a red fez to be a little Turk, for man is full of guile even as the Lily was full of red ink, though it may not be as apparent.—*James Y. Murkland in American Gardeners' Monthly.*

BROCCOLI AND CAULIFLOWERS.

We cut our last Broccoli on the 2nd inst. From the commencement of the season they have been unusually fine, many of the heads measuring 12 ins. across, and the plants had such a firm hold of the ground that it required some strength to pull one of the old stumps up without the aid of a spade. We plant most of our Broccoli between the Potatos, as our Strawberry ground is not at liberty in time to receive them, and we are thus debarred the use of the crowbar, which is so strongly advocated by some practitioners, and which I have used myself on lighter soils, and under altered circumstances. I do not object to the use of this instrument, even on heavy soils, having used it for eight years on a piece of ground that had grown Broccoli and other winter vegetables annually for twelve years previously. After being dressed with road-scrapings and decayed garden refuse, the ground was turned over with strong forks especially made (termed spuds in some parts), and no attempt was made to break the lumps beyond dividing each spit into two, for we found by experience that they had only to get thoroughly dry and afterwards receive a soaking of rain to make the work of breaking them a comparatively easy task with the same implement. Forking was next to impossible when the land was dry, and to stick the fork in a piece as large as a man could lift with it required a little tugging to get it out. The holes were made when the soil was neither wet nor dry, and by wriggling the bar too and fro were made extra large, and left so till the plants were ready, when one man placed the plants and the other followed with a basketful of fine soil to fill the holes up with, whilst a third followed with the watering-pot, unless there was a prospect of immediate rain.

At this place I am troubled with clubbing, and in some parts of the garden more than others, though every year, I am happy to say, I experience less of it. I observe that those plants placed on the flat suffer worst. Those planted between the Potatos have several inches of soil placed round their stems when the Potatos are dug up, into which they strike fresh roots, which help to support the plant if the others are affected with club. Crops not planted between Potatos are grown in drills 3 ins. or 4 ins. deep, which are levelled down at the proper time. This is a far more reasonable practice than the robbing Peter to pay Paul method of earthing up, even if the latter were practicable on such an adamantine surface as a hard trodden old Strawberry-bed on stiff soil presents, and to disturb it with the fork or spade would be to lose all the advantages gained by planting with the crowbar. I find that by the time the Potatos are dug, sorted, and cleared away, as well as the haulm and weeds, ground of such a stiff nature as ours becomes sufficiently solid, and if the soil is pressed with the foot round each plant nothing more is required.

Cauliflowers.—We began to cut these on the 5th, so that if we had thought fit to take the Broccoli up and store them under a north wall we could have supplied the kitchen with both for a fortnight. It is surprising what a little protection will do when cold winds are prevalent, as they were in this part for weeks previous to the last few days of May. Our Cauliflowers were only covered with lights, in which there were as many broken squares as whole ones; they once formed the front lights of forcing-houses, and having each a bevelled side we nailed them together so as to form a span with a sharp angle about 70 ft. long, and the ends braced with thin pieces of wood. A row of Cauliflowers occupies the centre, and one of Lettuce was planted on the south side, which have been already blanched and used.—*W. P. R.*

INSECTICIDES AND PLANT WASHES.

On entering a certain potting-shed one day lately, I beheld a sight that amused me much. I found my friend the gardener very busy with three or four of his men washing plants. In the centre of the shed there was a large iron tank with some mats spread round it on the floor, and close at hand were canfuls of clear water, syringes, sundry jars, bottles, sulphur dredges, vaporizers, and fumigators of the most approved patterns. The place had the appearance of a combined laundress's wash-house and chemical manufactory, and I could but exclaim, "Whatever are you doing?" "The plants have all got dirty, and infested with vermin, and we are having a clean up," remarked my friend. "Look at those Orange-trees; these fellows wont do a thing unless I look after them, so I am having a thorough turn out. You have called on an unlucky day."

"What is that tank for," I asked, "it is not deep enough for a bath." "Oh, you see we work in this way—this stuff is dear, and it takes such a lot of it that I had the tank made for economical reasons. Here, Brown, hold up this Azalea"; and he held it up at the end of the tank, the liquor was industriously applied to it with the syringe, and drained into the tank again. The plant is allowed to stand perhaps for five minutes, when it is well syringed with clear water. "That will do," said my friend; "if you find they are not clean, give them another dose to-morrow, and follow it up till they are." I am thankful that I don't have to clean plants so much as I used to do forty years ago. This is modern plant-culture, is it? Shades of Barnes, Ayres, Green, Faulkner, May, what would they think of the modern methods? They grew plants which are now seldom seen, because they are difficult to grow, and would not grow at all if treated with some of the insecticides I have seen used. Tobacco, either in the form of smoke or of a liquid, sulphur, and soft soap, were the insecticides used by the men I have named, and their plants were clean, or woe to them and their breakfast if Dr. Lindley saw a foul or insect-covered plant. "Take that plant away, sir, there is mealy-bug enough on it to ruin all the plants in the show," said he once. "But, sir, it is only a little which escaped my eye." "Your eye, man, is worth nothing not to see that, or you either, as a gardener. Take it away, take it away," and away went the Doctor, and the poor gardener with his plants, too.

Thinking of my friend's muddle and trouble, it occurred to me to try a new soap which I had heard my wife talking about, and which was much praised for its cleansing and easy washing properties. I thought of my friend's Orange-trees, black with the Citron fungus, smuts and dirt, and had an idea that if this much belauded soap will make the dirt fly out of soiled linen, it should do so in the case of dirty plants. The experiment was tried, and I would suggest that anyone who desires a good simple

plant-wash and insecticide should write to Messrs. Lever & Co., Bolton, Lancashire, and ask them for one of their "Sunlight Soap Tablets." Let them on receipt of it dissolve 1 oz. in 1 gallon of water, then lightly syringe a dirty plant, or if it is infested with green-fly or thrip, add some tobacco-water; wet every part of the plant once or twice, let it stand a few minutes, but do not let the foliage get dry, then give it a good wash with a syringe, or rinse the plant overhead in a tub of water. If they do not then write to The Gardening World, saying that it is the simplest remedy they have tried, I shall be much surprised. With scale or bug I have not tried it, but for other purposes I shall recommend it, and continue to use it.—*N. J. D.*

THE WHITE MARGUERITE.

The objection which "Bellis" raises, at p. 634, against my advice to plant out these plants in rich soil after flowering, is well worthy of notice, because it is by discussing and practising various modes of culture that we are able to decide which is the better suited to our own convenience. In replying to his remarks, I will endeavour not merely to make my own case good, but also to place the matter in such a way that the readers of The Gardening World may decide for themselves which plan is the most suitable for their requirements.

"Bellis" says that by planting out in rich light soil the plants would, in his opinion, produce soft, sappy growth, which is the reverse of what we should require for winter blooming. In the first place I was not writing about plants for winter blooming, as I have never grown the variety mentioned for that purpose, although I know it will flower more or less throughout the winter if the buds are not removed, but I consider it better to grow the plants on and keep the flower buds picked off so as to have a mass of flower in May, which I believe is the time when most growers have this variety in flower.

Neither did I recommend the planting out of young plants during the first year, because to grow them to a useful decorative size by the following May they need not be rooted before August, then it would be too late in the season to plant them out, and if grown on in pots and stopped twice, they would by that time be nice bushy plants in 6-in. or 7-in. pots, carrying several dozens of flowers. Plants of this size are suitable for general purposes, and if large plants are not required they can be thrown away after flowering and fresh ones be rooted. But for those who require large specimens I think the advantages of the planting-out system outweigh those of any other, as a large amount of labour is saved in watering them during the summer months, which is a great consideration where large quantities of plants are grown, and I contend that if any two systems produce equal results, the one that entails the least labour would be adopted by the majority of gardeners.

I have never yet seen cut-back plants, when planted out in rich soil, make growth too sappy to become thoroughly well ripened by the time they were wanted to flower, provided they were planted far enough apart to admit the sun and air around them, and have the following treatment after:—Lift them in the first week in September, pot them firmly into pots of a size in proportion to that of the plants, place them under a north wall, and keep them well syringed for a few days. As soon as they have recovered their freshness, and it is no longer safe to leave them in the open air, remove them to some cool structure where they can have plenty of air on all favourable occasions. As soon as the plants are housed, tie them into the required shape, so that the shoots stand just clear of each other. If any flower-buds are showing at the time remove them, and stop any shoots that show a tendency to rob the others. The pots will soon be crammed with roots, and as the days begin to lengthen in the spring time, the plants will require constant attention with the water-pot, and frequent applications of liquid manure, and I think it would puzzle anyone to find a shoot on plants so treated which was too strong to flower.

If "Bellis" could have seen the large plants, when in flower, that for several years I had the pleasure of planting out in June and lifting in September, I doubt if he would think they had been grown too strongly. Certain it is, that each year, as the month of May came round, they were completely studded with their lovely flowers, which were the admiration of all who saw them, and especially of the enthusiastic admirers of Marguerites for whose gratification they were grown.—*H. Dunkin.*

ROSA POLYANTHA.

This beautiful free-flowering Rose was introduced from Japan in 1862, and has yielded under cultivation a considerable number of seedlings of a diverse character, and all very pretty and useful. The latest novelty in this way is one of the new French Roses sent out this season, raised by M. Alégatière, and named Miniature. It is a free-grower, and produces large clusters of small pale rose-coloured flowers

ROSA POLYANTHA VAR. "MINIATURE."

which change to white with age. It is a pretty and very free-flowering variety, well worth growing in pots for cutting in spring.

VILLA GARDENING.

There is scarcely anything more interesting to the professional gardener than to study and examine the diverse tastes and manipulations of villa gardeners. A very particular old lady of my acquaintance takes a great delight in cutting the blades of grass as they appear above an inch long upon her small lawn with a very fine pair of scissors. An equally eccentric old gentleman uses his hedge shears for the same purpose, and trims his hedges with a rusty old carving knife. Like instances might be enumerated by the score, but it is useless to do so, as one illustration will show as well as twenty that our love for gardening is only intensified by our connection therewith, and that we find infinite pleasure in prolonging the enjoyments.

The wonderful taste of some members of the villa-gardening community might, however, very advantageously be imitated by their sterner brethren —the professionals. What strange law governs the procedure of the professionals and keeps them perpetually on the same track? Let any professional gardener take a walk through some district where villa gardens abound and carefully note what he sees; and if he does so, he will be able to learn many a useful lesson. One thing, however, he will not see, that is, any two alike or nearly so either as regards the plants grown or the arrangement of the gardens. The whole attention of one is devoted to annuals of various kinds; another to Alpine plants and a neatly arranged rock-garden; while the space of another is occupied by a miniature Niagara, &c. Ferns and bulbous plants, Roses, flowering and ornamental-foliaged shrubs are by no means negelected; on the contrary, they receive the most assiduous care of their lovers, and in ninety-nine cases out of a hundred amply repay the attention of their possessors. For it must be remembered that villa gardeners are not the same conventional beings as professionals—who only love their work because others do so. Villa gardeners love their flowers for their own sake, and tend them because they love them.

In their leisure hours, some persons delight to talk of politics, athletics, dress, and fashions, but in the vernal twilight, with the family gathered round, the villa gardener discusses with pride and zest the merits and demerits of snails and slugs, the flowers and the garden.—*M. Barker.*

THE FRUITS OF CENTRAL ASIA.

Gardens constitute the beauty of all this land. The long rows of Poplar and Elm trees, the vineyards, the dark foliage of the Pomegranate over the wall, transport one at once to the plains of Lombardy or of Southern France. In the early spring the outskirts of the city, and, indeed, the whole valley, are one mass of white and pink with the bloom of Almond and Peach, of Cherry and Apple, of Apricot and Plum, which perfume the air for miles around. These gardens are the favourite dwelling-places in summer, and well they may be; nowhere are fruits more abundant, and of some varieties it can be said that nowhere are they better. The Apricots and Nectarines I think it would be impossible to surpass anywhere. These ripen in June, and from that time until winter fruit and Melons are never lacking. Peaches, though smaller in size, are better in flavour than the best in England, but they are far surpassed by those of Delaware.

The big blue Plums of Bokhara are celebrated through the whole of Asia. The Cherries are mostly small and sour. The best Apples come either from Khiva or from Susak, to the north of Turkestan; but the small white Pears of Tashkent are excellent in their way. The Quince, as with us, is cultivated only for jams or marmalades, or for flavouring soup. Besides Water Melons there are in common cultivation ten varieties of early Melons and six varieties which ripen later, any of which would be a good addition to our gardens. In that hot climate they are considered particularly wholesome, and form one of the principal articles of food during summer. When a man is warm and thirsty he thinks nothing of sitting down and finishing a couple of them. An acre of land, if properly prepared, would produce in ordinary years from 2,000 to 3,000, and in very good years twice as many. Of Grapes I noticed thirteen varieties, and most of them remarkably good.—"*Turkestan,*" *by Eugene Schuyler.*

Pea-nut Flour.—Ingenious Americans have taken to manufacturing biscuits and pastry from the flour of Pea-nuts, of which there is said to have been an enormous crop last year, Virginia and the two adjacent States having raised 2,500,000 bushels. As ground nuts grow in large quantities in India, there can be no reason why a similar attempt should not be made there.

SCOTTISH GARDENING.

Winter, Spring, and Early Summer Vegetables.—It is seldom that one has to complain of a scarcity of vegetables during the early winter months, but often after severe frost gardens present a very bare appearance, and variety is reduced to a minimum. The present season has been exceptionally favourable for early and late crops, and continuous supplies from the open ground have been well maintained. Three successions of Brussels Sprouts kept a daily supply from September till late in April. Curled Kale were at the end of May chopped up and turned into the ground, with plenty of manure, which is a good preparation for Leeks (a vegetable not used half so much as it should be, there being such a variety of methods of preparing it for use). The Scotch peasantry put much value on their Green Kale and Leeks. Broccoli has been and is unusually abundant; no blanks are to be seen in a collection of eight or nine sorts; but to say that all these kinds are true to name would not be telling the truth. It is as rare as it is pleasing to meet with crops of Broccoli true to name, and we think the difficulty of securing what we ask for is certainly not decreasing. However, where a large percentage comes true and the whole crop is as useful as ours—with enough and to spare, enabling us to help our neighbours who have little ground to supply them with fresh green vegetables—we have much to be thankful for.

The kinds which we are inclined to select as the best out of the varieties which have been on trial for two seasons are well known for their excellence, and are by no means "novelties." The latter term is too often surreptitiously used to palm off old kinds as excellent new ones. But if one gets a good selection, even by such means, it is not a real loss, though a good sum is paid for the thin packets which may contain the said "novelties." We could not well dispense with such old friends as Grange's Autumn and Walcheren for late autumn and early winter supply. Then comes the very valuable Veitch's Protecting, often lasting during mild seasons till February. Osborn's and Snow's whites have stood the test for many years; but to get these two excellent kinds true is very difficult indeed. Backhouse's Winter Broccoli is a very hardy and good kind, and comes in well before the later spring sorts. Knight's Protecting has always been a favourite with us, whether in Scotland or in the South of England, and often may be had very late. Though called a second late variety we have in large quantities at present (though none are quite true to name) Gordon's late, Addison's, and Cattell's white. The first and last of these three kinds have been known to me for many years, and I have often seen them remarkably good and true to name.

At Burghley Gardens, near Stamford, I saw, some dozen years ago, the most even plot of Cattell's late Broccoli which it is possible to imagine, and by no means a small plot either. All were dwarf, and their hearts protected like York Cabbages. Mr. Gilbert, the presiding genius at Burghley, believes strongly in firm soil for Broccoli, and I as strongly favour his opinion, but I think that in waxy, damp soils the "crowbar" system of planting is not to be commended. After well-cultivated Strawberries have been skinned off the surface is generally in good condition for planting, but it is not often that in the northern districts of England or in any part of Scotland the Strawberry crop can be cleared off in time to plant Broccoli to be fit for use. In the southern districts of England, as well as in the eastern and western counties, we have planted Broccoli late in August which did well, but in northern districts, where autumn growth terminates early, it is not of much use planting after July, though in such seasons as the last the case is materially altered.

Planting will soon be general in the north, and as no one can tell what next winter may be like we would counsel the planting of a quantity of Broccoli in soil free from rich manure. The plants may be transplanted on ground to grow steadily and firmly till Potatos or some other crops are cleared off. The large plants transferred thus become, by the partial check, sturdy and well suited to stand severe weather. A store of dry litter or Fern to pack among the stems of Broccoli during severe weather is a valuable auxiliary in securing a crop.

Brussels Sprouts are confined to very few kinds—most of what we have seen are only good selections from the good old sorts we were familiar with in our youth. We do not object to such selections, as when they are had from reliable hands one need not fear having the worth of one's money. We like good, strong, well-cultivated land for Brussels Sprouts, and three successions, one of which, the first, is sown early in August, another in a frame in February, and a third in March. We have sown in England late in April and had useful crops, but sowings in March in Scotland will give good pickings till April, but no certain dates can be given either for sowing or planting, as soil (light or heavy) has much to do with success. Climate always rules.—*M. T.*

APPLES AND APPLE SOILS.

The soils and management best suited to the growth of Apples are points which have been much discussed in recent years. Various authorities—such as Mr. Charles Whitehead, in *The Journal of the Royal Agricultural Society;* Mr. T. B. Woodward, in a paper read before the London Farmers' Club last year; and Mr. W. H. Eley, in a lecture to the Rochester Farmers' Club—have all treated of fruit farming and of Apples. It appears at first sight singular, says a writer in *The Field*, that estimates of the first cost of an orchard should differ so widely, and that, while Mr. Eley makes out the total expense of planting an orchard at £10 an acre, another grower, speaking in the subsequent discussion, estimated the cost at £20 per acre. The latter, however, included trenching at £10 an acre as a necessary item of expenditure, doubling the cost by that one operation. Our own experience is that the necessity for trenching depends on the character of the subsoil, and that it is not always desirable. On those soils which are naturally adapted to the growth of Apples, such as the deep green sand of Kent and Surrey, or the sandstone of Devonshire and the cider districts, this heavy outlay may be avoided. Differences of opinion like those just noticed are explained by the fact of great differences in soils. Apples will grow on all soils, and the preparation of the ground for an orchard must be suited to its character. In offering advice, therefore, as to the growth of Apples, it becomes essential to quote the experience of more than one locality, and for that reason the Report entitled *British Apples*, and prepared by Mr. Barron, of the Royal Horticultural Society's Gardens, after the close of the Apple Congress of last year, is, perhaps, the most reliable guide that can be found to the cultivation of Apples on all kinds of soil.

We have no intention of repeating here the melancholy statistics relating to the absence of English Apples in our markets, and their inferiority compared with the produce of America. It is said that the best English dessert Apples are the luxuries of the rich, and it seems to us that Mr. Barron's report explains why this is so, and proposes a suitable remedy. His informants state, with much truth, that good Apples may be grown on almost all soils with proper management, but not always with profit—certainly not with the same profit on land that requires elaborate pre-preparation as on those soils where but slight outlay is needed. We learn from Mr. Barron's pages that varieties of management are due to varieties of soil, and that almost anybody may grow good Apples at a certain cost, which will vary from small to large according to circumstances. Some of the best Apple orchards in England are on the well-drained, warm soils of the old red sandstone of North Devon, Herefordshire, Worcestershire, and Gloucestershire. There are capital orchards on the same formation in Scotland, including those of the Carse of Gowrie, from which a specimen of Lord Suffield—one of the best of early bearers—was sent to the Congress, weighing 17½ ozs., or exactly the same weight as a Blenheim which we weighed recently from an orchard in Sussex. It matters not what the formation may be, so that the soil is deep, good, dry, and warm; and in support of this we could point to a dozen sites, including the Vale of Holmdale, in Surrey, which is famous for its old orchards, and where, the soil being suitable, a costly system of management is unnecessary. Elsewhere the case is different. The variety of the beds interposed between the new and the old red sandstone (both Apple-growing formations) may serve to recall those varieties in the natural constitution of soils which dominate the farming and the character of the Apple crop. There are, for example, the coal measures, as poor at top as they are rich below; the miserable millstone grit, with its wretched pasturage; and the mountain limestone succeeding it, and often covered with rich turf.

The varieties of management described in Mr. Barron's Report are therefore not surprising. "We find it a good plan," says one of his informants, "to lift as many trees as possible every year, and to put a quantity of old brick rubbish under them, and maiden loam round the roots." The orchard occupies a loam with a wet gravel below, and when the roots reach this wretched subsoil, we are told the trees cease bearing. No doubt they do, and to bring them into bearing they must be lifted and reset in better soil. Scores of similar examples are given in this very practical Report. Those growers whose soils are ungenial, and who plant Apples on chalk or sand, or wet clay, must remedy the defect, or they cannot grow good Apples. The soil must be made, in fact, and only small trees capable of being lifted should be attempted to be grown. A fine sample of Apples reached the Congress from Dover, having been successfully grown on thin chalk on pyramids, planted in good turfy loam, in which these small trees grew well and ripened their wood. But the cultivation was entirely artificial, and as the substratum on the cliff at Dover is by no means suited to Apples, holes had been dug and filled with loam, which was frequently manured. "The great secret is," writes the grower, "to mulch well with good manure; the better manure I use, the better the fruit."

So far as soil is concerned, you may grow Apples anywhere, at a price; but you can only grow them profitably on those deep soils where they become great trees, and still continue to bear good fruit. The soil should be sound, deep, dry, and friable, like the wholesome loams of the cider districts, or the ragstone loams of the Medway Valley, and others of that class. In the orchards near Maidstone, the favourite Apples are Cox's Orange Pippin, Margil, Cornish Gilliflower, Dumelow's Seedling, Winter Nonsuch, King of the Pippins, and others.

On these best soils only can we hope to compete with the favoured Apple districts of the United States. Large crops of fine fruit may be produced, no doubt, on trees which are purposely dwarfed in gardens and elsewhere, for reasons which have been already stated. But the big trees are far less expensive in their management, being easily manured; and all fruit trees in full bearing require plenty of manure. An orchard of small trees must be kept in tillage for the convenience of moving them when required; but a Kentish orchard is invariably kept in turf, for the sake of manuring it by the depasturing of cattle fed on Corn, and also because turf is more favourable than tillage to the surface-feeding roots and to the elaboration of healthy sap. Mr. Barron's Report does not treat specially of Apple farming and the economical aspect of our subject, and we may therefore supply the omission by pointing out how greatly stock-keeping may assist fruit culture in a good district.

Orchards may be pastured with calves, yearlings, and other highly fed cattle, including a few sheep; and as farming stock generally are fond of Apples, they will eat all worm-eaten windfalls before the escape of the grubs into the earth, and will thus nip in the bud an injurious pest of many orchards. Cows are as useful in orchards as their offspring, and will eat up the wormy fruit with the same relish. The quantity of stock for an orchard is one calf per acre for young turf not yet producing much grass, each animal having a quart of oats and two quarts of middlings daily, or other mixture of feeding stuffs, according to the views of the feeder. But this is a branch of Apple-growing on which we need not enter. Our object is to supply a few hints from an agricultural standpoint, and to correct a common error, that, because Apples are everywhere found, they are therefore capable of being everywhere grown with profit for markets where only the best sorts find a sale, and where the competition in regard to price is keen.

It may here be mentioned incidentally that an ingenious Apple-grower and dairyman has invented a martingale, which effectually prevents animals restrained by it from raising their heads sufficiently high to injure the lower branches. It consists of a leather clasp round the fore-leg fitted with a ring, to which a rope tied to the horns can be fastened with a snap.

We shall only add a single estimate of the profits of Apple-growing. It comes from Wyeside, where the Apple of the neighbourhood is the Blenheim Orange, which sold last season at from 6*s*. to 12*s*. per cwt. from the trees. An orchard planted with the trees the usual distance of 30 ft. apart each way, would give forty-eight trees to the acre, which, at 2 cwt. each per annum (it is a biennial bearer), and 8*s*. per cwt. as the average price, would yield a return of £19 4*s*. per acre, from which must be deducted the cost of gathering and marketing, 1*s*. 6*d*. per cwt., and the rent and any outgoings for management. If the grower plants an orchard by arrangement with his landlord, he must calculate interest of money on his outlay, and the difference between first cost and the sum to be paid him for compensation at quitting. Some of the best Blenheims sold last season at a fashionable watering-place were grown near the spot, in a deep rich loam, on the farm of a small occupier, on trees planted thirty years ago by the landlord.

SPRING - FLOWERING BULBOUS PLANTS.

A correspondent writes: "I have been much interested in seeing this season at Horticultural Exhibitions, collections of cut specimens of spring-flowering bulbs, but I am at a loss which to select for planting in my garden, not being acquainted with the habit or growth of many of them. Will you assist me by making a selection for me?" Certainly. And we commence with the brilliant crimson Anemone fulgens, and its double variety, Fulgens plena. Both of these well deserve a place in the garden, and if planted in a good sandy loam will be found to flower admirably. To succeed these there should be a collection of the fine double and single varieties of Anemone coronaria, and as a speciality, the old double scarlet Anemone. Mr. Gilbert, of Burghley Gardens, has a very fine selection from this which I have seen in various places, and it is one of the best of spring-flowering plants. Then there is the Glory of the Snow, Chionodoxa Luciliæ, a plant that certainly increases in popularity as it is better known, and we have no hesitation in placing it among the most effective of our early spring-flowering plants; the flowers are blue with a white centre, and with this should be associated the purple Scilla bifolia, and the blue Scilla sibirica, both dwarf, easily grown, and very free.

If our correspondent has convenience for growing a few Friesias in pots, then we would strongly recommend him to try a few bulbs of F. Leichtlinii and F. refracta alba. They are not dear, and they are exceedingly pretty. They require to be potted in September or October; eight or ten bulbs being placed in a pot, using loam, leaf-mould, and a little peat, well draining the pots and placing them in a cold frame for the winter, and flowering them in a greenhouse. Some Ixias and Sparaxis can be managed in the same way; and like the Friesias they will be found very beautiful and effective. The larger Snowdrops are well worthy attention. We may assume that our correspondent already has bulbs of the single and double common Snowdrops; the larger ones are Galanthus Elwesi, G. plicatus, known also as the Crimean Snowdrop, the flowers very large; and G. Imperati, the true Italian Snowdrop, but it is essential that it be obtained true to name, as there are spurious forms of it abroad.

Then there is Gladiolus Colvilli, The Bride, a beautiful early-flowering form, so useful for cutting from. We find this does admirably in the open ground planted in October in rich light soil, and good bulbs supply a large quantity of cut-flowers for the sitting-room. A few bulbs placed in pots and grown in a cold greenhouse will flower earlier than in the open ground. The Grape Hyacinth and the Feathered Hyacinth do well in the open border, the former especially; there are two or three shades of blue of the former; the latter, when well established, throw up large feathery spikes of bloom, hence its name. As a matter of course, our correspondent has a collection of the varieties of Crocus vernus—the spring-flowering Crocuses. We think nothing is more charming than lines of these Crocuses planted permanently round the edges of beds and borders. If a new plantation is made the soil should be taken out to the depth of 1 ft., then 4 ins. of good soil should be placed in the bottom of the trench, and two lines of Crocuses in mixed colours planted on it, then some more fine soil added, and the old soil returned and pressed firmly down upon the Crocuses. The sooner this can be done in the autumn the better, when the bulbs are fresh and plump. We have made a selection of Narcissi, which is set forth on p. 650.

We have overlooked the pretty blue Wood Anemone, A. appenina; then there is the bold and showy Crown Imperials, the pretty white Snowdrop-like Leucojum vernum, the yellow winter Aconite, and Triteleia uniflora. Here, then, is a selection that will be found moderate in price, interesting, varied, and pleasing. One last word of advice: Don't drive off selecting the bulbs that may be required beyond September or early in October.—*Quo.*

NOTES FROM GARDENS.

Thornbury, Sheffield.—This beautiful residence is situated in one of the most picturesque parts of the west end of Sheffield, overlooking the Porter Valley. The mansion is a neat and substantially built structure, erected some twenty years ago for its owner, F. T. Mappin, Esq., M.P. The garden and grounds which surround it are about eight acres in extent, and beautifully laid out and planted with the choicest of trees and shrubs, all of which have been selected to suit the district. No crowding is allowed, but each plant is a perfect specimen, and all have the appearance of being as well cared for as any of the choicest greenhouse plants under glass, and there are not a few shrubs either, but some hundreds, which have had careful and constant attention from the day they were planted.

The terrace, which is long and broad, runs parallel with the south front of the mansion, and contains a border running the whole length besides several beds, all of which, at the time of my visit, were very gay with the spring bedding. In another part of the garden, my attention was called to a bed of Alpine Auriculas, of numerous shades of colour, the ground between the plants being planted with Sedum glaucum, which produced one of the most pleasing effects I ever saw, and one which I shall not soon forget. At the east end of the terrace is the conservatory, a very fine structure, built on the ridge and furrow principle, and which is divided into two compartments, one being a stove, and the other devoted to greenhouse flowering-plants. At the time of my visit (May 20th) this compartment was gay with Azaleas, Cinerarias, Calceolarias, and several pots of Aquilegia hybrida, californica, and chrysantha, all of which are very pretty, and deserve to be more generally grown for such purposes than they are. Amongst the Azaleas I noticed two extra fine pyramids about 8 ft. high, and well furnished. Here also were a capital pair of Dracæna australis, Habrothamnus Newellii, trained up one side of the house, covering a large space, and producing an abundance of its beautiful clusters of bright flowers.

In the stove there are several fine specimen Crotons, and other fine foliage plants; but the centre of attraction in this compartment was a very fine plant in a 14-in. pot of Medinilla magnifica, with twenty of its charming pendulous racemes of rosy-pink flowers. This fine stove plant is too seldom seen in this condition. In the Peach-house close by there is a fine crop of fruit, also a fine plant of the Tea Rose Homere, which has given a supply of flowers for above three months, and is still producing them freely. Mr. Reed has another plant of it in a greenhouse, which flowers quite as freely. In the same house are several plants of the old scarlet Cactus in flower, and Mr. Reed told me that the blooms last well in a cut state, after they have travelled to London, where cut flowers are often sent to the family during the season.

Another stove is filled with Ferns, Gardenias, and a few Orchids in flower, the back wall and part of the roof being covered with Bougainvillea glabra laden with flowers. In this house also is one of the finest plants ever produced of Adiantum Farleyense, which is close upon 6 ft. in diameter, and quite a mass of fronds. In the kitchen garden, which is well cropped and neatly kept, there is a span-roofed orchard-house filled with Peaches, Nectarines, Plums, Pears, and Cherries, most of which appear to be setting fruit plentifully. Close by are two vineries; the early one is a lean-to (20 ft. by 16 ft.), and the late one a span-roof (35 ft. by 22 ft.), and out of these two houses Mr. Reed told me that he supplied his employer's table with Grapes last year for close upon eleven months. This year his early Grapes are very good. In the late house I noticed some fine plants of Linum trigynum, 7 ft. high, and which never fail to produce an abundant supply of flowers through the winter months. The next two compartments are occupied with Orchids and other small decorative plants, amongst them being several varieties of Crotons and Dracænas, which are very brightly coloured. These gardens in every department reflect great credit upon Mr. Q. Reed, who has been in charge for upwards of three years.—*J. W., S.*

RAILWAY GARDENING.

None better than they who are doomed to wait the half hour or so which is now considered such a long time for the next train know the pleasure of a garden at the railway station as a means of passing the time. At a few of the stations the culture of flowers is carried out so successfully that lovers of them are by no means anxious for the arrival of the conveyance which is to bear them away.

At the Norbiton and Kingston Hill Station a very pretty example is to be found, the long promenades running out at each end of the covered in part of the station being cleverly laid out with rock-edged borders planted with Lupins, Roses, Pinks, Carnations, Pyrethrums, Hollyhocks, Pink Silene, and many other by no means common plants. A few clumps of rockery crowned with Periwinkle and other suitable plants, and an occasional vase mounted on rock, seems to give an artistic outline to the whole, and the Honeysuckle, Clematis, climbing Roses, and Jasmine trailing over the fences make a pleasant background. The tall signal-box too at the end of the platform is quite picturesquely covered with Ivy, and calls up rather the remembrance of the old watch tower than the nineteenth century railway signal-box. Many of the plants are in bloom, and all are in good order, reflecting great credit on those who tend them.

It is with regret that we note already the encroachment of those large advertising boards, without which and their rent the railway company could do very well. Already "The Largest Circulation," the irrepressible "Mustard," and some grand blends of "Scotch" and "Irish" appear. Would that "The Largest Circulation" would keep off the railway shrubs and thus set the example to the other advertisers and induce them to confide the spread of their celebrities to its columns, and those of its contemporaries of the public press. The profusion with which advertisements are crowded nto some railway stations must, it seems to me, reduce to the barest chance the possibility of any heed being taken of them.—*J.*

NEW GARDENING PATENTS.

[*Compiled by Messrs. Lulman & Co., Patent Agents, 8, Essex Street, Strand, London, W.C.*]

1891. Fumigating Hothouses, &c. (T. Elcome, 4, Chesnut Villas, Upper Norwood).—The fumigator is made of sheet iron, oval in shape, and is divided into two parts by a perforated false bottom. In the upper part is placed the fumigating material, and in the lower a fire is made. The cover is perforated and moveable. Stout handles are hung on by rings at each end of the vessel.

2022. Hoes (D. Smith, Wolverhampton).—This relates to the manufacture of Brazil hoes, *i.e.*, hoes which have checks projecting forward from the eyes. A short length of bar for making the hoe is held in a heated condition edgeways between two compression dies which give the exterior shape to the eye and poll-piece, the eye being formed somewhat shorter in an edgeway direction than the finished eye is intended to be. The partially-formed eye is then held in a solid bottom die while a forcing tool or punch is caused to descend and form the interior of the eye, the metal being forced towards a recess in the die and a wad of metal remaining connected at its front end to the eye. The punch is so shaped as to leave lumps or thicknesses of metal on the interior of the eye.

The Amateurs' Garden.

THE GREENHOUSE.

Roof-climbers will now be making rapid growth, and must, therefore, have constant attention in thinning and tying in, but with these plants the great thing is to avoid undue training, which renders them stiff looking, and quite spoils their beauty. To avoid this the shoots should be allowed to run out and hang from the roof naturally, and the same with those on walls, where all that is necessary is to support the main branches and let the others flow down in the front. The climbers most amenable to this mode of treatment are Passifloras and Tacsonias, than which there are none better for greenhouse cultivation, as neither are at all subject to insects, the only pests that affect either being scale, which sometimes gets on the bark of Tacsonias, and, unless destroyed, soon cripple the plants. The best way of freeing them from it is to brush over the stems with dilute Gishurst or Nicotine Soap, so as to wet the whole surface, soon after which the scale will leave its hold and fall to the ground.

Roses.—If Maréchal Niel or other climbing Roses be grown, green-fly is sure to be troublesome, but by fumigating with tobacco, or tobacco-paper, they may be killed readily if the dose is repeated both morning and evening for two or three days in succession. As the Roses referred to flower on the young wood, the way to manage them is to cut out all that has bloomed and lay in the shoots now forming, which should not be stopped, but allowed to run on and grow to their full length, as every bud will start next spring and produce a blossom.

Lapagerias.—For a back wall in a damp, shady part of the house, the most suitable plant is the Lapageria, which is just at home in such positions, as it dislikes too much sun and a dry atmosphere, which under adverse influences thrip and red-spider assail the leaves, and either kill them outright or turn them quite brown. To grow the Lapagerias well, the best plan is to plant the red and white together in well-drained beds, formed with rough fibrous peat and sand, in which, if kept well watered all through the summer, the plants are sure to do well.

Lilies, such as L. auratum and L. speciosum, will now do best out-of-doors, and as roots are forming round the stems it will be a great help to the plants if they have a little fresh rich soil placed around them, which they will soon get hold of, and show the beneficial effect it has on them in producing fine heads of bloom.

Pits and Frames.—These ought now to be doing good service for growing Melons and Cucumbers, and affording shelter-places for preparing winter-flowering plants, such as Primulas and Cinerarias, Bouvardias and Cyclamens, a purpose for which they are well adapted, but for the Cinerarias and Primulas a shady spot should be chosen to stand the frame in, as neither of those plants succeed if exposed to the sun.

THE FLOWER GARDEN.

Roses.—The warm weather has given a great impetus to Roses, which look remarkably well, and give every promise of being unusually fine; but to have them in this very desirable condition they will need close watching, as the maggot is at work and the aphis rampant, and unless these enemies are destroyed, the flower buds will be crippled and spoiled. The readiest way of dealing with the first-named is to go carefully over the plants and gently squeeze any curled leaves between the thumb and finger, which pressure will be too much for the maggot, as its body is soft and collapses at once from the touch. In warring with the green-fly, the best plan at this season is to make use of one or other of the many insecticides, such as Gishurst, Nicotine Soap, or the Amortiser, either of which, if diluted and made of the proper strength, are quite safe as regards their action on the foliage, and so potent in their effect on the aphis as to kill them outright.

The right time to apply the insecticides is late in the evening, or early in the morning before the sun is on the plants, which should be syringed heavily an hour or two after the wash has been nsed, as by doing this the leaves and shoots will be freed from the fly and cleared of any deposit left by the stuff. To have large flowers, the beds or ground round about the plants must be mulched, and every encouragement given by frequent applications of liquid manure, which Roses are fond of and will take rather strong. One of the readiest forms of stimulants is water with guano in it, a table-spoonful of which, stirred up and mixed, is quite enough for a 4-gallon pot, but nothing in the way of sewage comes amiss to the Rose, and therefore soapsuds and house drainage should be saved for the plants.

Herbaceous Borders containing strong-growing subjects, such as Delphiniums, Phloxes, and others of that class, will now need looking over, to give the plants the necessary staking and support, or their stems will be bent over and broken down by the wind, and the same with Dahlias just put out, which should be tied up at once. Annuals are rarely seen at their best, through not being thinned out sufficiently, as when left to grow struggling from want of room they starve each other, and look weedy instead of making bold patches and producing a fine show of bloom. This being so, all weakly ones should be pulled out, that the others may have space to spread and develop, and the roots have the ground to themselves.

Biennials and Perennials.—It is a good time for sowing and raising either of these now, to come in for planting out in the autumn after beds and borders are cleared; and among the things of most use may be mentioned German Wallflowers, Canterbury Bells, Pentstemons, Antirrhinums, Sweet Williams, and other Dianthus, Larkspurs, Hollyhocks, Double and Single Pyrethrums, and Pansies or Violas, any or all of which will help to make a fine show.

THE FRUIT GARDEN.

The Growth of Trees has been rapid since the fine weather set in, and the necessary stopping and tying or nailing in of shoots should now be carried out with all despatch, as also any thinning of the fruit, that those to be left on to swell and ripen may have the full benefit of all the sap, which will then push them into their full size. Peaches and Nectarines, however, are best let alone for the present, as they often drop in the stoning, but Apricots seldom or never do this, and therefore where they are at all thick and bunchy the smallest and those worst placed may be taken off at once to give the others room, after which the trees should be mulched and have a thorough good soaking with clear water or liquid manure if the weather remains hot and dry.

Pears require the same attention, and if they were more looked after in that way there would be none of that cracking of the fruit we hear so much of, the entire cause of which arises through the stunt they get, and when rain comes the swelling is so great and rapid that the skin splits, and the whole crop is often spoiled, as even when the Pears escape cracking they become hard and gritty throughout. A mulching is also of the greatest benefit to Apples, especially on light soils, as it keeps the earth about the roots cool and moist by preventing evaporation, and thus maintains the foliage in health, but if the trees lack moisture the leaves become a prey to red-spider, and the Apples, if they remain on, are sure to be small.

Cherries, both of the dessert kinds and Morellos, are very subject to the attacks of black aphis, which are hard to kill, but by dipping the points of the shoots in a solution of Nicotine Soap or tobacco-water, they may be got rid of at once. Before the dipping is carried out, however, the proper way is to go over the trees and take away any growths not wanted for laying in, and stop all breast wood by nipping it back to within the last two or three joints, which will benefit the buds at the base, and let in light and air to the fruit, under the influence of which it will colour well and come of good flavour.

Raspberries will need watching to prevent the undue formation of suckers, which often come up all over the ground and impoverish the plants, and they should therefore be pulled up at once, leaving only four or five of the strongest and best situated for replacing the old canes after they have done bearing, at which time they ought to be cut away to let in the sun and light to ripen the young ones.

Strawberries.—The rains have been of great service to these, and if the beds are not already mulched down it should be done at once to keep the moisture in, or before many days the plants will be suffering, so quick is it taken out again by the air.

Gooseberries.—The caterpillar will soon be rife among these, and unless the bushes are watched and hand-picked, this most troublesome insect will soon devour the leaves. In using Gooseberries for tarts, it is a good plan to gather all from the lower branches and leave the upper, where the frnit will ripen free from dirt dashed up by heavy rains, but in cases where the bushes are low it is advisable to have a little litter under them to prevent the splashing referred to.

THE VEGETABLE GARDEN.

The Rains with which we have been favoured have afforded every chance of getting out all kinds of winter stuff, the whole of which ought now to be getting good hold of the ground, but in cases where it has first to be cleared of other crops, such as early Potatos, &c., before planting the plants should be drawn from the seed bed and pricked out on some half shady border, from which, if kept watered and attended to, they may be lifted again with good fibrous roots without feeling much check.

Cauliflower and Lettuce.—To save transplanting these after this date and during hot weather, the best way is to draw shallow drills where they are to grow and sow the seed there, when, after the plants are up, they may be thinned out and left at the proper distance to grow, which, under such favourable circumstances, they do to a large size, and turn in with fine heads or hearts.

Celery.—What causes this to "bolt," or run to seed, in the provoking way it does sometimes, is the check it gets in the beds through want of water, where it ought to be kept very moist, as it is half aquatic in its nature and cannot well be too wet at the roots. In preparing for the plants, the trenches will be quite deep enough if dug out 6 ins., which is better than going lower, as the Celery has the good soil to grow in and makes far finer sticks than are ever seen in the ditch-like channels some go to the trouble of forming, in which the plants appear almost lost the whole season through. To have the Celery large and crisp it must be well fed, and this can be done by heavily manuring, and after the dung is dug and mixed in the trench the plants should be lifted carefully with good balls and placed about 8 ins. apart in the rows, when a heavy watering will be necessary to settle the soil about them and give them a start.

Leeks are in great favour with most people and may be grown to a large size and of fine quality by being treated in the same way as Celery, but an easier way of managiug, and one generally attended with good results, is to make large deep holes in a rich piece of ground with a big dibble and drop the Lecks in, when by giving a little water sufficient soil is washed down to cover the roots, and the plants soon get a firm hold and make a good start.

Asparagus.—Why so many fail with this is in cutting it too long, which weakens the plants considerably, as it is necessary for them to make plenty of top if the crowns are to become developed, but if kept without foliage till so late in the season they dwindle and die. To give the plants every encouragement the alleys between the beds should be filled with rotten manure, the juices from which will be washed down and the roots be fed as well as kept moist, and if a soaking of sewage can be given now and then during the summer it will be a great help. Salt too is highly beneficial for Asparagus, it being a maritime plant, and may be applied by sowing it thinly, and if this is done now there will be no further trouble with weeds all the season.

The Guango Tree.—*The Indian Gardener* states that an attempt is about to be made in Mauritius to grow the Guango tree, which is said to be the finest and largest tree on the island of Jamaica. It has an abundant foliage, but its chief value consists in its pods, which are 6 ins. or 7 ins. in length, and contain seeds or beans that make excellent food for men and animals. Oxen are said to be especially fond of them, and to get rapidly fat when fed upon them.

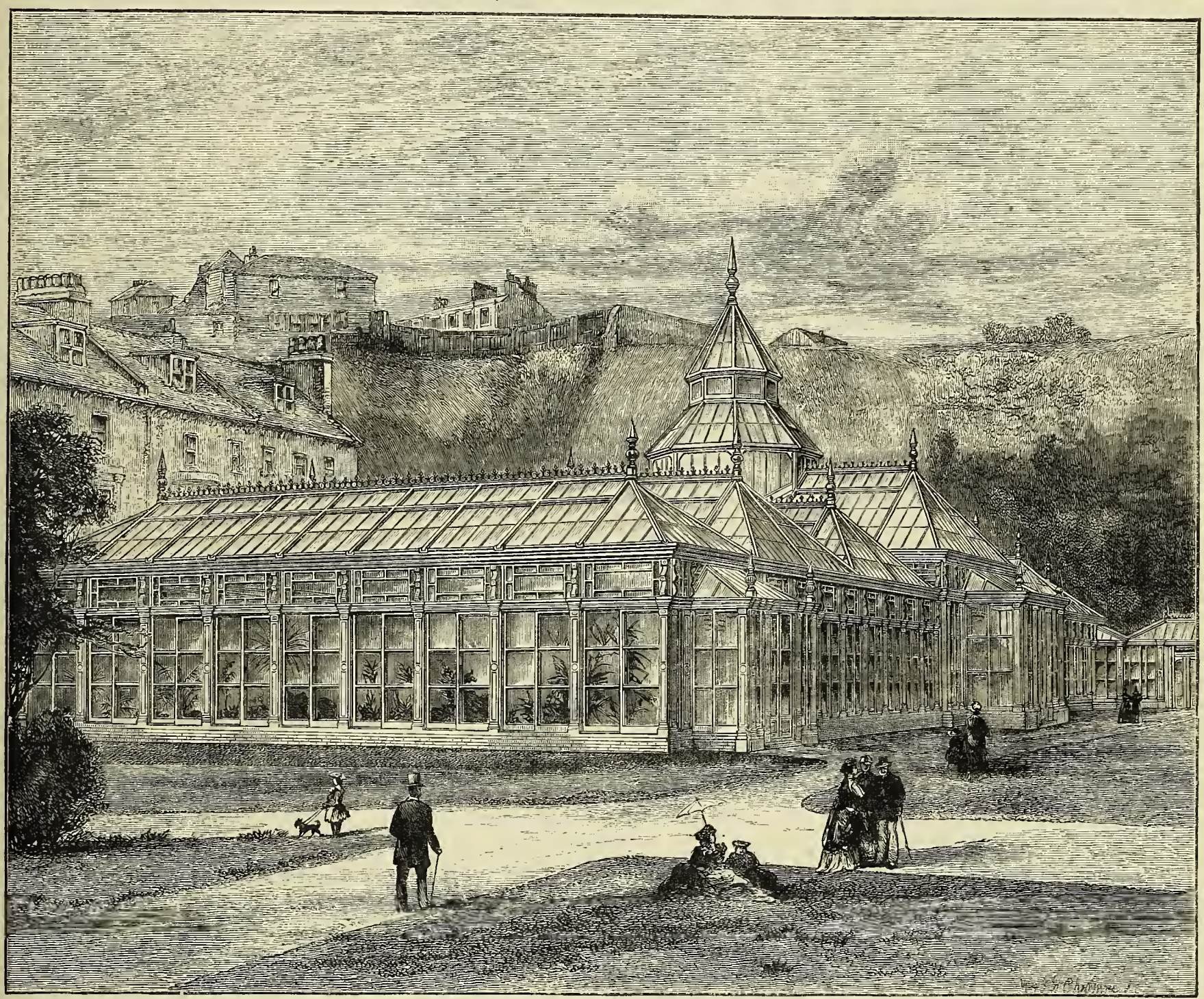
THE WINTER GARDEN, FOLKESTONE.

That the South-Eastern Railway Company have moved in the right direction is apparent by the spirited action they have taken to enhance the comfort of their visitors and the travelling public in erecting a handsome Winter Garden as an adjunct to their Royal Pavilion Hotel, at the above-named fashionable watering place, a boon which will be much appreciated, especially by ladies and invalids.

From the illustration we give it will be seen that the building is on the combined span-roof principle, consisting of seven roofs of various widths, the main or central one having an octagonal ornamental lantern or dome. The ornamental part of the roof, consisting of ridge-running ornaments and finials to correspond, is very pleasing and effective; the mullions in front are also ornamental in character.

The Winter Garden presents a frontage of about 170 ft., averaging 51 ft. in width, and has three entrances, each of which has also a vestibule. The main entrance from the hotel is connected to it by a glass corridor, thus enabling visitors to enter in all weathers without exposure. Special attention has been paid to the warming arrangements, in order that a genial temperature can be maintained, even in the most severe weather. Two of Weeks's Patent Duplex Upright Tubular Boilers are employed for this purpose, and the pipes are fixed in prepared channels below the floor line, and covered with ornamental iron gratings. The boiler house is at one end and built in character to form part of the main building. Beds form the interior feature, planted in such a manner with ornamental shrubs and fine-foliaged plants, that when necessary the Winter Garden can be easily converted into a banqueting-room.

The building was specially designed by Messrs. J. Weeks & Co., Horticultural Engineers, King's Road, Chelsea, who also carried out the entire works. In the construction of the house about 110 tons of prepared wood, iron, and glass were employed.



THE NEW WINTER GARDEN AT FOLKESTONE.

SELECT HARDY PERENNIALS.

(*Continued from p.* 628.)

Following closely in order, the genus Anthericum stands next in importance to the "Wind-flowers" or Anemones. It includes some of the choicest and hardiest of perennials, all of which are easily grown in any good ordinary soil, and when they have attained to specimen size they are certainly among the handsomest of hardy plants. They may, if required, be separated with ease, not with a knife, however, but simply by the hand, requiring but little force. The root stock is composed of numerous large white fleshy roots in conglomerate form, having many crowns, and when planted singly these crowns produce much finer flowers than if they are left for years undisturbed. The under-mentioned kinds grow about 2 ft. high, are most graceful in habit, and have in each case pure white flowers.

Anthericum Liliago major (or the Great St. Bernard's Lily) is a very fine form, in habit and general appearance resembling the type, but the pure white flowers are double the size.

A. Liliastrum, "The St. Bruno's Lily," is a handsome plant with fine spikes of the purest white flowers, which are deliciously fragrant. It is without doubt one of the finest perennials, and should be in all collections.

A. Liliastrum major is the noblest of its race, growing fully 2 ft. 6 ins. high, with gigantic spikes of flowers 18 ins. long. As a first-class border plant it is unequalled, and may be well grown in pots, which renders it a fitting ornament for the conservatory. For vase decoration they are also equally valuable.

The Columbines.—Now we come to that interesting group of Alpine and perennial plants, the Columbines, or Aquilegias, so truly interesting owing to the picturesqueness of their flowers. Those who love a garden with a natural love will find these the very plants to employ in quantity—they are so easily raised from seeds and so diversified in colour, form of

flower, and season of flowering, that by adopting several species and forms it is possible to have them in bloom for several months in the year, and their general elegance and decorative qualities are such that one never tires of seeing their pleasing and varying forms. The first I shall allude to is—

The "Rocky Mountain Columbine," A. cœrulea, which forms a compact tuft of handsome, much-divided foliage, with branching stems, bearing numerous flowers, the sepals of which are of a soft violet-blue, and the corolla a most pleasing combination. It grows a foot or more high, prefers a partially sunny position, grows well in any light sandy soil, and is a most charming plant. Where seedlings exist I would suggest that they be planted in a colony or group, a few inches apart, thus producing a greater effect. It is admirably adapted for rockeries.

The Golden Columbine, A. chrysantha, grows to the height of 3 ft., is of easy culture, and must be numbered among the most worthy of perennials. When well established it forms a fine bush 2 ft. or 3 ft. through, bearing its long-spurred golden flowers in the greatest profusion for two months.

A. glandulosa is not only one of the most beautiful of the genus, but it is one of the handsomest of all perennials. Its flowers attain a great size, the sepals being of a deep blue, and the corolla pure white. It must always hold a foremost place among hardy plants.

The Scarlet Columbine, A. californica.—The flowers of this species are so distinct from the prevailing, though charming, blue and white so generally seen, that it calls for special mention. It grows 2 ft. or more high, and has bright scarlet flowers. This species, too, in conjunction with A. chrysantha, has given rise to some extremely exquisite hybrid forms possessing shades of colour hitherto unknown. These new forms can now be obtained very cheap, either in established plants or seeds, and, therefore, should receive due appreciation.

Aquilegia vulgaris is the kind most common in gardens, and of which there are numerous forms, the best of all being the double white, which is valuable in a cut state. It grows 2 ft. high or thereabouts.

The White Arabis, Arabis albida, is so well known as to need no words of mine to proclaim its uses. Its variegated form, however, makes a good edging, and as such is very useful. But the neatest, brightest, and most compact is A. lucida variegata, which as a small-leaved edging plant is almost unique.

Arenarias, or Thrift.—These form pleasing tufts of grassy foliage, from which rise the flower-stems, from 1 ft. to 1 ft. 6 ins. high, terminating with large globular heads of rose, white, and pink flowers, which are produced in great profusion for some considerable time, and are to be highly recommended. The best forms are A. alpina grandiflora, A. cephalotes rubra, and A. plantaginea rubra. These are worthy of a place even in the choicest collections of hardy plants. For rockwork or border they are alike valuable, and last a long time in a cut state. The forms which are so often seen in cottage gardens are those of the Sea Thrift, all of which are of dwarfer habit, and the flowers much smaller than the kinds above named, which are giants by comparison.—*J.*

CHOICE NARCISSUS.

Of late years, this class of spring-flowering plants has become very and deservedly popular. But the enormous number of varieties one sometimes sees at the Daffodil exhibitions at South Kensington, for instance, is quite bewildering, and those who attempt to make a selection find themselves landed in a great difficulty. Everything looks so desirable, that they are puzzled which to reject, as well as which to select, and it happens that they pitch upon a sort or two which proves to be new and very scarce, and which is sold only at a prohibitive price. This is a disappointment frequently experienced by those who go to flower shows and take down the names of flowers and plants they take a fancy to.

The following varieties, which we have selected with a view of assisting our readers to the best of our ability, are varied in character, admirable for cutting from, and cheap in price. They make a good selection for a garden, and will be found useful in many ways. The varieties are as follows:—Bulbocodium (Yellow Hoop Petticoat), flower bright golden-yellow, a gem for pot culture, which can easily be had in bloom in March, and each bulb produces from six to twelve flowers; Bulbocodium Monophyllus or Clusii, pure white, flowers in a cold frame as early as January, and is fine for cutting from; Incomparabilis Albidus Leedsi is a bold, handsome flower, the divisions creamy-white, the yellow cup deeply stained with orange; one of the most distinct for cutting purposes; Incomparabilis maximus, large deep yellow crown, stained with orange, the pale yellow divisions margined; Incomparabilis Aurantius Orange Phœnix, large double white, orange centre, very useful for cutting, and Sulphureus Sulphur Phœnix, large double cream-coloured flowers, one of the finest for cutting; Incomparabilis Stella, large single white, very early, extra fine for cutting; Lincolnshire Yellow, a fine form of Narcissus major, divisions and trumpet golden yellow, fine for cutting; Maximus, immense golden yellow trumpet, one of the best of the whole race; Obvallaris, or the Tenby Daffodil, yellow, very free and distinct, excellent for cutting; Odorus, or the Campernelli Jonquil, rich deep yellow, very useful for cutting; Poeticus ornatus, the large early-flowering Narcissus, a gem for cutting; Poeticus angustifolius, the small early-flowering Poeticus, but not quite so fine as ornatus, though very useful; Rugilobus, large yellow trumpet, pale sulphur divisions, fine blooms, and very early; and Telamonius plenus, or the old Double Yellow Daffodil.—*Quo.*

FRUITS.

Fruit Culture under Glass.—Pines: Clean, healthy fruiting plants should have liberal supplies of tepid liquid manure at the roots when necessary, which, during bright sunny weather, will be about once in the week or every ten days. Put a little air on as soon as the thermometer registers 80 degs. in the morning, afterwards increasing or decreasing the quantity of air given according to the rise and fall of the internal temperature until closing time in the afternoon, about four o'clock, when it may be run up to 95 degs. with sun and plenty of atmospheric moisture in the house or pit at the same time. But in damping the pathways, walls, plunging material, and the plants (less heavily) overhead, morning and afternoon, care should be taken not to let the water from the syringe get into the crowns of the individual fruits, as that would cause them to make an unduly large growth, a circumstance which would consequently considerably detract from the size and appearance of the fruit.

In order to secure handsome fruits as large as possible, two stout sticks should be put to each plant—one on either side of the fruit—and the latter be secured thereto by means of four ties, two being fastened round the stem of the individual fruits, and two round the base of the crown, and the latter ties slipped into a downward notch made in the off-side of the sticks at an angle of about 30 degs. from the top of the fruit, as much with a view to preventing the growth of the latter from being impeded as maintaining the fruit in an upright position.

Successional Plants may have air put on a little earlier than the fruiting plants, and left on a little longer in the afternoon. Until the fruits have gone out of flower during the latter stage of growth, it is necessary to observe a somewhat drier and more airy atmosphere in the house, so that every "pip" may set and swell, otherwise the fruits will be wanting in finish; but after the fruit is set, the treatment should be the same as that indicated above. Young plants should be subjected to a lower temperature than that recommended above, but in every other respect the treatment should be the same. Light shading should be put on over the plants in every stage of growth from half-past ten to three o'clock in the afternoon during bright and powerful sunshine during the next few months.—*H. W. Ward, Longford Castle.*

Apple Lodgemore Nonpariel.—I note some observations on Apples in The Gardening World of the 16th ult. If the Lodgemore Nonpariel makes a standard orchard tree, I should hope to add it to my collection. Dr. Hogg speaks highly of it and gives it longer life than Keddleston Pippin. In the Royal Horticultural Society's long list of Nonpariels, published in 1842, it is not mentioned, nor is it noticed by Ronald (1831) in his 4to. book, nor by Mr. Rivers in his catalogues from 1859 to 1880. I shall be interested to learn more particulars about it.—*Charles Ellis, Chudleigh Knighton.*

New Melons.—Several seedling Melons were placed before the Fruit Committee on Tuesday, but only one proved of exceptional merit, and that certainly deserved the First-Class Certificate which was awarded to it, for a better flavoured fruit we have seldom tasted at this season. It is named La Favorite, is a hybrid between Hero of Lockinge and Victory of Bath, green-fleshed, thick, round in shape, and handsomely netted. It was raised and exhibited by that very successful Melon-grower, Mr. C. Herrin, Gardener, Chalfont Park, Gerrards Cross, Bucks.

FLOWERS.

Work in the Plant-houses.—Autumn and Winter-flowering Heaths: Erica hyemalis, E. gracilis, E. colorans, and other autumn and winter-flowering members of this useful genus should now be exposed to as much air as possible, and as soon as the weather is a little more settled they will be better out-of-doors. To secure a good sturdy growth, the plants should be well exposed to the sun, especially a little later on, when they begin to set their flowers. Plants grown partially in the shade will make more growth, and keep a deeper green in colour, but they seldom flower so well as those that have been more exposed, and this is particularly the case with E. hyemalis, which is perhaps the most useful of all the family. It is becoming more generally known that plants of this class are benefited by giving them a little stimulant, yet there are many growers who are not liberal enough in this respect. As soon as the pots are well filled with roots we like to begin to give them a little liquid manure made from cow-dung and soot, which should (as previously recommended) be allowed to stand until it has settled down quite clear. Later on a slight sprinkling of Clay's Fertilizer may be used occasionally, but it is better not to use this during the hot weather.

Watering Heaths.—It is so generally understood, that it is hardly necessary to say that all the Heaths require great care in watering. We believe that in many cases where the Heaths die off during the summer, the cause may be traced to the plants having been allowed to get too dry in the pots. The young roots, being very tender, will shrivel up at the points, from whence they should take up the nourishment for the plant; and, therefore, when water is given they will be unable to absorb it, and, consequently, the water will complete the destruction by causing the roots that have been damaged by drought to rot off completely. Mildew is a great enemy to the above class of Heaths, and if it should make its appearance sulphur should be applied at once, not only to the plants affected, but to all those surrounding them.

Doronicum Clusii.—This is one of the very best of the Doronicums. A large patch of it in Mr. Samuel Barlow's garden at Stakehill House is now highly attractive, and produces large bright yellow flowers in great profusion. They are also of fine shape—flat and striking. This should have a place in a select collection of hardy perennials. At Stakehill the plants do well on a north-west shrubbery border in a good loam. A little partial shade appears to suit it well.

A Camellia in the Open Air.—I want a little advice about a Camellia bush growing in my garden here. It grows about 3 ft. from a wall, with a north-west aspect, and has now weathered eight winters without protection, except during the winter just past, when a light frame of four rods was pitched over it to support a bast mat thrown across. Its dimensions are about 3 ft. high and broad, without a clear stem, and this year it bore about 200 blooms, many of them 3 ins. in diameter. The colours are varying,

blush-pink with carmine stripes, China white with lighter stripes, cerise pure, crimson pure, crimson and stripe (half and half). Thus there are five distinct varieties, and the different colouring afford also difference of form of petal. It cannot be a grafted bush of various kinds, as on one spray and on one point two different colours often appeared. Your readers may be interested to read of this, and may be able to advise on what I propose to do to preserve the plant in good quality, which is to take out a trench 4 ft. or more from the stem, say 3 ft. deep, and wall up with brick, and clay for mortar, as it does not like lime, to prevent the encroachments of trees not far off, which would soon overpower it and reduce it to a weedy or wild state. Should this be done at midsummer or later?—*Charles Ellis, Chudleigh Knighton, South Devon.*

Arrangement of Roses as Cut Flowers.—Mr. Joseph H. Brown, the Ex-President of Rhode Island Horticultural Society, recently addressed the Massachusetts Horticultural Society on Roses, and gave the following suggestions about them as cut flowers:—"The arrangement of cut Roses is a matter of taste, in regard to which there does not exist an unanimity of sentiment, else we should be wearied with a continual sameness. But there are certain fixed laws that regulate the decorative art in flowers. Too many blooms are used for single baskets and bouquets, where they are crowded together promiscuously, exhibiting a mass of petals, the form and colour of each separate flower being indistinct, with little of its own foliage to render the proper effect. The more nearly Roses are shown as they naturally grow, the handsomer they are. The stiff artificial stem, without the leaf of the flower, propped up by Smilax, Ferns, and other green things than its own, is not like Nature. Hand bouquets of Roses and buds are more beautiful when made of one variety with its own foliage, stems long and loosely bunched, having a small number, well chosen, of sweet odour. A collection in basket form or for parlour decoration had better lack a flower than have one too many, the object being to form a graceful, refreshing, and suggestive picture, preserving an 'easy negligence mixed with art.' Show each bloom separately, reposing in its own green, and a few colours have a better effect than many. If a combination is thought to be desirable, red, white, and buff form a pleasing one. The beauty of Roses is much enhanced when displayed in masses. As a rule, if there are to be many flowers, use the delicate shades; if few, the deeper tones. Large and choice Roses are always more effective when displayed in proper standards for their reception as single specimens."

VEGETABLES.

The Kitchen Gardener's Calendar. — Seed Sowing: Sowings of Broad Beans and Canadian Wonder French Beans, also Endive of the broad-leaved and green-curled type, and Walcheren and—if not sown as advised in our calendar for May 30th—Veitch's Autumn Giant Cauliflower should now be made, as also Mustard and Cress and Radishes, which, as previously recommended, should be sown every fortnight or three weeks during the summer. Make another good sowing of late and second early varieties of Peas (principally the latter) for yielding supplies late in autumn, and in about a week or ten days later, Day's Early Sunrise and William I. should be sown on a warm border to supplement the gatherings from the preceding sowing.

Successional Sowings of Turnips (early Snowball and Carter's Jersey Lily), Carrots (Nantes Horn), for autumn and early winter use, and Lettuces of the Cos and Cabbage varieties should also be made, and subsequently attended to when necessary in the way of watering, &c.

General Work.—This will consist of the earthing up of Brussels Sprouts, Cabbages, Cauliflowers, Broad Beans, French Beans, and Peas, together with the sticking and mulching between the rows of the latter with rotten dung, the watering of seed beds, seedlings, and freshly set plants, and rows of Peas and Beans and Celery when necessary. Vegetable Marrows and Ridge Cucumbers, which should now have the hand-glasses raised by tilting each corner, and the shoots taken out underneath in different directions, may have the hand-glasses or tops removed in showery weather. Recently transplanted herbs should not be allowed to suffer for want of water at the roots. Tomatos out-of-doors will also require attention as to watering and the training of their shoots.—*H. W. Ward, Longford Castle.*

Branching Marrow Pea "Prince Imperial."—This Pea, although not of recent introduction, and not generally known or cultivated, may, for its general good qualities, be classed with the very best. It was raised by Mr. G. Fry, of Lee, some fifteen or sixteen years ago, and was sold to Mr. James Walton, F.R.H.S., of the Horn Park Nurseries, Eltham Road, Lee, who has grown, and saved for trade purposes, no other variety, so that the stock has been kept true. Mr. Walton tells me that there is no Pea which he cares so much for as this when placed on the table for his own consumption. In habit it is robust, growing from 5 ft. to 6 ft. high, and it may be said of it that it is a perpetual bearer, and comes early into flower. I have in ordinary good seasons commenced gathering at the end of June or in the beginning of July, and under favourable conditions have continued to do so far into the month of September. Flowering commences when the plants are about 2 ft. high, and goes on intermittently until the normal height is reached, when lateral growths are made and successional crops follow. There have been seasons when I have grown the one Pea only, and have been perfectly satisfied with the result. I have grown Peas pretty extensively in my time, and remember the period when the Messrs. Cormack, of New Cross (where the late Charles Turner spent some of his early days), sent out a Pea named "Early May," which the firm obtained from a very old friend of mine. A few years later they also introduced the "British Queen," which is well known, and has been extensively grown.

After many years of toil, experience has thoroughly convinced me of the fact that, however superior may be the combined qualities of Peas, we cannot depend upon successful crops unless the season is favourable, and the soil in every way suitable. Peas are very susceptible to a short bearing existence should the sun's rays prove excessively hot. I have often remarked that what suits the Raspberry also, as regards the weather, suits the Pea, viz., a rather temperate and humid atmosphere. We have experienced similar weather a good deal this season, and my Peas go to prove the truth of this reiterated statement. I am growing this year "Abundance," which is just coming into bloom, a dwarf, robust American sort; House's Perfection Marrow, Henderson's Giant Marrow, Carter's Telephone, and the Prince Imperial, which is blooming splendidly.—*Man of Kent.*

Gilbert's Queen of the Broccoli.—Mr. Richard Gilbert, of Burghley, whose partiality for the Brassicas is well known, scored another honour on Tuesday, this time with his new Queen of the Broccoli, which was shown in splendid condition. The heads were nearly 12 ins. across, very close and compact, snowy-white, and mild in flavour. We know nothing of the origin of it, but it seems to be a thoroughly good introduction.

Hallam's Hybrid Broccoli.—Some large heads of this Broccoli, which is stated to be a hybrid between the Broccoli and Couve Tronchuda, were also shown by Messrs. Harrison & Son, Leicester, and ordered to be cooked and reported upon at the next meeting. The heads are large in size, creamy-white in colour, and said to be of a rich, delicate flavour. The broad fleshy ribs are much larger and more delicate in flavour than any of the ordinary spring Broccoli, and the leaves being well incurved, the flowers are well protected from sun and frost.

The White Chavigny Cabbage-Lettuce is a variety of sterling merit, having size, colour, crispness, and flavour to recommend it, in addition to a good hardy constitution. It was well shown on Tuesday by Mr. R. Dean, and has been certificated.

THE DARWIN MEMORIAL.

A memorial statue of Charles Darwin, designed by Mr. Boehm, R.A., was unveiled on Tuesday by Prof. Huxley, in the great hall of the Natural History Museum, in the presence of the Prince of Wales and a large assembly, including many of the most prominent scientific men of the day.

The statue is of the purest marble, and represents the distinguished naturalist as seated in a chair commanding a view of the great hall. The difficulties attending the representation of modern costume are skilfully overcome, and the statue was praised by all who knew Mr. Darwin as a remarkable likeness. Professor Huxley, when the statue had been unveiled, addressing the Prince of Wales, who received it on behalf of the trustees of the Museum, said that the death of Darwin three years ago had given rise to a manifestation of public feeling throughout the civilized world which was without precedent in the modest annals of scientific biography. The loss was that of one of those rare ministers and interpreters of Nature whose names mark epochs in the advance of natural knowledge. Since the publication, and by reason of the publication, of *The Origin of Species*, the fundamental conceptions and the aims of the students of living nature had been completely changed. From that work had sprung a great renewal, a true "instauratio magna" of the zoological and botanical sciences. Largely as at first the objectors predominated, it was curious to consider for how short a time the phase of vehement opposition lasted. Before twenty years had passed not only had the importance of Mr. Darwin's work been fully recognized, but the world had discerned the simple, earnest, generous character of the man that shone through every page of his writings. At his death loving friends and honourable antagonists were at one in the desire to honour the memory of the man who, without fear and without reproach, had successfully fought the hardest intellectual battle of these days. It was resolved to invite subscriptions with the view of erecting a statue to Mr. Darwin in some suitable locality, and devoting any surplus to the advancement of the biological sciences. Contributions at once flowed in from Austria, Belgium, Brazil, Denmark, France, Germany, Holland, Italy, Norway, Portugal, Russia, Spain, Sweden, Switzerland, the United States, and the British Colonies, no less than from all parts of the three Kingdoms, and they came from all classes of the community. The Executive Committee has thus been enabled to carry out the objects proposed. A "Darwin Fund" had been created, which was to be held in trust by the Royal Society, and to be employed in the promotion of biological research.

The execution of the statue was entrusted to Mr. Boehm; and those who had the good fortune to know Mr. Darwin personally would admire the power of artistic divination which had enabled the sculptor to give so very characteristic a likeness of one whom he had not seen. It appeared to the committee that, whether they regarded Mr. Darwin's career or the requirements of a work of art, no site could be so appropriate as that great hall, and they applied to the trustees of the British Museum for permission to erect it in its present position. That permission was most cordially granted, and he tendered them the best thanks of the committee. He also offered an expression of gratitude to his Royal Highness for kindly consenting to represent the trustees. In requesting his Royal Highness to accept this statue of Charles Darwin, he did not make this request for the mere sake of perpetuating a memory; for so long as men occupied themselves with the pursuit of truth, the name of Darwin ran no more risk of oblivion than does that of Copernicus or that of Harvey. Nor did they ask its preservation in its cynosural position as evidence that Mr. Darwin's views had received official sanction; for science did not recognize such sanctions, and committed suicide when it adopted a creed. They begged that it might be cherished as a symbol by which generation after generation of students of Nature would be reminded of the ideal according to which they must shape their lives, if they would turn to the best account the opportunities offered by the great institution under the trustees' charge.

THE

Orchid Growers' Calendar.

Angræcum Ellisii.—At the present time no Orchid in flower here is, in my opinion, so lovely, and at the same time so curious, as the subject of this note. Its pure white flowers, with their spur fully 4 ins. long, make it a striking and beautiful object. It flowers in a very small state, which is another thing in its favour, the plant referred to being not more than 3 ins. in height, and has only five or six leaves, yet the spike has twenty-one flowers on it. I grow it in the East Indian-house, but during the time it has been in flower it has been in the Cattleya-house, where it has lasted in good condition for over a fortnight. It prefers during the summer a position on the shaded side of the house, as it does not like strong sun, which, however beneficial to many things when shielded from its fiercest rays, speedily and permanently disfigures the foliage of this very pretty and chaste Orchid.—*E. Dumper, Summerville Gardens, Limerick.*

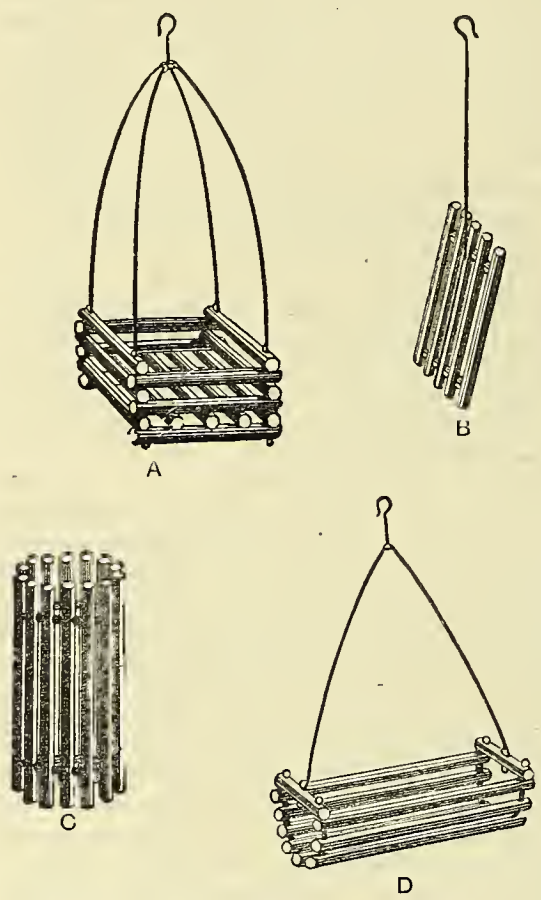
Major Lendy's Orchids.—In the interesting collection at Sunbury House, Sunbury-on-Thames, a great many fine things are now in bloom among a good general display of Cattleyas, Lælias, Odontoglossums, Masdevallias, &c. Among the best may be noted the pretty Warrea cyanea, now so rare; Læha elegans Warnerii, with handsome violet-crimson lip; L. Russelliana, a very showy kind; Cattleya Mossiæ Arnoldiana, with almost white petals and handsome lip; Epidendrum bicornutum, with fine wax-like snow-white flowers; and a grand mass of one of the handsomest Miltonias ever introduced. Its flowers are nearly twice the size of the ordinary M. spectabilis, the broad sepals and petals delicate rose in colour, and the massive labellum rose, veined with bright crimson. This grand plant seems to partake of both M. Moreliana and M. spectabilis, and to exceed both in size by a long way. The Miltonias are well grown at Sunbury in a shady part of the Cattleya-house, where they are well supplied with water whilst growing, and so treated they assume a better colour of leaf and bulb than is usual with them.

The cool-house plants, which improve here every year since the erection of their new house, give a good show of Odontoglossum crispum in many fine varieties, O. Pescatorei, O. sceptrum, O. cirrhosum, O. polyxanthum, O. citrosmum, rose, white, and spotted variety; O. cordatum, O. Rossi majus, O. vexillarium, one of them verging on O. v. Lawrencianum, with scarlet lines in the centre; O. Roezlii; Masdevallia Harryana, many fine specimens and varieties; M. Shuttleworthii, M. ignea vars., M. Bella, M. ephippium, M. Houtteana, M. chimera, M. Roezlii rubra, &c., many of them being represented by a number of well-flowered specimens.

Blooming well in the other houses are Cœlogyne Massangeana, Calanthe veratrifolia, some pretty Comparettias, Bletia Parkinsoniana, with showy mauve flowers; Epidendrum criniferum, pretty and fragrant; E. Tovarense, white; E. paniculatum, E. vitellinum majus; E. arachnoglossum, E. macrochilum, E. m. roseum, E. cochleatum majus, E. sceptrum, E. variegatum, E. prismatocarpum, E. odoratissimum, E. fragrans, E. xanthinum, Epiphora rubescens, Læha cinnabarina, L. grandis, L. xanthina, L. Boothiana, L. elegans, L. purpurata, some very fine; Miltonia Warscewiczii, M. spectabilis rosea, M. s. radians, Oncidium fuscatum, O. divaricatum, O. luridum guttatum, O. sphacelatum, O. tricuspidatum, O. Janieriense, O. crœsus, O. flexuosum, O. hastatum, O. cucullatum, O. Phalænopsis, O. cruentum, O. crispum, O. varicosum and vars., O. barbatum, O. serratum, O. pulvinatum, O. Marshallianum, O. concolor, Aerides Fieldingi, A. Berkleyii, A. japonicum, A. falcatum, A. virens Dayanum, A. Houllettianum, Acineta Humboldtii, Brassia verrucosa, Cattleya Mossiæ, many varieties; C. citrina, C. Mendeli, C. Acklandiæ, Cypripedium barbatum nigrum, C. caudatum, very fine; C. Dayanum, C. concolor, good masses; C. niveum, C. Hartwegii, C. Storei, C. Roezlii, C. porphyreum, C. Hookeri, C. Lawrenceanum, Dendrobium tortile roseum, D. Bensoniæ, D. thyrsiflorum, D. densiflorum, D. Parishi, D. Dalhouseanum, D. Fytchianum, D. Falconeri, D. suavissimum, D. hedyosmum, D. chrysotoxum, D. Devonianum, Lycaste Skinneri, L. Deppei, L. cruenta, L. aromatica, L. Harrisonæ, Leptotes bicolor, Phalænopsis Parishii, P. rosea, P. Luddemanniana, Vanda insignis, V. tricolor, V. suavis, Palumbina candida, &c.

In flower or in bud too are a great number of curious little Masdevallias, such as M. tridactylites, some strange-looking Bulbophyllums, Sarcopodiums, Cirrhopetalums, Restrepias, &c., which Major Lendy takes much interest in, and which, but for the care of such enthusiastic cultivators, would soon be lost to the country.

Orchid Baskets, &c.—While Orchid pots remain much as they were a quarter of a century ago—improved in quality perhaps, but not much altered in shape—Orchid baskets, rafts, &c., have undergone considerable improvement, both in their manufacture, their design, and the quality of the wood of which they are made, to the lasting benefit of the plants and the great comfort of those who have to grow them. Up to the present time, nothing of a more substantial or lasting character than Teak has been used, and



OCTAGONAL TEAK ORCHID BASKETS, &c.

it undoubtedly answers its purpose very well. Orchid baskets of the pattern shown in our illustration A, are made of octagonal Teak, in sizes ranging from 3 ins. to 18 ins. square, and even larger, and neatly put together with either galvanized wire or copper wire, the latter undoubtedly the best, if a little dearer. The ordinary stock size of the rafts B, is 9 ins. in length and 5 ins. wide, and of the cylinder C, 12 ins. in length and 6 ins. in width, while the boats D measure 12 ins. long and 4½ ins. wide. For the illustrations we are indebted to Mr. Percy Williams, 21, Farringdon Road, E.C., one of the oldest manufacturers of these useful adjuncts to Orchid cultivation, and who exhibited a number of well-made and neatly finished examples of the various forms which he makes, at the Orchid Show on Tuesday.

Odontoglossum Oerstedii.—I have frequently heard it said that this is a difficult subject to manage well, and can only say that there are many that puzzle me more. About a year ago I received two plants, which did not get a very hearty welcome, there being only one or two flowers left on them. Although it is by no means a favourite, it has had many admirers. I have grown it in shallow pans, suspended about 18 ins. from the roof of the cool Orchid-house, in which position it has produced five flower spikes from one bulb; some of the bulbs certainly only had one or two flower spikes, but most of them had three or four. It is certainly worthy of a place in any collection, and when the plants get well established, and have grown into fine masses, I venture to predict it will be more prized than it is now. Its pure white flower with yellow blotched lip makes a small but pretty button-hole.—*E. Dumper.*

Aerides Turning Yellow.—I have an Aerides odoratum majus developing fine flower spikes, and also strong roots, but the tips of its leaves are turning yellow. It is about 3 ft. high, stands within 6 ins. of the glass, and well shaded. Can any of your readers say what is likely to be the cause of it turning yellow? —*G. W.*

HORTICULTURAL SOCIETIES.

Horticultural Show at Waltham Abbey, *June 4th.*—Mr. Geo. Paul must be congratulated on the excellent Flower Show he so much helped to bring about in connection with the Essex Agricultural Society's Exhibition last week. The Flower Show, though a part of the whole Exhibition, was held in a distinct enclosure by the side of it, and visitors passing into it went through a long broad tent, open at both ends, that of itself formed a striking exhibition. Right and left were groups of Standard and Dwarf Rhododendrons of great beauty. On the left hand the remaining space—a very large one—was filled up with a wonderful group of plants from Messrs. J. & J. Hayes, Nurserymen, Edmonton, which consisted of Pelargoniums, among them a beautiful lot of double Ivy-leaved varieties, pink and blue Hydrangeas, Herbaceous Calceolarias, Cinerarias, &c., comprising many van-loads; a better lot of stuff of the kind could hardly be imagined. On the right-hand side, Mr. Rochford had a group of fifty market plants, competing for a special prize; and beyond this, Mr. William Rumsey, of Joyning's Nursery, St. Albans, had an excellent group of hardy Coniferæ in pots, flowering plants, cut Roses, &c., arranged with great taste. This tent proved a capital introduction to what laid beyond it. From this the visitor passed into a tent in which Mr. B. S. Williams, of Holloway, and Messrs. W. Cutbush & Son, Highgate, had arranged charming groups of stove and greenhouse plants; and here too were groups of new and rare plants, Mr. B. S. Williams being first with an interesting lot; and Mr. H. James, Castle Nursery, Norwood, second. Collections of Coleus, Ferns, and other things of a similar character completed this tent.

The next was a spacious tent, with the plants arranged at the sides on the ground, while down the centre Mr. Geo. Paul had judiciously placed some groups of beautiful Pot Roses. Round one group of Standard Roses he placed several boxes of cut-flowers from his new herbaceous nursery at Broxbourne, and they admirably illustrated the wealth of good things in flower at this particular time of the year. In addition, a fringe of hardy plants in pots was used as a margin to a group of ornamental-foliaged plants. Here was a fine collection of twelve stove and greenhouse plants in bloom, shown by Mr. D. Donald, gardener to J. G. Barclay, Esq., Leyton, all in good condition, fresh and neat, and in the best form. Mr. H. James was placed second. Mr. Donald also had the best twelve ornamental-foliaged plants, but he was run close by Mr. C. Rann, gardener to J. Warren, Esq., Hand Cross Park, Crawley; the two groups came very near together, but we thought the advantage was with Mr. Donald. In the class for ten Exotic Ferns, the positions were reversed, and Mr. Donald came in second to Mr. Rann. Caladiums, Marantas, and Coleus, were nicely shown, the plants medium sized, but well grown. The best ten Orchids came from Mr. W. J. Gilks, gardener to A. Borwick, Esq., Walthamstow, Mr. Rann having the best five plants. Mr. C. Rann had the best twelve Roses in pots; and Messrs. Paul & Son had the best twenty-five Herbaceous and Alpine plants, staging a very good lot indeed, Mr. W. J. Gilks being second.

In addition, there were collections of cut-flowers, of vegetables, and a few other things of a less important character, but all interesting and instructive. As there is no flower show held in this part of the country, at least, no show of anything like importance,

it may be that the successful venture of Waltham Abbey will lead to the institution of a good South Essex Show. There is, to all appearance, good material in the district out of which to form a taking show, and probably last week's effort will give an impetus to its establishment.

Royal Horticultural, *June 9th.*—The heavy rainfall of the previous day seemed to have had but little effect in reducing the number of exhibitors at South Kensington on Tuesday, for the Conservatory was filled with gay flowers, and the "Orchid Show," as it was called, but which was rather a display of Orchids and Herbaceous plants combined, must be pronounced a success. On the long central tables the Orchids were grouped on one side, and the Herbaceous plants on the other, a method of arrangement which was certainly to the advantage of both sections. Excellent prizes were offered in the Orchid classes, and they ought to have brought out more exhibitors. As it was, in the trade classes, Mr. Cypher, of Cheltenham, and Mr. J. James, of Lower Norwood, fought their battles over again, and again to the advantage of the former, while the amateurs' classes were very weak, considering the many fine collections within an easy distance of the trysting place.

The brightest and freshest group in the show was to be seen in the amateurs' class for six, the plants being shown by F. A. Philbrick, Esq., Q.C., Oldfield, Bickley, Mr. Heims, gardener, who was easily first. The group included a good Odontoglossum vexillarium, with three dozen large flowers; a superb variety of Cypripedium barbatum, a good Lælia purpurata, Cattleya Mendeli, and Phalænopsis grandiflora, with two spikes, one of them especially fine. In the amateurs' class for twelve, the first prize went to Henry Little, Esq., Mr. Hill, gardener, who had, amongst others, a large Dendrobium Dalhousianum, a well-coloured Cattleya Mendeli, a well-flowered piece of Cattleya Mossiæ, Cypripedium niveum, Aerides crispum, &c. The second prize fell to De B. Crawshay, Esq., Mr. Cooke, gardener, with a good Cattleya gigas Sanderiana with seven blooms, C. Mendeli, C. Warneri, Vanda suavis, &c. The best amateurs' group of six Cattleyas also came from Mr. Crawshay's collection; and in the cut-flower class, for six, Mr. Philbrick's gardener again secured first honours with fine blooms of Odontoglossum Alexandræ, Od. vexillarium delicatum, Cattleya gigas Sanderianum, Cypripedium Dominianum, and C. Mendeli. The second prize was taken by J. S. Hodgson, Esq., Lythe Hill, Haslemere' Mr. Evans, gardener, and the third by Dr. Paterson, Bridge of Allan.

In the nurserymen's section, Mr. Cypher beat Mr. James with twelve and six plants respectively, the former having large, well-flowered specimens of Lælia purpurata, with ten spikes; Masdevallia Harryana, 2 ft. across, and well bloomed; Cypripedium Lawrenceanum, with thirty-four fine blooms; a fine mass of Dendrobium Bensoniæ; a nice piece of Odontoglossum vexillarium, &c. Mr. James had, amongst other good plants, a large Cattleya Mossiæ, and excellently-flowered examples of Dendrobium Jamesianum, Anguloa Clowesii, Cattleya Mendeli, Brassia verrucosa, &c. With fifteen Odontoglossums Mr. James secured the first prize, and his collection was a good one for the date, amongst the species represented being Alexandræ, cordatum, polyxanthum, radiatum, Lehmanni, &c. With six Cattleyas, Mr. Cypher was again first, and Mr. James second. To the miscellaneous class, Messrs. F. Sander & Co., St. Albans, contributed a remarkably fine group of Cattleyas, Odontoglots, Aerides, Masdevallias, &c., and a smaller collection came from Messrs. Heath & Son, of Cheltenham.

The splendid collections of showy hardy herbaceous plants, which so much enhanced the beauty of the show, were contributed by Mr. T. S. Ware, Messrs. Barr & Son, Messrs. Paul & Son, Cheshunt; Messrs. Kelway & Son, Langport; Mr. Van der Rees, Tooting; and Messrs. Hooper & Co., Twickenham. The leading features in all the groups were the exceedingly-showy German and other Irises, handsome and attractive single and double Pyrethrums, Turban Ranunculuses, Ixias, Lupines, Day Lilies, Pæonies, and Poppies, &c. The Messrs. Barr had besides a showy group of Tree-flowering Carnations, and Messrs. Paul & Son various Alpines in pots. Messrs. John Laing & Co. had a specially fine group of double and single flowering tuberous Begonias, four of which were singled out for the award of First-Class Certificates. Messrs. Hawkins & Bennett, Lily Nursery, Twickenham, contributed a group which was much admired for its simple yet admirably effective character. It was composed merely of half-a-dozen superbly grown plants of Adiantum cuneatum, from 3 ft. to 4 ft. through, set in a carpeting of scarlet, white, and pink Zonal Pelargoniums, with a backing of plants about 3 ft. high of a good semi-double rose-pink flowered Ivy-leaved Pelargonium. Mr. Wiggins, gardener to W. Clay, Esq., Kingston-on-Thames, had a nice collection of Seedling Show and Decorative Pelargoniums, the second year of flowering. Mr. Barlow's collection of sixty Tulips created a great amount of interest, such a stand of flowers not having been seen here before for several years. The Committee certificated half-a-dozen varieties, and awarded a Silver Medal to the collection. In our next we shall comment upon these flowers more fully.

Messrs. Cannell & Sons, Swanley, sent some cut blooms of very fine single and double Begonias, and from the Slough Nursery, Mr. Turner sent two boxes of beautiful Maréchal Niel Rose blooms, and a fine assortment of Pyrethrums shown in bunches, a much more effective method of displaying them than the usual one, singly. Mr. Waterman, gardener to H. A. Brassey, Esq., M.P., Preston Hall, Wateringbury, sent half-a-dozen specimens of the White Marguerite, which were greatly admired—the plants being from 4 ft. to 5 ft. in diameter, and most profusely bloomed. Mr. Jennings, gardener to Leopold de Rothschild, Esq., Ascott, contributed a dozen and a half flowering plants of the Pride of Penhurst Carnation, which still further confirmed the high opinions which have been expressed of this grand yellow variety. From Messrs. Hooper & Co., came Croton Hooperi, a very prettily coloured variety, deep green and bright orange red. Messrs. James Carter & Co. sent a pan of the new annual, Phacelia campanularia, the deep gentian-blue colour of which should render it a very popular plant in the flower garden. Mr. Hill, gardener to Sir N. M. de Rothschild, Tring Park, received a Cultural Commendation for a very beautifully-flowered specimen of the white Cattleya Wagneri. A small, neatly fringed white Pink, named The Fairy, came from Messrs. Cross & Steer, The Canal, Salisbury; and Mr. Cummings, gardener to A. H. Smee, Esq., had a nicely-flowered plant, imported last year, of Galeandra nivea, a pretty little Orchid.

The New Plants Certificated were Rhododendron Manglesii, a hybrid (raised we presume by the late Mr. J. H. Mangles) between the Sikkim R. Aucklandi and R. album grandiflorum, and which produces large compact trusses of good-sized, finely-formed, pure white blossoms, in this instance on plants growing in the open air; should it prove to be quite hardy, this interesting and beautiful hybrid should become a great favourite, as it certainly will for greenhouse decoration. It was exhibited by Messrs. James Veitch & Sons, as also were the following:—Chionanthus retusus, a Japanese ally of the North American Snowdrop-tree, having shining, green, simple leaves, and drooping clusters of four narrow white-petalled flowers, a handsome free-flowering shrub; Gloxinia Marchioness of Abergavenny, one of the finest of the densely-spotted varieties, the ground colour being a shade of violet, with a deep crimson blotch on each segment; Lælia Canhamii, a hybrid between Cattleya Mossiæ and Lælia purpurata, showing a strong affinity to the last-named parent, and having the sepals and petals white, flushed with violet, and the lip bright rosy-purple. Of new Begonias exhibited by Messrs. John Laing & Co., the following gained Certificates:—Princess Victoria, a very large single flower of great substance, with a light-coloured centre, shading off to rose-pink on the edges; Marquis of Stafford, a double variety of medium size, but exquisite form, and of a vivid crimson colour; Globosa, a perfect globe in form, and quite 2½ ins. in diameter, full double and flesh-pink in colour; and Lillie, also a fine double flower of a delicate shade of pink. Mr. W. Gordon, Twickenham, received the highest award for a Tree Pæony named Snowball, one of a batch of several beautiful sorts received from Japan, and which bore flowers of large size and snowy whiteness, a most beautiful variety. Mr. Stacey, of Dunmow, received awards for Verbena Fairy Queen, pale rose, with a deep rose centre; and Verbena Distinction, white, striped and flaked with crimson, both having good bold trusses of large flowers. Mr. William Bull was awarded a Certificate for a very remarkable Bromeliad, Bilbergia nobilis, a species with long, broad, erect-growing leaves, deep bronze-green, mottled with silvery-grey, and having a long drooping spike of green flowers, with large vivid rose-coloured bracts—a strikingly ornamental plant. Aerides Ballantineana, also certificated and shown by Messrs. F. Sander & Co., is a free-blooming species, with the sepals and petals white, tipped with pale rosy-lilac, and yellow lip. Messrs. Paul & Son, The Old Nurseries, Cheshunt, received a Certificate for Saxifraga lantoscana superba, a good thing belonging to the encrusted section, with dense spikes, 8 ins. long, of small white flowers. One of the brightest and best double-flowered Pyrethrums ever raised was shown by Messrs. Kelway & Son, of Langport, under the name of Melton, and which was also certificated. It is a flower of good size, fine form, and a brilliant carmine-crimson, with a faint shade of violet in the centre.

Bath and West of England Agricultural Society's Show at Brighton.—For many years past one of the pleasantest features of this annual exhibition has been "the Flower Tent," and the display at Brighton proved no exception to the rule. The steward of this department, the Hon. and Rev. J. T. Boscawen, devotes much time and skill to the successful grouping of the plants sent for exhibition, and always succeeds in creating what the general public like—a pretty effect. Mr. Boscawen also endeavours to get a fair representation of the horticultural products or specialities of the districts in which the exhibition is held each year. At Brighton, therefore, we were not surprised to find Messrs. J. Cheal & Sons, Crawley, to the front with an instructive collection of cordon fruit trees, and a simple contrivance for protecting such trees from frost or birds. These were placed outside the tent, inside of which, at one end, the same firm are exhibiting a grand bank of Rhododendrons. Other local exhibitors were Mr. W. Balchin, Cliftonville Nursery, Brighton, who has a large mixed collection of well-grown stove and greenhouse plants, and Mr. C. Ranu, gardener to J. Warren, Esq., Handcross Park, Crawley, who contributed a large and imposing group of the fine specimen plants for which that establishment is famous.

Of contributors from a distance we noted that the firms of Messrs. R. Smith & Co., Worcester, and Messrs. John Laing & Co., Forest Hill, were well represented, the former with a dozen large and splendidly-flowered Clematises, and the latter with new and choice Begonias. The Messrs. Laing have sent their flowers to this show so many times that we look for them now as regularly as for the show itself. The display of Orchids was disappointing, let us hope Mr. Boscawen may be more successful next year. There were two or three collections of fruits on the tables, and some good Strawberries, but we did not learn who were the prize winners.—(*Communicated.*)

ANSWERS TO CORRESPONDENTS.

Books.—*C. H. L.*—There is no book now easily obtainable specially devoted to the cultivation of Heaths. The third edition of Vol. I. of Mr. B. S. Williams's *Choice Stove and Greenhouse Plants* contains, perhaps, all the information you require.

Names of Plants.—*R. W. M.*—1. Justicia carnea; 2. Phœnix dactylifera; 3. Chamærops humilis; 4. Adiantum decorum.—*R. Marsden.*—1. Equisetum sylvaticum; 2. Equisetum arvense; 3. Iris Pseud-acorus; 4. Polypodium glaucum; 5. Agrostemma Githago.—*R. H.*—Dendrobium moschatum.

Mildew on Vines.—*James Collins.*—The safest and easiest plan of dealing with it is to dust the affected parts with flowers of sulphur through a muslin bag.

Communications Received.—W. T.—F. W. B.—F. C.—W. D. F.—T. W. O.—T. S. W.—H. E.—D. J. N.—G. D.—J. W.—F. King.—M. T.—R. D.—W. G. S.—J. D.

LONDON SEED TRADE.

June 10th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report the usual quietude which pervades the Seed Trade at this season of the year, business being almost at a standstill. There has been some speculation in Clovers, principally in German Seeds, but the transactions have been few, and only small in extent. Quotations are still firm

all round; the figures, however, do not tempt speculators to operate. The reports from the producing districts vary considerably with respect to the prospects of the growing crops, but the season is not yet sufficiently far advanced to admit of a correct estimate being formed. Perennial Rye Grass maintains the late advance, and the recent showery weather has materially improved the appearance of the crop in prospective. Sowing Rape and Mustard meet with fair demand, and values are unchanged. Tares are also inquired for in small quantities, and fine samples are scarce. Birds' Seeds of all kinds steady, at last week's quotations.

COVENT GARDEN MARKET.

June 11th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6- 6 0	Pine-apples, Eng., lb.	2 0- 4 0
— Nova Scotian, per barrel	-	—St. Michaels, each	3 0- 7 0
Grapes, New, per lb.	2 0- 5 0	Kent Filberts and Cobs, per 100 lb.	-
Melons, each	2 0- 3 6	Strawberries, per lb.	1 6- 4 0
Peaches, per doz.	12 0-18 0		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Horse Radish, bundle	3 0- 5 0
Asparagus, English, per bundle	6 0- 8 0	Lettuces, Cabbage, per dozen	2 0-
Beans, French, per lb.	- 2 6	— Cos, each	0 6-
Beet, per dozen	2 0- 3 0	Mushrooms, p. basket	1 0- 2 0
Cabbages, Spring, doz.	1 6- 2 0	Onions, per bushel	5 0- 7 6
Carrots, per bunch	0 6-	Parsley, per bunch	0 6-
Cauliflowers, English, per dozen	4 0- 6 0	Radishes, per dozen	1 6-
Celery, per bundle	1 6- 2 6	Small salading, per punnet	0 4-
Cucumbers, each	0 6- 1 0	Spinach, per strike	2 0-
Endive, French, per dozen	2 6- 3 6	Tomatos, per lb.	2 0-
Garlic, per lb.	0 6-	Turnips, per bunch	0 6-
Herbs, per bunch	0 2- 0 4	Young Carrots	1 6-
		Young Turnips	1 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lily of the Valley, 12 bunches	0 3- 0 9
Anemone, 12 bun.	1 6- 2 0	Marguerites, 12 bun.	3 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Narcissus, various, doz. bun.	6 0-12 0
Azalea, 12 sprays	-	Pelargoniums, per 12 sprays	0 9- 1 0
Bourvardias, per bun.	0 9- 1 6	—scarlet, per 12 sprays	0 4- 0 6
Camellias, 12 blooms	-	Pinks, various, 12 bunches	2 0- 6 0
Carnations, 12 blooms	1 0- 3 0	Primula, double bun.	1 0- 1 6
Chrysanthemums, 12 bunches	-	Primulas, Chinese, bun.	-
— large, 12 blooms	-	Pyrethrum, 12 bun.	2 0- 4 0
Cyclamen, doz. blooms	-	Rhodanthe, 12 bun.	6 0- 9 0
Cineraria, per bunch	0 6- 1 0	Roses (coloured)	2 0- 4 0
Epiphyllums, 12 blms.	-	Roses, indoors, p. doz.	1 0- 3 0
Eucharis, per dozen	3 0- 6 0	Roses (French), per doz.	0 4- 1 0
Gardenias, 12 blms.	1 0- 4 0	Spiræa, 12 bun.	6 0- 9 0
Heliotropes, 12 sprays	0 6- 1 0	Stephanotis, 12 spr.	2 6- 4 0
Hyacinths, Roman, doz. sprays	-	Tuberoses, per dozen	0 6- 1 0
Lapageria, white, 12 blooms	2 0- 3 0	Tulips, per doz.	-
Lapageria, red, 12 blms.	1 0- 2 0	Violets, doz. bun.	-
Lilium candidum, 12 blooms	1 6- 2 0	— French, per. bun.	-
— Longiflorum, 12 blooms	4 0- 8 0	— Parma, per. bun.	-
Lily of the Valley, doz. sprays	-	White Jasmine, bun.	0 6- 1 0
		Woodroffe, 12 bunches	2 0- 4 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Genista, per dozen	6 0- 9 0
Arum Lilies, per doz.	6 0-18 0	Heaths or Erica, var., per doz.	12 0-42 0
Azalea, per doz.	-	Hyacinths, doz.	-
Begonias, per dozen	4 0-12 0	Hydrangea, per doz.	9 0-18 0
Bouvardias, dozen	9 0-18 0	Ivy Geraniums, per dozen	3 0- 6 0
Calceolarias, per doz.	6 0- 9 0	Lilium longiflorum, per doz.	24 0-42 0
Cineraria, per dozen	-	Lobelias, per doz.	4 0- 6 0
Cockscombs, dozen	4 0- 6 0	Marguerites, per doz.	9 0-18 0
Cyclamens, doz.	-	Mignonette, per doz.	5 0- 9 0
Cyperus, per dozen	4 0-12 0	Palms in variety, each	2 6-21 0
Deutzia, per dozen	-	Pelargonium, per doz.	9 0-21 0
Dracæna term., doz.	30 0-60 0	Pelargoniums, scarlet per dozen	3 0- 9 0
— viridis, per dozen	12 0-24 0	Petunias, per dozen	6 0- 9 0
Epiphyllums, doz.	-	Poinsettia, doz.	-
Evergreens, in var., per dozen	6 0-24 0	Rhodanthe, per doz.	6 0- 9 0
Ferns, in var., dozen	4 0-18 0	Spiræa, per dozen	9 0-12 0
Ficus elastica, each	1 6- 7 0	Stocks, per dozen	3 0- 5 0
Fuchsias, per doz.	6 0-12 0	Tropæolums, per doz.	3 0- 6 0
Foliage Plants, various, each	2 0-10 0		

Bedding Plants, in variety, 8*s.* to 16*s.* per hundred.

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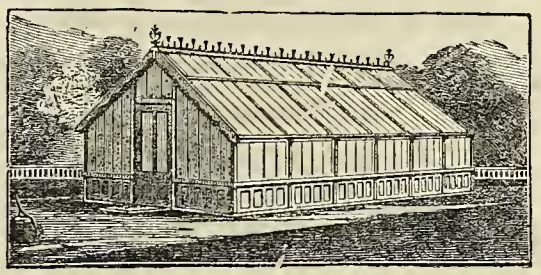

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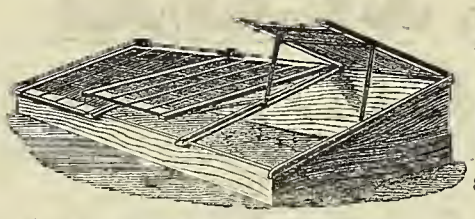

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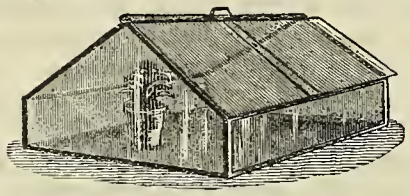

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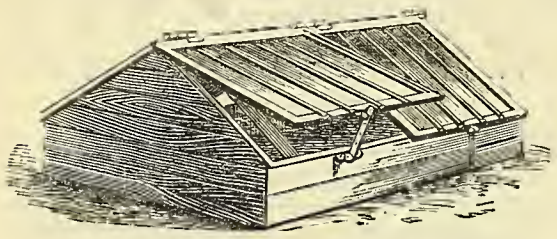

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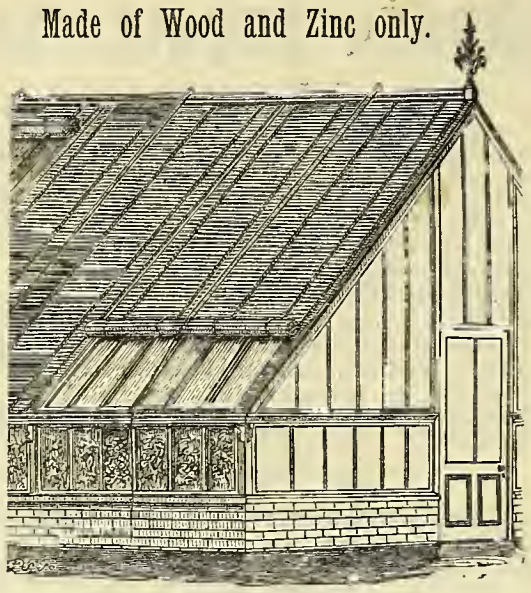

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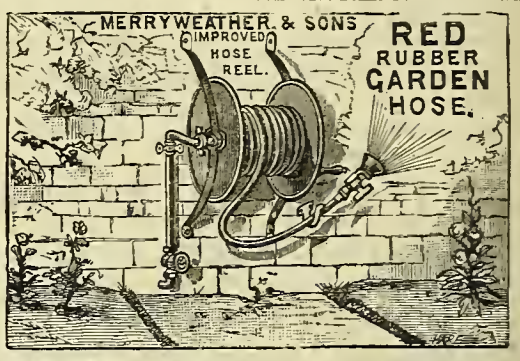

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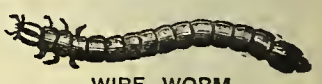
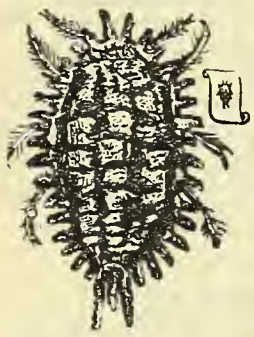


WIRE WORM.

Destroys all Insects and Parasites without injury to Flowers, Fruit, Roots or Foliage.

Useful alike in Greenhouse, Vinery, Fernery, Orchard, Vegetable, Flower and Hop Gardens. Cures Mildew and Blight. Kills all Grubs, Aphis, Lice, Red Spider, Thrip, Mealy Bug, Caterpillars, &c. Applied by means of the Fir-Tree Oil Spray Pump, the Aphicide (hand spray producer), or by dipping. The trouble will be amply repaid by the healthy appearance of the foliage and the abundance of Fruit and Flowers. Always effectual, economical, and safe. Quickly removes all Insects from the coats of animals. It will cure Ringworm and all Parasitic Skin Diseases, and is perfectly harmless to the Hands and Skin.



MEALY BUG.

RED SPIDER.

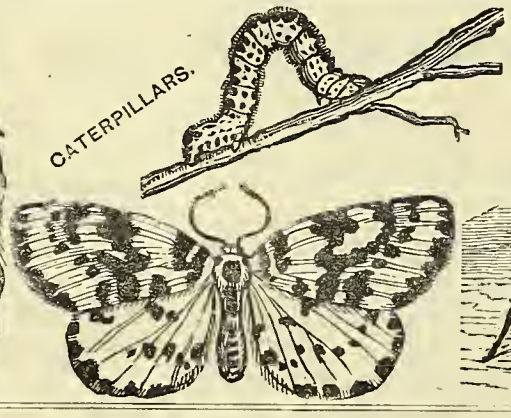
Sold by Seedsmen and Chemists, 1s. 6d., 2s. 6d., and 4s. 6d. a Bottle. Per Post 3d. extra. Tins—½-gallon 7s. 6d., 1 gallon 12s. 6d.; Drums—5 & 10 gallon 11s. per gallon, Carriage Paid.

A Treatise on FIR TREE OIL, as an Insecticide, its application to Plants and Animals sent Post Free on receipt of address, by the Manufacturer,

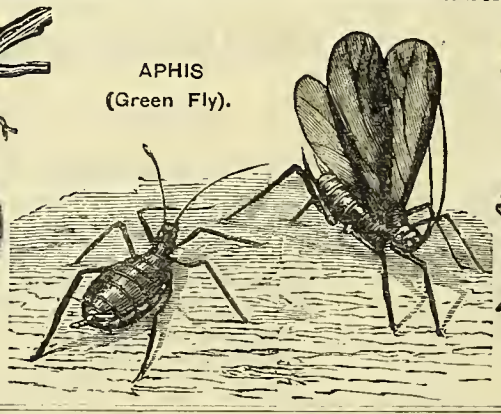
E. GRIFFITHS HUGHES, MANCHESTER.

Wholesale:—HOOPER & Co.; CORRY, SOPER, FOWLER & Co.; C. E. OSMAN & Co.; and from all London Seed Merchants and Wholesale Patent Medicine Houses. NEW YORK:—ROLKER & SONS.

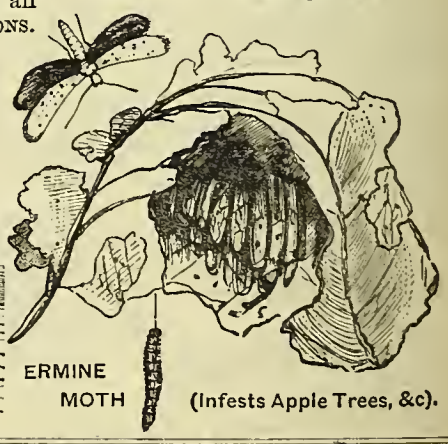
AMERICAN BLIGHT.



CATERPILLARS.



APHIS (Green Fly).



ERMINE MOTH (Infests Apple Trees, &c).

Printed by G. NORMAN AND SON, Hart Street, Covent Garden, and Published by BRIAN WYNNE, at the Office, 17, Catherine Street, Covent Garden, in the Parish of St. Paul's, County of Middlesex, Saturday, June 13th, 1885.

THE GARDENING ILLUSTRATED WORLD

No. 42.—1885. SATURDAY, JUNE 20TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

FLOWER SHOWS.

ROYAL HORTICULTURAL SOCIETY.—SHOW of PELARGONIUMS, ROSES, and other Flowers in the Conservatory, on TUESDAY, JUNE 23rd. Open to Fellows of the Society at noon.

VISITORS to the International Inventions Exhibition ADMITTED FREE at One o'clock.

CRYSTAL PALACE. — GREAT ROSE SHOW Of the Season.
SATURDAY, JULY 4th. For Schedules apply Mr. W. G. HEAD, Garden Superintendent.

N.B.—Messrs. W. PAUL & SONS, of Waltham Cross, will hold a SPECIAL EXHIBITION of ROSES (cut and growing) at the Crystal Palace, from Saturday, July 4th, till Saturday, July 11th (inclusive).

Sheffield Botanical Gardens.

GRAND HORTICULTURAL EXHIBITION, 17th and 18th JULY, 1885.
£250 in Prizes.
Entries close 13th July.
Prize Schedules may be obtained from the Curator, Mr. JOHN EWING.

J. WEEKS & CO., HORTICULTURAL BUILDERS and HOT-WATER APPARATUS MANUFACTURERS, KING'S ROAD, CHELSEA, S.W.
"Book of Designs" and Estimates post free on application.

JOHN DOWNIE, BEECHHILL NURSERIES, near EDINBURGH, begs to intimate that his Stock of PRIZE SHOW and FANCY PANSIES, including the newest and best in cultivation, ARE NOW IN FULL FLOWER, in one section alone there being at present over 30,000 fully expanded blooms. Inspection invited.

GRAPE VINES.—IRELAND & THOMSON beg to announce that their stock of the above is this year specially fine and now ready for present planting. All the leading sorts from 3*s.* 6*d.* to 5*s.* each.
Nurseries: Craigleith, Comely Bank, and New Golden Acre, Granton Road, Edinburgh.

POT ROSES.—IRELAND & THOMSON have a splendid stock of all the best H.P. and Tea Roses for conservatory decoration or for planting out, from 18*s.* to 36*s.* per dozen.
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CLEMATIS, 12*s.* to 24*s.* per doz., strong plants in pots. List, containing descriptions of best singles and doubles of every shade from white to dark purple (some of the flowers of which become 10 ins. across), free.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

ROSES IN POTS, "New of 1885," 30*s.* and 36*s.* per doz. "Teas," Noisettes, &c., 18*s.*, 24*s.*, and 30*s.* per doz. Very strong H. Perpetuals for forcing, 24*s.* to 30*s.* per doz.—RICHARD SMITH & CO., Nurserymen and Seed Merchants, Worcester.

"YE NARCISSUS OR DAFFODYL." An interesting history of the Daffodil, covering a period of the 300 years, with its poetry, and notes on hybridization, with many illustrations. Price one shilling, published by BARR & SON, 12 and 13, King Street, Covent Garden, W.C.

PURE WHITE GERANIUM, "NIPHETOS."—A hybrid nosegay, of a purer white than any we are at present acquainted with. It differs from all other white varieties in that it remains pure white to the very last, and never under any circumstances becomes tinted with pink, or any other colour. The trusses are of immense size, producing in nearly every case upwards of a hundred flower pips each. It is of a strong, robust, dwarf habit, free flowering, and whether for Winter or Summer flowering, or for cultivating indoors or out, will be found invaluable. Price 6*s.* per doz.; Cash with order.—H. LEANEY, Upton Nursery, Forest Gate, Essex.

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NOW IN FULL BLOOM.
Presenting an unrivalled floral display.
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Six Acres of Florists' Flowers.

R. B. LAIRD & SONS (late Downie & Laird), respectfully invite inspection of their famed collection during the flowering season.
Our PINKHILL NURSERY is of easy access by tram, car, and 'bus; admirers of Pansies, Violas, Pentstemons, Phlox, Dahlias, &c., &c., &c., will find it well worthy of a visit.
Cut Florists' Flowers correctly named will be exhibited during the season at our
ROYAL WINTER GARDEN, EDINBURGH.

NEW FUCHSIA, MR. STEPHENS.—A splendid free-flowering variety, and one of the best for training or cutting purposes. It is a very robust grower, and a good winter-blooming variety, 2*s.* 6*d.* each. Catalogue, with full directions as to cultivation of the Fuchsia (the best guide for amateurs), post-free, four stamps.—W. E. BOYCE, F.R.H.S., Yerbury Road, Holloway, London.

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CINERARIAS same price. Package and carriage free for cash with order. Above are strong, and fit for potting into 3-in. pots.
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120 Plants for 5s.

WILLIAM BADMAN offers his 5*s.* box of plants, containing 60 Geraniums of sorts, 10 Blue Lobelias, 10 Fuchsias, 10 Blue Ageratums, 10 Calceolaria, 10 Scarlet Tropæolums, 10 Sweet Heliotropes. All well rooted, and sure to give satisfaction. Half the above for 2*s.* 6*d.*; post-free 6*d.* and 9*d.* extra.—P.O.O. with order.—Cemetery Nursery, Gravesend.

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On view mornings of Sale, and Catalogues had.

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On view mornings of Sale, and Catalogues had.

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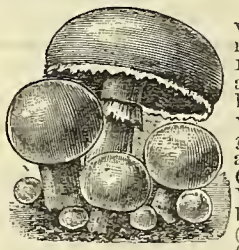

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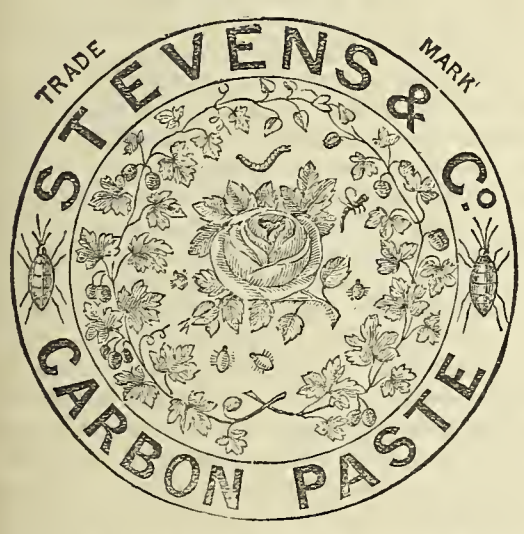

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JUNE 20TH, 1885.

ROSE PROSPECTS.—There is much consensus of opinion with reference to Rose prospects, and it is of the most favourable kind, whilst not a few who grow Roses are rejoicing in the wealth of bloom on all kinds which now enriches their gardens, and will continue to do so for a few weeks; many others are equally pleased with the prospect in relation to the show-table, and are already calculating their chances in the thousand-and-one scrambles for cups and cash which will be offered them during the present Rose season. But with various and contending emotions thus displayed, all agree in the estimate that the present season should prove a grand one for Roses, and that the bloom shows everywhere should be exceedingly fine. So far that is satisfactory, and the fact will preclude, we trust, the expression later of many lame excuses on the part of exhibitors when beaten, that they have been singularly affected by some natural cause or the other, and of course for the worst; and similar notes of apology.

Universally Rose growth is good, the buds large, and the foliage clean. The heavy rains which recently fell were not local, but general, and besides well cleansing the plants, gave the roots such stay, that with liberal mulchings they can hold on now against a long spell of drought. Then, though the spring was late, growth has been quicker, and, being so, has been robust. Nothing can be more disastrous to Rose prospects than to have young growth checked and stunted by a spell of dry, cold, harsh winds and frost. No such ills have marred it this year, and not figuratively, but literally, all is *coleur de rose*.

Anticipating, therefore, some grand displays in cut-Rose blooms presently, we may well hope to see with those shows some features in setting up that shall assist in getting rid of that flat, monotonous arrangement which displays to the spectator just a series of long, ugly boxes, and nothing more. Probably there are no exhibitions into which the elements of taste and art enter less than into Rose shows. Whatsoever is beautiful is found in the flowers alone, but they are gems in a very ugly setting. However beautiful is the Rose itself, there can be no doubt but that in bulk its beauty is much enhanced by effective arrangement.

THE POTATO CONFERENCE.—It seems probable that after all this proposed Conference, which it was intended should take place in association with the Exhibition of Potatos at South Kensington at the end of October next, will fall through. This result will not be from lack of interest in the Potato, or because of coldness on the part of those who make Potato-culture a speciality, but will be chiefly due to the fact that a grand Pear crop being in certain prospect, and such result being so very unusual, it is thought best that such interest as may be taken this autumn in conference work should be given to Pears and not to Potatos. These latter we have always with us in abundance, whilst curiously enough with exceeding abundance we find less interest in their culture and production excited. It is when a season of disease and disaster to the crop comes that excitement is rife, and genuine interest in Potato work of all kinds becomes almost a furore.

Pears can hardly be discussed in relation to diseases. As a rule, the crop of these fruits is healthy when the crop is obtained. What is most important to discuss is, how to secure constant crops instead of such intermittent ones as we now find. That subject no doubt comes in the form of a poser, but it is a very interesting subject to discuss at any time. The present season, however, lends additional interest to a Pear Conference, because, as in the case of Apples a year or two since, a specially favourable opportunity will be offered to compare kinds grown under diverse conditions and in diverse places. It will afford an especially useful opportunity to arrive at some common basis of nomenclature, and in many ways very useful work may be done that would not be possible except in such of those few and far between years when, in the matter of Pear production, nature is favourable.

The chief show of these fruits will be held at South Kensington on October 13th and 14th, and no doubt some kind of discussion might then be invited upon the general subject of Pears. Still, we think that the noise, turmoil, and crowds at South Kensington, which will be so great just then, will militate largely against any proper and legitimate discussion, and that the object sought for in a conference would not be obtained there. No doubt the wiser course would be, as was the case with the Apple Conference, to hold the gathering in the quiet seclusion of Chiswick Garden, where there is ample space and every convenience for the carrying out of the work which any duly authorized body would undertake. Should this suggestion be acted upon, there can be little doubt but that the third week of October would prove a very favourable time for the Pear Show and Conference, which should not in the case of these fruits exceed four days.

The extensive collection of Pear trees at Chiswick may prove very useful just now for reference, but their fluctuating cropping properties rather leads to the conviction that the space now occupied may henceforth be more fitly utilized, especially when we find the gardens materially cramped for space in the conduct of important trials of flowers and vegetables, and possibly of some other fruits which are more constant bearers, we may well hope that a Pear Conference may prove such in reality and not a mere Pear Show. We want to see work done at the Conference which shall leave its mark upon Pear-culture in the future.

FLOWERING OF THE HOLLY.—Rarely within the memory of living man has there been seen on Holly universally such a wealthy bloom as is the case this year. Without doubt the drought of last season, allied to a fine autumn, assisted in the maturing of wood and the creation of those flowering buds which have now so generally expanded into bloom. It is, of course, yet early to determine whether a good crop of the ever welcome and truly decorative winter fruit will follow, but it may well be expected. In many cases trees and bushes now laden with bloom will be barren of results, simply because they are of the male gender and produce no progeny.

There is still an abundance of berry-bearing trees, and, barring accidents, the crop of coral-red Holly fruit next winter should be one of the most plentiful on record. As a result we may expect to hear dolorous predictions from pessimist weather prophets of an inevitable severe winter, because Nature has, in the foresight which always

characterises her actions, first provided the feathered tribe with ample food. The reasoning is very absurd, and it is marvellous that persons claiming to be intelligent should give utterance to such nonsense. If Nature was so thoughtful for the wants of the feathered tribe when a hard winter is impending, she might, with entire consistency, be also as careful for the wants of beings not feathered in seasons of severe cold.

The entire absence of ordinary logic in such reasoning shows the absurdity of the argument in all its nakedness. What we may safely assume is, that the abundance of Holly fruit will arise from seasons preceding, which have specially favoured its production in the same way that it has favoured the production of many other fruits that will not fall, as a rule, to the share of the birds, when the weather is severe at least. In a decorative sense we shall rejoice when the full beauty of the abundant crop of Holly berries is seen, for not only do these help to decorate our habitations at a specially dull season, but they more effectually enliven and beautify our woods, hedgerows, and gardens all through the winter, and that is good service indeed.

Roses of Recent Introduction.—As our Rose lists are constantly receiving additions of new varieties, it is not surprising if some display qualities of the highest order, and our notebook furnishes us with the names of a few of a very high order of merit. One of these is Gloire Lyonnaise, a Rose that is described by the raiser as a yellow hybrid perpetual, the flowers are chrome-yellow, the petals edged with white, large, full, and finely formed, and sweetly fragrant. There is no doubt a good deal of the Tea-scented blood in this fine variety, and we would advise our readers who plant it to give it a position where it can have some protection, if necessary. Then there is the beautiful white Rose Merveille de Lyon, which is sometimes pure white, tinted with the most delicate satin-rose, large, full, and finely cupped. One of the very best of the newer Tea-scented Roses is Sunset, a sport from Perle des Jardins, having flowers of the same size and form as the latter, but of a deep Apricot-yellow colour. As it has been awarded a First-Class Certificate of Merit by the Floral Committee of the Royal Horticultural Society, its usefulness and value may be fairly assumed.

Lady Mary Fitzwilliam is one of Mr. Henry Bennett's new hybrid Teas, the flowers of a delicate flesh-colour, shaded with rosy-pink, very large, full, and globular, and equally charming in bud and when fully expanded. It is an excellent garden Rose, and is doing well planted out in the gardens of the Royal Horticultural Society at Chiswick. Mr. William Paul's Queen of Queens is a very fine hybrid perpetual Rose, and may be set down as equally fine for garden and exhibition purposes. It is a true perpetual, and very free, the colour pink, with a tint of silvery-blush on the edges, and is one of the most useful Roses of recent introduction. There are two other Roses not so new as the varieties already named, but which well deserve attention. One is Reine Marie Henriette, a variety that comes into the hybrid Tea-scented section, the flowers fine in the bud and of a deep carmine hue, just one of those Roses that will delight anyone when cut from the tree. It is a fine Rose for a house; it requires to be in good soil and to have plenty of head room where it can grow and flower abundantly. It is a very useful Rose indeed. Then, as a garden Rose, Noble's Crimson Queen should be planted. It is a very fine late summer and autumn Rose, the flowers of a bright crimson colour, and produced with the greatest freedom.

Gardening Miscellany.

Flower Shows for Next Week.—*Tuesday:* Pelargonium Show of The Royal Horticultural Society; Meeting of Fruit and Floral Committee at 11 a.m. *Saturday:* Canterbury Horticultural Society's Show. —Waverley Pansy Society's Show at Galashiels.

Messrs. William Paul & Son, Waltham Cross, will hold a special exhibition of Roses, plants, and cut-flowers, at the Crystal Palace, from Saturday, July 4th, to Saturday, July 11th inclusive.

The Rhododendons in the Royal Botanic Society's Garden, and Messrs. John Waterer & Son's collection in Cadogan Square, Chelsea, are now at their best—splendid exhibitions both of them.

We regret to hear of the recent death of the wife of Major Trevor Clarke, Welton Place, Daventry, one of the oldest members of the Council of the Royal Horticultural Society.

We understand that the subscription list for the Cutler Testimonial Fund closes on Tuesday, the 30th inst., and that it has been arranged that the presentation shall be made on the occasion of the Anniversary Dinner of the Institution on July 3rd. We are pleased to hear that the fund has already reached a good round sum.

A large plant of Cattleya Wagneri, one of Mr. Edward Wallace's importations, realized 90 gs. at Stevens's Rooms on Wednesday, and two small plants 19 gs. and 12 gs., respectively.

At the sale of Mr. Armitage's Orchids by Messrs. Artingstall & Hind, at Manchester, on the same day, a nice plant of Cattleya exoniensis, with two breaks, was sold for £20, and a good specimen with twelve leads of Dendrobium Ainsworthii, realized £18. Plants of Dendrobium nobile Wallichianum, Odontoglossum citrosmum roseum, Lælia anceps Dawsoni, Cœlogyne Massangeana, and Cypripedium Dominianum were sold for £5 each.

A new Daisy-cutter has been invented by Mr. Rowland, of Cranleigh, Surrey.

Mr. J. Vert, gardener at Audley End, won the first prize for two baskets of Strawberries, at the Bath and West of England Agricultural Society's Show at Brighton last week, and the Silver Cup for the best collection of fruits went to Mr. Waterman, gardener to H. A. Brassey, Esq., M.P., Preston Hall.

The very pretty Saxifraga Macnabiana, which has been exhibited at some of the recent exhibitions, is stated by Mr. Lindsey to have been raised ten years ago, in the Edinburgh Botanic Garden, from seeds obtained from the form of S. pyramidalis, known in gardens as S nepalensis.

The first exhibition of the Oxford Union Carnation and Picotee Society will be held at Mr. E. S. Dodwell's, Stanley Road, Oxford, on August 4th.

The Evening Fête at Regent's Park, on July 1st, promises to be of an unusually brilliant character. Table decorations and flowers for personal adornment, and paintings of flowers and plants on glass, will form the leading features.

Dr. Hogg and Mr. Thiselton Dyer have been appointed to represent the Royal Horticultural Society at the Horticultural and Botanical Congress to be held at Antwerp on August 10th.

An exhibition of Chrysanthemums, Fruits, and Vegetables, will be held at York, on November 25th, 26th, and 27th. Mr. G. Lazenby, Spurriergate, York, is the Secretary.

The Annual Flower Show of the Chiswick Horticultural Society, held in the Chiswick Garden of the Royal Horticultural Society, will take place on July 16th. Mr. John Fromow, Sutton Court Nursery, Turnham Green, is now Secretary, vice Mr. Musgrave, resigned.

The Austrian Central Tourist Club has addressed a petition to the Assemblies of all Austrian alpine provinces, to pass a law prohibiting the wholesale uprooting of Edelweiss now carried on. The petitioners point out that hundreds of thousands of the plants are dug up and sent abroad, even to America, so that there is a fear that the favourite plant of all lovers of the Alps will be totally exterminated, except in a few remote places. In Switzerland, it is stated, for several years past there have been stringent laws in the several cantons against uprooting and selling the Edelweiss.—*Nature.*

CONCERNING TULIPS.

Of the large number of persons who last Tuesday week looked upon Mr. Samuel Barlow's charming collection of Lancashire Show Tulips which he had sent up from his Tulip gardens at Stakehill, Manchester. how very few probably knew aught of the siugular physiology of this gorgeous and once popular flower. They saw flowers with golden and white grounds, some beautifully pencilled with colour on the edges of the petals only; others had the colour heavily distributed over the petals, leaving patches of clear yellow or white here and there only. They saw others of a self colour, grey, rose, scarlet, or bronze, and probably wondered at the difference in appearance, and were ignorant as to what it meant. The last-named flowers are known as breeders; and the Tulip generally flowers in four, or five, or six years, and then in a self, or what the growers term the "breeder" form, and in one, two, or even seven or eight years these break into character, and become what are termed "rectified" flowers, *i.e.*, those that form our first group. Perhaps one flower in a thousand may come in the broken character the first time it flowers, that is to say, it is never seen in the breeder state at all. One flower shown by Mr. Barlow, viz., Feathered Bybloemen Mrs. Jackson, never took on the breeder character, but broke into its lovely black feathering the first time of flowering.

Beautiful as Mr. Barlow's Tulips were, they were not without their defects. One was that the flowers were what the Tulip-growers term, "a full week short of bloom." What that means any old Tulip-grower knows full well. Most of the flowers were little better than buds only partly developed, with cloudy or creamy bases for want of a few more days of growth and bleaching, the green in the outer petals not grown out, the outer petals shorter than the inner ones; indeed no flower other than the Tulip shows so markedly the difference in appearance between a well grown and perfectly developed flower and the same flower from five to seven days earlier. In reference to this the want of full development in the outer petals was one of the defects in the young flowers; time is required for the outer petals to grow up to the dimensions of the inner ones, and to become perfectly bleached from any green. If Mr. Barlow could have sent up a collection of Tulips last Tuesday instead of the Tuesday previous, the difference in development would have been strikingly manifest.

The difference in the development of the outer as compared with the inner petals is well exemplified by a circumstance mentioned by Mr. Barlow. "Nearly thirty years ago I won the premier prize for the best flamed flower in the whole exhibition at the Great South Lancashire Show with that old Dutch sort, La Vandikken. When this flower opened for the first time, the inner petals expanded, finely developed, and grandly flamed, the marking being perfect, while the outer ones looked ridiculous, being only half the height of the inner ones. I thought the outer petals had been half killed by the frost; but to my astonishment the outer petals grew and grew slowly day by day, until in about a week they were of equal height, and almost of equal quality to the inner, and the flower won the premier for the best flamed in any class. If that flower had been staged in any class in its early stage of growth, it would have disqualified any stand in which it might have competed.

"Another very important matter I must mention: I find in many usually perfect flowers, that the pollen from the anthers has liquified, and run upon the stamens, thereby tinging them more or less. This is notably seen in Hardy's Excelsior, both in the breeder and in the rectified state; out of some forty blooms I have scarcely one in a pure state, although I have won with the breeder perfectly pure at least a score of times in stands and classes. This, I think, is owing to the slow growth and development of the flowers during the long cold May; the anthers being protected have developed more rapidly than the petals, with the result that in very many cases the pollen from the anthers is ripe when the flower first opens, and has stained the stamens.

"A very noticeable illustration of this is shown in Mrs. Jackson, a flower which I send to show its wonderful colour; black as the raven's wing, darker and more glossy than the once famed Louis XVI., the flower from this bulb was perfectly pure two

years ago. I did not through illness see my bloom last year, but it is now stained all down the anthers. This flower, raised by David Jackson, of Middleton, has never been in the breeder state; its first bloom was a grand black feathered one, so pure, so wonderful in colour, and so fascinating, that the late William Lea and I gave £10 for the stock, viz., one blooming bulb, and three small offsets, or about five times the weight of the bulbs in gold!"

And Mr. Barlow adds:—"In judging my exhibit of Tulips, these things should be duly considered, and allowance made for them. Should there be any spark of the old Tulip love of yore lingering among my Southern brother florists, I shall be glad to assist in kindling it into flame by helping them to form a collection which in quality shall far exceed the flowers which gave so much delight to growers in the palmy days of Groom, Goldham, Lawrence, Dr. Sanders, and other renowned Tulip fanciers."

The leading flowers in Mr. Barlow's stand were—Flamed Bizarres: Masterpiece, Nonpariel, Lord Stanley, Dr. Hardy, Prince of Wales, Ajax, and Orion. Feathered Bizarres: General Grant, Masterpiece, William Wilson, Albert, Sir J. Paxton, and Seedling (Parker). Flamed Roses: Sarah Headly, Mrs. Bright, Mabel, and Agleria. Feathered Roses: Modesty, Lady Wilton, and Charmer. Flamed Bybloemens: Samuel Barlow, William Parkinson, Friar Tuck, Duchess of Sutherland, and Talisman. Feathered Bybloemens: Bessie, William Bentley, Mrs. Jackson, Maid of Orleans, and Violet Amiable. Of Breeder Tulips there were the following:—Excelsior, Horatio, and Sir J. Paxton. Rose Breeders: Lucretia, Lady Grosvenor, Annie McGregor, Mrs. Barlow, and Mabel. Bybloemen Breeders: Alice Grey, Nimbus, Glory of Stakehill, Adonis, Samuel Barlow, and Delicata.

First-Class Certificates were awarded to Flamed Bizarres, Prince of Wales and Orion; Feathered Bizarre, William Wilson; Flamed Rose, Mrs. Bright; Feathered Rose, Modesty; and Flamed Bybloemen, Samuel Barlow.

A Silver Medal was awarded to this interesting collection.

LAVATERIA ARBOREA VARIEGATA.

Those who have not seen this plant grown in a fairly satisfactory manner, and pass through a winter unharmed, cannot be in a position to judge of its merits. Plants of it raised from seed last year, and planted out in good soil in a sheltered corner, are now, and have been for the past two months, very attractive. They are nearly 6 ft. in height, and all the young leaves are so irregularly marked with green, grey, and white, that they have a remarkable appearance. The beauty of our plants is doubtless enhanced by the fact that they stand close to a green Box hedge—an admirable background for it. The great merit of this Mallow is the fact that the variegation is constant all over the plant, and instead of reverting to the normal colour, as many variegated plants do when raised from seed, the variegation in this case increases; as the plants get older many of the young leaves are quite white when they first unfold, and what is equally noteworthy, the variegation does not burn under a hot sun.

As it has not been thoroughly tested as to its ability to endure hard frost, it would be premature to recommend it for extensive planting, because it may eventually prove incapable of standing in the open through a severe winter. But as it is clear that the variegation is better the second year than the first, some means of keeping the plant through the winter without running the risk of losing it altogether might be adopted. It has been recommended that it should be lifted in autumn and kept under glass all winter. But seeing that when the seed is sown early in spring, and the plants put out in good soil early in the summer, it gets too large for many of us to find room for it, it seems to me that the better plan will be either to grow a few plants of it in pots, which would be the means of curtailing their over-luxuriance, and thus enable us to afford them space under glass the first year, or else not to sow the seed until midsummer, and thereby make a greater certainty of securing plants of a suitable size to keep under glass. Of course, the larger the plants kept over the winter the more effective they would be.—*J. C. C., in The Field.*

DODECATHEON SPLENDIDUM.

At a late meeting of the Floral Committee, Mr. T. S. Ware received a First-Class Certificate for this exceedingly fine form of the American Cowslip, and which, when better known, should become an even greater favourite in our borders than the well-known and deservedly popular D. Meadia. The flowers of D. splendidum are of a deep crimson colour, with a ring of yellow at the orifice of the corolla, and so bright in colour altogether that they have been likened to shooting stars. The flower stems rise to the height of about 6 ins., and, like the whole genus, the plant is perfectly hardy and easily grown in any ordinary good garden soil. It is a truly beautiful little plant, and well deserved recognition at the hands of the Floral Committee.

While commenting on this plant it may be interesting to note that there seems to be some doubt as to the reason why Linnæus named these plants Dodecatheon—Dodeka, twelve, and theos, divinity. The name has been called absurd and meaningless, but we take it that it means a galaxy

DODECATHEON SPLENDIDUM.

of twelve gods or an assemblage of twelve extremely brilliant objects. No doubt Linnæus had in view the umbel of twelve superb flowers; the number is twelve on the average, and each bloom, from its splendid form and rich colour, may have been compared with one of the minor gods. The umbel was a group or galaxy of little deities.

GARDENS ROUND ECCLES.

The village of Eccles is regarded as classic ground among florists and horticulturists, and has a history of its own well worthy of being better known. Its venerable church dates from the remote past, and is, perhaps, one of the first which was built in Lancashire, at a date when all that part between the Mersey and Ribble was part of "Cheshereshire." Scholars are divided in opinion as to the origin of the name of the village. Some hold that it comes from Ecclesia, or the church village, and there appears to be some ground for such a conclusion. Amongst others, I may mention Baines, the Lancashire historian, as holding this idea. Others, however, going back to a remoter age, claim the name as Celtic, and consider that the village existed long anterior to the Conquest. Its boundaries at one time contained five other parishes or townships, and in extent was from southwest ten miles in length and five miles in breadth, and including 16,514 statute acres.

Here originated the famous village wakes, of which I need not now give particulars; suffice it to say that nowhere in England were the wakes kept up with such spirit as at Eccles. I have before me a copy of a programme which includes such items as "Bear Baiting in its primitive excellence," "Donkey Racing," "Bull Baiting by 'Bull Fury,'" a "Smock Race by Ladies," "Cock-fight for twenty guineas," and "a fiddling match by all fiddlers that attend, for a piece of silver." It was here cock-fighting originated, and the Whitsuntide ale juntings. From here also was sent the famous petition to the pious King James on his way from Scotland, praying to be allowed to have their lawful games on Sundays, and the effects of which are felt to this day. In this village and township, too, was first cherished and developed that love for flowers, gardens, and trees which ultimately spread so much among the weavers and other working men. While Manchester had the credit for the shows, the headquarters of the growers was here. Close by where I write was old George Hall's garden, famous in its day for its gorgeous Tulips, and under my window is a Flamed Tulip of the race in cultivation at that period. Near by also was another garden famous for its bees, and which is still called Beehive Cottage.

Auriculas have always been famous in Eccles; one called Jingling Johnny, raised here nearly half-a-century ago, is, or was not long since, still in existence in a well-known grower's collection. Picotees and Carnations were also famous flowers in this locality, and some are still grown. Here resides Mr. Bailey, of Middleton fame, hale, hearty, and as active as of old. Mr. Richard Gorton has a grand collection of Auriculas, Carnations, &c. Although for some time pessimist views in horticulture obtained, it is pleasant to see that they have given place to better ideas; and round this village is to be found an immense wealth of plants and flowers, as the reader will learn ere our notes are finished. Even the trade has wakened into renewed activity, and the florists are beginning to grow for their patrons, instead of buying to sell again. We found, during a recent ramble, that a range of glass, some 100 yards in length, had been erected within the last two years in Cavendish Road, Ellesmere Park, Eccles. It belongs to Mr. W. Grange, who has a shop on Eccles Bridge, and who was formerly gardener to a well-known gentleman in the district, now deceased. Here we found also a stove, containing some few Orchids and stove plants, and that seldom seen plant—at least, in nurseries—Strelitzia reginæ. Why is not this splendid plant more grown? Adjoining the stove is a show house, containing a general collection of flowering plants, including the old White Lily, grown in pots for church decoration. Here also we saw a pair of fine Pelargoniums, suitable for hall or vestibule decoration, and which, though several years old, were very pleasing. We next entered the Rose house, which was rather thin of bloom, and no wonder, for we were informed that they had been cutting since February last, and that day some 300 flowers had been cut for an order. Tomatos and Cucumbers we noted as growing very strong, and are in large demand. A large collection of Dahlias and other bedding plants also came under review, and we were particularly pleased to see the nucleus of what we hope may become an extensive collection of Pentstemons, Pyrethrums, and other hardy and half-hardy plants. As this is the first attempt at nursery culture for many years round here, we wish Mr. Grange every success, for there is ample room for anyone possessing skill and energy to lead the amateurs and residents of this ancient village "to fairer fields;" but time is progressing, and we wish to visit a famous garden near by, in which are some things worthy of note, and which will be recorded in another number. I will also send you copies of one or two quaint advertisements of flowers from this district, which were published in the days of old.—*N. J. D.*

SCOTTISH GARDENING.

Strawberry Notes.—This season of the year reminds us very forcibly of the advantages obtained from growing only a useful selection of varieties of the generally appreciated Strawberry. This fruit, almost more than others, is capricious in regard to soil, and it is always well, when one is forming a new plantation, to make sure that a goodly breadth of the sort which is the "local" favourite is planted. Gardeners sometimes, on going to a new locality, hold tenaciously to kinds which have been favourites in some other district; but, after a fair experience, some other kind must (if success is of any moment) take up the space which the old favourites should have filled.

I had a good opportunity on coming here of judging the merits, as regards quality and usefulness, of a large collection which had been bought and planted about a year before. Some did well, others did not. But one above all others—which I think is a favourite everywhere—did extra well, and is at the present moment out-distancing most kinds in the abundance of fruit which it is yielding under glass, and showing admirably for a crop in the open ground. The plants, too, are all of one size, and there are no blanks. This is the well-known Vicomtesse Héricart de Thury, which, from the first of April till lately, has supplied daily gatherings. None became blind, but a few died off, diseased at the collar; we also had some of this disease in the open ground last year. Sir Joseph Paxton comes next in value as a forcer, as all our fruit has to be transmitted to a distance, and this variety packs well. We still practice the well-known old method of placing each fruit in a leaf, as close as they will lie, not twisting the stalk of the fruit in the leaf, as we once did long ago. All are picked and packed without being touched, the stalks excepted, and the boxes hold one layer only, and the leaves being gathered the night before, and placed in a cool, dry place, they are limp and pliable when wanted. We find them travel in this way to London or elsewhere in prime condition, either by rail or parcels post. The fruit is always best when ripened cool, airy, and dry. Packing is then a simple matter.

We have also Sir Charles Napier and President for forcing, but here they are barely equal to the two first named. At one place the latter were valued so much that out of a stock of 3,000 forced in pots 2,000 were of Sir Charles Napier and President. Those which we value so much here held only a secondary position, in our estimation, then. The soils in the two places are remarkably different, and something more than heavy and light texture decides merit. The kinds which we find do best here in the open ground (taking their full value into consideration) are Vicomtesse Héricart de Thury, Sir Joseph Paxton, President, Sir Harry, and a kind (not much known to us) named Countess. We have Keen's Seedling, James Veitch, Sir C. Napier, and other kinds, promising fairly; but Keen's [Seedling we consider one of the best Strawberries in cultivation. In the south of England, the midlands of Scotland, and also in Ireland, this kind we have seen as near perfection as can be conceived—but not of late years. Strawberry-growing, outside or inside, has not made any progress during our gardening career. The British Queens and Keen's Seedlings of our boyhood have not, under our observation, been equalled. We have plenty of large kinds—acid enough, free-bearing, and good-looking—but none, in our opinion, are equal to the two kinds which we knew first.

In cold northern districts it is well to get young runners laid into pots, for early forcing, as soon as they are large enough. The younger the parent plant is, if in healthy growth, the better are the runners. We have put runners into their fruiting pots in August, and had good returns from them; but this was in the south or south-west of England, where the autumn sun had greater power in maturing the plants. We had the last of our stock potted firmly into good loam, mixed with a little of Thomson's vine manure, early in July last, and we should like to do the same this season. Having to give up our Strawberry-house for the growth of Orchids raised no difficulty here, or curtailed our resources, as shelves placed near the glass in other structures met all our wants. These shelves are made to hold 2 ins. deep or more of water, with plugs to take out and run the water off; stagnant water about the pots in saucers is very objectionable. A piece of gas or other pipe to lead the water down answers well, and when the sun becomes powerful, and fire heat is used, a soaking to the roots placed on these shelves is of great advantage. Oftentimes the ball of roots are moistened at the outside only, but when left in the box-like shelves in 1 in. or 2 ins. of water, they get all moistened to the centre, leaving them clean and healthy by running off the superfluous water; much mischief is often done by the use of putrid and unhealthy manure-water; the object of increasing the size of the fruit is thus defeated, and the flavour is ruined. To plants in pots we prefer giving prepared manure, such as is sold in packages, and great care is taken not to exceed the quantity prescribed. Good guano is no longer an easily obtainable article, but when of high quality, and mixed with a little clear soot-water, we think there is nothing superior as a fertilizer for Strawberries being forced in pots.

To merely have a few early dishes of Strawberries, say in January or February, we consider of little merit, and certainly not profitable cultivation; but to have them from the middle of March and onwards, in abundance, and of good quality, is creditable to any cultivator. We well remember, when an "under hand" in the south of England, being highly pleased when we could pick well-flavoured fruits of Black Prince in February, the following year in January, and the third and fourth season in December; but such ideas of producing any rarity of the vegetable kingdom (which at best only tickle the palate) so far out of season, we consider of no merit now. Neither do we think much of the dribblets of Strawberries in pots, which are often seen in November and December, from plants fruited a second time. The laudation given to a quantity of these, which we saw exhibited at a late show some years ago, seemed to us, when we read a glowing report of the same in the weekly papers, that gardening topics were very scarce, and reporters were in straits for matter, when they had to record such lore.

To get good Strawberries in gardens or fields, one must be liberal in the supply of food for the plants, keep them clear of weeds, well stir the surface to prevent cracking and waste of moisture, keep the runners cut off as they appear, and apply good, wholesome, rich mulching in early spring; these are some of the chief wants of this much esteemed fruit. Planting a young stock from April to the end of August every season, and doing away with an equal portion of old plants, will always keep the stock in vigorous and fruitful condition. The practice of cutting all the old leaves off the plants immediately after the crop is gathered is by no means extinct, especially in some parts of the west of England. The practice is like a new plantation, and the rich coating of manure placed on the surface, say at the end of July or early in August, does wonders.—*M. T.*

THE CORAL TREE.

The Cockscomb Coral-tree, Erythrina crista-galli is a very beautiful summer-blooming shrub of deciduous habit, belonging to the natural order Leguminosæ, and it is a native of Brazil, from whence it was introduced in 1771. In its native country it is said to attain to the height of a tree, some 40 ft. or more, but in cultivation it rarely exceeds 6 ft. or 8 ft. It is a plant of robust, vigorous growth, having an arboreous unarmed stem, the prickly petioles bearing the bright green ternate leaves which are slightly notched on the under side. The Pea-shaped flowers, which are very showy, and of a brilliant scarlet-crimson colour, are produced in pairs at the axils of the leaves, during the plant's season of growth, some three or four times.

This Erythrina is a plant easily grown, and can be cultivated by all, as during the winter season it requires no other protection than that offered by a dry frost-proof cellar. When grown as a single specimen on the lawn it forms an object of great beauty; its showy crimson-scarlet flowers form such a decided contrast with its bright, glossy foliage, that it cannot fail to attract the attention even of the most indifferent or careless observer. The preferable method of cultivating this plant is to set it out about the 10th of May in a well-enriched deep soil, and as soon as hot, dry weather sets in a liberal mulch of coarse stable manure applied and liberal supplies of water given. Thus treated the plants will produce very satisfactory results until the foliage is destroyed by frost, when the plants should be carefully taken up, placed in a tub or box, the roots covered with earth and stored in any dry frost-proof cellar, where it can remain until wanted for planting out another season. The plants are apt to grow rather straggling, and on this account they should be cut back into shape, before being planted out in the spring. In hot, dry weather the plant is sometimes troubled by the red-spider, and as soon as these pests are noticed, the plants should be copiously syringed until the pests are destroyed.

Propagation is effected by seeds and cuttings. Cuttings, if taken off at a joint and placed in sand in gentle bottom-heat, will soon take root, and if the young plants are potted off as soon as rooted, and liberally treated, nice flowering specimens will soon be obtained. If we desire to increase the plants by means of seeds—which by the way are freely produced—they should be sown as early as possible, about the 1st of January, and flowering plants will be obtained the coming summer. Sow the seeds thinly, placing the eye down, in a well-drained pot or pan of light rich soil, and place in a warm, moist situation, and as soon as the young plants are strong enough to handle, carefully remove them into 3-in. pots similarly prepared, then place them in a warm, moist situation, and use all available means to obtain as strong plants as possible before they are planted outside.

The generic name is derived from "erythros," red, the colour of the flowers, and the specific in allusion to the fancied resemblance the flowers bear in form and colour to the comb of a cock.—*Charles E. Parnell, in Gardeners' Monthly.*

FRUITS OF THE DUKE OF YORK ISLAND.

In a paper read recently at a meeting of the Society of Arts, and published in the Society's *Journal*, Mr. Wilfrid Powell gave the following details respecting the fruits of the Duke of York Island, one of a group adjacent to the larger island of New Britain in the South Pacific Ocean:—

The fruit of Duke of York consists of the Banana, Cocoa-nut, Tan, Mummy Apple, and a description of Wild Mango. Yams and Taro also grow on the island, but sweet Potatos are the chief product, and serve as one of the main articles of trade between this and the other islands.

The Bananas also are in some parts of the island very fine, but the Yams and Taro are not to be compared with those of New Britain, or the Yams of New Ireland, which are noted for their large size. The Taro of New Britain is also considered the finest in the South Seas. Taro is a large bulbous tuber, with leaves much of the shape of the Caladium. I have never seen the flower. There are two different kinds, one of which grows in swampy ground, and the other on the hill-sides; the latter is the largest and best, the swamp Taro being waxy to eat. Taro is planted in rows, about one pace apart, and is kept clear of weeds by the women; the hill Taro grows to the size of 15 ins. long, by 1 ft. circumference. When cooked in a small quantity of water, the starch that exudes from it makes the water into a thick paste, therefore it requires more water added continually, and when cooked, is soft and mealy, and is one of the very best vegetables I have ever eaten. The native way of cooking it is even better than boiling; the outside rough brown coating is scraped off with a sharp shell, and after cutting the Taro in halves lengthways, it is wrapped up in Banana leaves, and placed in a fire where it is not too hot; when cooked, it is much like good new bread, and is excessively nutritious. After taking the Taro out of the ground, the tuber is cut off, leaving about an inch still adhering to the stalks and leaves; this is again placed in the ground, and in about three months has another large tuber ready for cutting. The leaves are terribly astringent, and, if eaten raw, will take the skin off the mouth, and render it very sore for some days, but the young leaves, cooked, are very delicious.

There is also a fruit called the "Tan," which I don't suppose many Europeans know much about. It grows on very high trees, whose wood, by the way, is beautifully grained and very hard, though nice to work. The fruit is shaped much like an Apple, and also grows in bunches as some Apples do, but if you take one in your hand and press it, when ripe, the skin will come clean off, and the inside is then found to be beautifully clear jelly-like substance, which, when placed in the mouth, melts into water. This jelly surrounds a brown stone, of which the natives make a sort of cake, after it has been soaked for some days. The "Papau," or Mummy Apple has also some curious facts connected with it that are useful to know. The very young Apples, when boiled, make a most delicate substitute for Vegetable Marrow; the stalks and leaves, if boiled with clothes, will render them beautifully clean and white; they come out of the boiler a bright gamboge yellow, but when hung up to dry in the air, they turn perfectly white again; a small piece of the leaf or stalk, boiled with an old fowl or tough piece of meat, makes it quite tender.

SELECT HARDY PERENNIALS.

(*Continued from p. 650.*)

Arnebia echioides, or Russian Bugloss.—This is probably one of the most pleasing and interesting of hardy plants, and at the same time one of the most floriferous. It grows about a foot high, and has a neat compact habit; the flowers are somewhat variable and usually of a chrome-yellow colour on being first expanded; they then change to sulphur-yellow, and subsequently a dark, almost black, blotch appears in the centre of each petal. For a front row plant, or the rockery border, it is one of the most telling things I am acquainted with. It belongs to the Borage family, and is a native of the Ural Mountains.

The Asphodels, or "King's Spears," are vigorous growing perennials about 3 ft. in height, suited for the back row in the border, the shrubbery, or any similar situation. A. ramosus has white flowers; A. luteus is yellow, and there is a double-flowered variety of it. All are easily grown and thrive in any ordinary soil. It is suited also to town gardens or smoky districts.

Asters, or Michaelmas Daisies.—This is an extensive and highly valuable group of hardy plants; some of them it is true are worthless from a decorative point of view, but there are others equally valuable, and which hold positions among hardy perennials which it would be impossible to fill without them. For massing, for the mixed border, for lines, and for general decorative purposes, they are most useful, and some few varieties too, with their immense panicles of flowers, form very attractive objects on the large rockery, where they may well be allowed a ledge of rock to themselves in order to show them to the greatest advantage. As this is one of the most extensive groups of hardy perennials, I will not enlarge further upon them, but briefly mention a few of the very best, most distinct, and free flowering.

Aster alpinus has flowers of a pleasing pale lavender colour, with orange disc; it grows about 9 ins. high, and flowers in May and June, and is well-suited for the rockery or border. There is a pure white form of this plant which, though scarce, is well worth searching for, as it make such an excellent companion for the type.

Aster Amellus forms a compact bush of sturdy, vigorous stems, and somewhat downy leaves, about 2 ft. high. It is one of the very best perennials, and is of extremely simple requirements. The flowers are violet-blue, and about 2½ ins. across; it flowers during June and July. There is also the Bessarabian form of this, A. Amellus bessarabicus, a grand perennial, with large rich purplish-blue flowers, and similar in height and time of flowering to the type.

Aster dumosus is a good kind for September flowering, with bright purple flowers, height 2½ ft.

Aster ericoides attains a height of 3½ ft.; flowers white and small, but very numerous. Time of flowering September and October; one of the most pleasing and elegant of this group.

Aster longifolius var. formosus is one of the freest flowering of all. It grows 1½ ft. to 2 ft. high, forming densely symmetrical bushes, which are covered for a considerable time with its bright rose-coloured flowers. It is also very useful as a pot plant, and may be introduced into the cool conservatory with very good effect during the summer months. It is certainly one of the most useful of all.

Aster Shortii produces its large lavender-blue flowers very abundantly during August, and grows 2½ ft. high.

Aster versicolor is a very effective kind, producing most abundantly masses of white and rose-coloured flowers during August; height 4 ft.

Aster discolor has white flowers, changing to pink and seldom exceeds a foot high; very distinct. All the foregoing will be found well worthy a place in the hardy border, placing them in suitable positions according to the height given.

Aubretia.—We now have to confront the genus Aubretia, so beautiful among spring plants either for masses, lines for the border, or rockwork, in fact a plant that is at home anywhere, even clothing the crumbling walls of old castles and other ruins. These thrive well in town and villa gardens, are easily increased by seeds or division, and when established carpet the ground with their pleasing tufts. The best forms are — A. Campbelli Improved, Hendersoni, Eyrei, græca, and deltoidea grandiflora. There are several others, but these are among the best. Singularly enough the prevailing colour in this group is blue, violet, or lavender, with varying shades. At Belvoir, however, exists a rose-coloured form, which one cannot forget the sight of, and a pure white variety we have yet to wait and watch for.

A few words in season anent Aubretias may be helpful. The season of flowering is past, and as the seeds are not required the plants may be cut over if becoming too large. If it is required to increase the stock of these, it should be done a fortnight or so after being cut back, at which time numerous young shoots will be forming at the base of the plants. Lift them carefully with a spade, and shake or wash the soil from the root-stocks; it will then be an easy matter to separate them in quantity from the old stool with roots attached, when they may be planted as required. If not required in quantity the old clumps may remain undisturbed, and when the cuttings are about 1½ in. long, strip them off with a heel attached, and place them under hand-lights in a shady position in sandy soil; if attended to they will emit roots in about three weeks. There will be no need for the use of the knife in making these cuttings, they should be inserted just as they are detached from the original plant.

Bocconia cordata.—From the exceedingly useful Aubretias I now pass to one of the handsomest and noblest of perennials, Bocconia cordata, a hardy, fine foliage plant, which attains a height when well established of 8 ft., and is admirably adapted for an isolated position on the lawn, or in any conspicuous position where it will have room for free and full development. The flowers are borne in terminal panicles, and are of a peculiar brownish colour. It is of no particular beauty in flower, but on account of its large handsome foliage it should not be overlooked.—*J.*

PLANTING MEMORIAL TREES.

I hope that the example set of planting trees as monuments, will do as much for American landscape as the best of our authorship has done for American literature. The trees may outlive the memory of more than one of those in whose honour they were planted. But if it is something to make two blades of grass grow where only one was growing, it is much more to have been the occasion of the planting of an Oak which shall defy twenty scores of winters, or of an Elm which shall canopy with its green cloud of foliage half as many generations of mortal immortalities.

I have written many verses, but the poems I have produced are the trees I planted on the hill-side which overlooked the broad meadows, scalloped and rounded at their edges by loops of the sinuous Housatonic. Nature finds rhymes for them in the recurring measures of the seasons; winter strips them of their ornaments and gives them, as it were, in prose translation, and summer reclothes them in all the splendid phrases of their leafy language. What are these Maples and Beeches and Birches, but odes and idyls and madrigals? What are these Pines and Firs and Spruces but holy hymns, too solemn for the many-hued raiment of their gay deciduous neighbours?

But I must not let my fancy run away with me. It is enough to know that when we plant a tree we are doing what we can to make our planet a more wholesome and a happier dwelling-place for those who come after us, if not for ourselves. As you drop the seed, as you plant the sapling, your left hand hardly knows what your right hand is doing. But nature knows, and in due time the Power that sees and works in secret will reward you openly. You have been warned against hiding your talent in a napkin; but if your talent takes the shape of a Maple-key or an Acorn, and your napkin is a shred of the apron that covers "the lap of earth," you may hide it there unblamed, and when you render in your account you will find that your deposit has been drawing compound interest all the time.—*Oliver Wendell Holmes.*

POETRY IN BUSINESS.

Those who are behind the scenes in large retail establishments can generally on demand tell amusing stories of the strange orders which occasionally reach them. Orders for seeds of the Pine Apple, for ounces of Primula and Cyclamen, for two or three sorts of Peas, all of which could be served out of one sack, and many even more ludicrous than these have frequently been shown to us, but we have seldom come across a customer who turns his commands into rhyme, so seldom indeed that we think the following, which Mr. T. S. Ware received lately in the ordinary course of business, deserves a better fate than burial in a pigeon hole. We should add that we have the name and address of the writer, but have not his permission to publish it.

Mr. Ware,—Be so kind for my Eden to choose
  Two climbers, some branches to cover;
A Clematis will do, say the best of the blues,
  With a white one to match for the other.
In my limited plot, rich with Flora select,
  I have placed two forked Oak branches there,
Just to tickle the eye with a rustic effect,
  And for climbers to mount into air.
Only five feet in height, but with gardening skill,
  To a trellis can train them with ease,
For an old adage says "There's a way for a will,"
  And I mean just to try, if you please.
With my scanty lined purse, pray consider and do
  Your best for a poor London scribe,
And give price by return, my best thanks shall be due,
  From one of the amateur tribe.

* * * *

The plants duly sent are the pink of perfection,
  Graceful enough for æsthetical taste.
I tender my thanks for your skill and direction,
  And sign myself truly your debtor, in haste.

VIBURNUM PLICATUM.

This is a grand Guelder Rose, and represents an introduction from Northern China about the year 1845. Just now it is very fine in the gardens of Gunnersbury Park, Ealing, where several large specimens of it can be seen. The flowers are similar to those of the English Guelder Rose, but larger, whiter, and, if anything, more freely produced, and they develop themselves along the branches, having short stems. When first introduced some doubts were expressed as to whether it would prove quite hardy, but all doubts on that point may be removed. We may call it the China Guelder Rose. The English Guelder Rose is Viburnum Opulus, and it is sometimes called the Snowball Tree, probably from its Rose-like balls of white blossom. It is a variety of the Water-Elder, introduced from Gueldres, and therefore named the Guelder Rose. In England its flowers are dedicated to Whitsuntide, probably because it flowers at that time of the year. The French name of the Guelder Rose is "Boule de Niege," and it is very appropriate. "It is a variety of a common hedge plant, whose chief beauty lies in the bright red berries with which it is adorned in autumn. The modest inflorescence of the parent forms a striking contrast to the dazzling brilliancy of its offspring's blossoms. Sterility is, however, the price paid by the latter for its ephemeral splendour."—*Quo.*

The Amateurs' Garden.

THE GREENHOUSE.

Shading and Watering.—With the days now at their longest and the sun bearing its full power, shade will be necessary from about ten in the morning to three in the afternoon, if flowers are to be kept fresh and at their best, but it should not be of such a degree of intensity as will obstruct the light much, or the petals will be thin and flimsy and their colour affected. Next in importance to shade is moisture, and to have the air impregnated with this the floors must be damped down occasionally, which will make the atmosphere congenial and prevent the plants feeling distressed by the heat. To keep this to as low a degree as possible, the lights or ventilators should be opened wide, if it can be done without causing too great a draught, which ought to be avoided, or severe flagging may follow through the rapid evaporation that takes place from the leaves. Although it may be necessary to look over the plants more than once a day, the right time to water is during the evening, as then it has the night to soak in and properly moisten the balls of soil, which gives the roots a fair chance to start on afresh.

Hanging Baskets.—As the general run of green houses exhibit many objectionable straight lines, when not hidden or ornamented with climbers, a few hanging baskets should be used, as when well furnished with suitable things they are highly ornamental, and help much to embellish the roof Among some of the best plants that may be mentioned for the purpose of filling them, few are more effective than such Tropæolums as Ball of Fire, or its improved variety, or indeed any other of the named varieties, which are very brilliant, and their habit all that can be desired to render them adapted for suspending at a height, as they run about up the chains or hang down in the most graceful manner.

The Drooping Varieties of Tuberous Begonias are also grand when used in the same way, as elevated above the head they show off the beauties of their pendulous blooms to the greatest advantage. Fuchsias too are never seen to better effect than they are at a certain elevation, as they are naturally pendent, the habit of many sorts being quite weeping and straggling, and such as these look just at home in a basket. Petunias are almost climbers, but it is only the single varieties that should be used for the baskets, and the best strains of these are very beautiful, as the flowers are large and marked with the richest of colours. Pelargoniums, Rollison's Unique, and the many Ivy-leaved varieties, are magnificent as roof plants, and form quite a feature in any house that is light, as under its influence they bloom profusely and make a fine show.

For a Shady Position, Ferns are the best, and amongst these Nephrolepis tuberosa, Asplenium flaccidum, and Woodwardia radicans are the most desirable of those that grow large, but there are many smaller that are very neat and pretty, the more striking among them being Pteris scaberula and Adiantum setulosum, the latter of which does well in an Orchid-pot, as it will send its fronds through the holes at the sides.

THE FLOWER GARDEN.

Hoeing and Mulching Flower Beds.—A better time for bedding plants since they have been turned out could not have been, as no sooner were they in the ground than rain fell and settled the earth well about them, and immediately after hot weather followed, giving such an impetus to the plants that they started right off at once. As the ground will be pattered down and hard and close on the surface, the thing to do now is to run the hoe over it to break up the crust and destroy any seed-weeds, after which the beds should be mulched down with cocoa-nut fibre or old tan, either of which have a neat appearance and are a great help in keeping the soil regularly moist, when the plants are able to stand the hot weather and will continue to send up plenty of bloom.

Evergreens, such as Laurel and other common kinds planted as screens, may now be cut back freely where they have overgrown walks or got beyond bounds, as they soon break again, but what pruning is done should be effected with a knife, as nothing is so objectionable as to see shrubs with a clipped front and a face like a wall, with severed or mutilated leaves that show all the season. Rhododendrons as they go out of bloom ought at once to have the seed-pods picked off, as to bear and ripen seed distresses the plants far more than it does to carry their flowers, and often prevents them making proper growth and setting fresh buds. To assist them in this, a good soaking of water will be a great help, as they are moisture-loving subjects, and have their roots near the surface.

Roses will still require watching to keep them free from aphis and maggot, and should the weather set in dry, frequent soakings of sewage or other liquid manure will be necessary, as without plenty of feeding the bloom will be poor, and the plants so impoverished that they will not flower free in the autumn.

Lawns and Walks.—If lawns are to be kept in good order they must be mown regularly once a week, or the grass will get so long as to make the work of cutting it difficult, and the labour heavy, and not only that, but the bottom becomes discoloured from being smothered, after which the sun scorches and injures the plants when they have their crowns suddenly exposed. Dandelions, Plantains, and Daisies are a great disfigurement in turf, and should be eradicated either by cutting them out or destroying them, which may easily and quickly be done by just touching the crowns with vitriolic or carbolic acid, a single drop of either of which will break a weed up. For those on walks, salt and water poured on through a rosed pot on a hot dry day is a good and easy remedy, but the salt water must be kept away from Box or other like edging.

THE FRUIT GARDEN.

Peaches and Nectarines.—One of the greatest enemies to these is red-spider, and the chief cause of these affecting trees is dryness at the roots, to prevent which the borders should be mulched, and after this is done a thorough soaking either with clear water or liquid manure given, the stimulant being desirable for such trees as have a heavy crop of fruit. As the crop in houses will now be stoned and safe, it may be thinned, and in doing this choice should be made of all those on the upper side of the branches, as there they are not smothered up with foliage, and being so much more exposed to sun and air than those below they colour better, and therefore come far finer in flavour. If the Peaches and Nectarines are wanted ripe early, they may be hurried on without any harm by closing the house at three o'clock in the afternoon, but if this is done the trees must then have a good syringing, as heat without plenty of atmospheric moisture will soon bring on the parasite mentioned above.

If green-fly makes its appearance on the tips of the shoots it will be necessary to resort to fumigating at once, but this needs to be done with care, as an overdose would injure the young, tender leaves. To prevent this, the best way is to smoke slightly night and morning for three or four days in succession, which gives the aphis no time to recover. For trees out-of-doors, smoking is impracticable, and to get rid of the fly on them the shoots must either be dipped in dilute Gishurst or Nicotine Soap, or dusted with Tobacco-powder, after which they should be subjected to a good syringing or be well washed with water from a garden engine, the latter being best, as the water can be sent with more force and the insects knocked off by the stream.

Plums and Cherries will also be much benefited by receiving a thorough washing in the same way, as they too are much affected by aphis, which if not got rid of soon cripples the trees, and quite spoils the fruit by covering it with the sticky excreta they exude on its skin. Currants are often made quite unfit for use in the same way, but this may be prevented by snipping off the points of the shoots and any badly blistered leaves, as it is on them the aphis lurks and causes the malformation or curl.

The Vinery.—Excepting where forcing is being carried on, fires may now be dispensed with, as all the heat necessary for either young Vines or old may be had from the sun, and to secure and utilize it the house should be closed early in the afternoon, at which time the floors, pathway, and other inner surface should be well wetted, that there may be no lack of atmospheric moisture, which is essential for the health of the Vines. In cases where young rods are being run up, and have no fruit on them, they will be benefited by being syringed twice a day, but for those with Grapes on the wetting must be avoided, for however clear the water may appear, a sediment is sure to be left on the berries. These ought now to be large enough for the bunches to be thinned, and the sooner this is done after the berries are a little bigger than pins heads the better, as not only may the work be carried out much more expeditiously, but they swell considerably faster than when left to crowd each other and struggle for room. In thinning, the things to be particular about are not to rub the bunches, and to leave only those berries that have strong footstalks and stones in them, which an experienced eye can pick out at once, as they have quite the lead of the others.

THE VEGETABLE GARDEN.

Cauliflowers.—Although the late heavy rains have been highly beneficial in most respects, they have pattered down the surface of the soil and sealed it as it were against the air, and therefore hoeing should be resorted to at once to give a gentle stirring, which is best done by using a Dutch hoe, an implement that is of great service, as it cuts under all weeds without driving up or unduly disturbing the ground. Cauliflowers are one of the most important of summer crops, but without some degree of management it is a difficult matter to keep up a succession. The only way to do this is to sow and plant frequently, giving the plants a cool part of the garden, where the ground has been well prepared by manuring and deep digging, in which favourable position, if kept watered and given an occasional soaking with sewage, they cannot fail to turn in. One of the greatest pests that affect Cauliflower, as well as all other of the Brassica tribe, is the fly or "Black Jack," which punctures the leaves and eats out the heart of the plants, causing them to go blind. The best remedy against that is to dust them with lime or Tobacco-powder while they are damp with dew, when the powder or lime will adhere and keep the insects away.

Scarlet Runners.—Where these can have sufficiently tall sticks they run to a great height and bear profusely, but it is not everyone who can so accommodate them, and many have to be content with them dwarf, in which state they may be kept by stopping the shoots, which makes them branch out and support themselves, or they may be limited to 3 ft. or 4 ft. stakes by treating them in the same way, but however grown, the great thing with Scarlet Runners is to keep them wet at their roots, or they shed their blossoms without setting, to prevent which the best way is to spread some long dung or litter alongside of the rows, as with the ground so covered a watering tells, for the moisture cannot evaporate in the way it otherwise would.

Turnips and Radishes.—To have these young and tender, frequent sowings must be made, the most suitable situation for them being a cool half-shady border, as there they are not likely to suffer so much from drought, which soon makes the flesh fibry and strong to the taste.

Carrots.—For pulling small, the French Horn is the best, and a sowing of this should be made now in sandy soil, and another a month later, and unless the plants come very thick, they may be left without any thinning till required for use.

THE TRUE BACHELORS' BUTTONS.

I note in a recent number, p. 612, a short note on Ranunculus aconitifolius plenus, or "Fair Maids of France," which is said to be also called Bachelors' Buttons. Is not this an error? Should it not read that R. acris flore-pleno is the old Bachelor's Button. I think so—at least I have always known this plant so called, even when I was a boy. The blossoms of R. aconitifolius plenus are small, and produced in clusters, and might be more appropriately compared

to shirt buttons. It is well knowu that the "Old Bucks," or "Swells" of the latter end of the last century, and the early part of the present one, more especially the bachelors, were notorious for their blue or green coats, with large bright golden or gilt buttons, hence the comparison of the old botanists of the double forms of R. acris, with their bold shining yellow flowers, to bachelors' buttons. The plant has also a bold, careless, dashing sort of habit of its own, which no doubt aided them in the comparison. Both plants are good ones. Unfortunately I have lost my stock of R. aconitifolius flore-plenus, but R. acris flore-pleno is in full flower.—*N. J. D.*

[The popular name of "Bachelors' Buttons" has not only been applied to the plants above named, but also to the flowers of Lychnis diurna, Centaurea nigra, and the double white Daisy. We consider, however, with our correspondent, that the name should be applied only to Ranunculus acris flore-pleno. Much as we like pretty and appropriate popular names for plants, they are worthless and misleading for purposes of identification.—*Ed.*]

HYACINTHUS AZUREUS.

This charming spring-flowering bulb is figured in the June number of *The Botanical Magazine*. It is somewhat curious to see it removed from the Grape Hyacinths (Muscari) and placed in Hyacinthus, but the reasons given by Mr. J. G. Baker, the well-known authority on this group, are as follows:—"Although it has entirely the habit of our ordinary Grape Hyacinths, the segments of the perianth are not at all incurved, so that, although it forms a complete link of connection between the two genera, Hyacinthus and Muscari, its proper place is in the former." The figure was taken from plants which flowered in the open ground at the latter end of February.

The plant grows about 6 ins. high, bearing six to eight leaves; the racemes are dense, the young flowers being of a beautiful sky-blue, but becoming deeper with age. It is one of the best of recently-introduced hardy bulbs, and one which, on account of its early flowering, has certainly a great future before it. In gardens, it has hitherto been known as Muscari lingulatum, a name under which Mr. Baker formerly described it, and under which it was mentioned in our columns, at p. 425. It is also the M. azureum of Fenzl.

ADIANTUM NEO-CALEDONIÆ.

Among the many beautiful Maiden-hairs now in cultivation, one of the most striking is that named above, and which is figured below. As its specific name indicates it is a native of New Caledonia; it is of recent introduction, and is at once ornamental and attractive in appearance. Although it grows freely in the stove, it is also quite at home in an ordinary greenhouse fernery, where it keeps somewhat more dwarf; it is thus capable of wider cultivation than a stove Fern, and hence is a more valuable acquisition. It is of compact habit, growing to a height of 12 ins. to 15 ins.; the frouds are remarkably neat in appearance, and, as will be seen from the illustration, rise well from the crown. The stems are purplish-black, the leafy portion dark green. The leaflets are various in shape, some being roundish, others long, narrow, and tapering to a point, often deeply cut. The texture is firm and the fronds will no doubt prove to last well in water when cut, and thus constitute the species both ornamental and useful.

The compost in which this, like all other Adiantums, grows freely, is a mixture of good fibrous loam, good leaf-mould, and sharp sand, a liberal supply of the latter being necessary to keep the compost well open. It does not like water on its foliage, but an abundant supply at the roots is essential. Given these conditions, the probability is that this species will become one of the greatest favourites. The plant was certificated by the Floral Committee in June, 1883, and we saw it again a few weeks ago at the great Manchester Exhibition, when it was shown by Messrs. W. & J. Birkenhead, of Sale, who hold the stock, and to whom we are indebted for the accompanying illustration.

ADIANTUM NEO-CALEDONIÆ.

GIANT POPPIES.

The old astrologers used to regard the Poppy as one of the flowers of the moon, but for what reason is not clearly understood. Perhaps it was the brilliant scarlet P. rheas, so vivid in the cornfields during the summer, that they referred to. But what of those Giant Poppies, P. bracteatum and P. orientale. Travellers by the lines of railway that run from London into Reading, can scarcely fail to note in Messrs. Sutton & Sons extensive Seed Trial Grounds, singularly bold and striking patches of colour, brilliantly red beyond any other flower of the many now gay in the early summer days. They are the huge brilliant blossoms of P. bracteatum and P. orientale. How brilliantly they look under the "imperishable glow of the summer sunshine!"

What is grown as P. bracteatum is a very large rich deep crimson variety, the flowers of great dimensions. P. orientale has slightly smaller flowers and of a pale red or scarlet hue, and the latter appears to be the dwarfer growing of the two. But seedlings from P. bracteatum are found to come with paler shades, and those of P. orientale differ also. But more imposing looking subjects can scarcely be imagined for border culture. They make an excellent foreground to a liue of shrubbery.—*R. D.*

Tomatos.—It is said that a farmer in Salem County, New Jersey, U.S.A., last season raised 83 tons of Tomatos on six acres of land, and sold the crop to a canning establishment for nearly 30*s.* per ton.

OUR EUCHARIS LILIES.

Eucharis Amazonica, or the Lily of the Nile as it is sometimes called, is universally admired by all, and where there is anything like convenience for growing it, and often where there is not, the Eucharis is generally found, but, I must add, not always in the best possible condition. It is not my purpose here to sing the praises of my own plants, or rather, those under my charge, but simply to state a few facts which I have gained during a period of time devoted to an endeavour to recover to health and vigour a sickly lot of these bulbs, which after three years' constant nursing I have given up in favour of a fresh lot of healthy bulbs. We have often heard it stated that the most valuable lessons are often gathered from failures, so I will not flinch from detailing my experience.

The plants above mentioned, when I took them in hand, were of a sickly hue, or a mixture of green and yellow, and the leaves were little more than 1 ft. in length, foot-stalk and leaf together, so that the plants, which were in large pots, presented a dumpy appearance. The soil was found to be of a dark colour, close, wet, and pasty, so much so, that after a watering, and I might say almost at any time, you might take a pinch of the soil out of the pots and roll it up into a ball like putty, and if this was thrown at a wall it would not break to pieces, but would either adhere to the same, or fall in a flat mass. I think most gardeners would agree with me, that this kind of soil was of the most undesirable character one could have for any plant of this nature, devoid as it was of all sand, or any other substance for keeping the soil open.

I thought the most desirable thing we could do was to shake the whole out of their pots, and pot them afresh in some good material, consisting of fibrous loam and peat, with sand and broken crocks mixed with the soil to keep the whole porous. The pots into which they were placed after removing all the soil from the roots, which we found no difficulty in doing, were half filled with crocks, and the bulbs potted somewhat in the same manner as we found them, in this new compost, after which the pots and plants were plunged on a bed of fermenting material. Here, as might be supposed, they lost some of their leaves and made some fresh ones, but never in a satisfactory manner. As the heat of this bed declined, a fresh one was made up, and so on through the first summer, but without any great strides having been made.

The following winter, with the fall of temperature they went back again to a worse plight than before, as many of the bulbs lost the whole of their leaves. The following summer they were taken in hand again, some having the hotbed and others placed in vineries that were at work, but no progress was made, for when a few, to all appearance healthy, leaves were sent up, they went off again before a fresh one appeared on the same bulb. This somewhat similar treatment was followed for nearly another season, when we determined to let them take their chance. So they were all shaken out of their pots and spread about on a bed in a warm pit there to take their chance, and if any do make a start they will be moved into pots. I may add that during this forcing process several of the bulbs threw up flower scapes and perfected some good blooms, and several of these were leafless bulbs.

During the time above detailed, some healthy bulbs were bought in, and some part of their time placed by the side of the others, and received precisely the same treatment. These are growing away well, and are now as green as Lecks. There are two or three things we shall take care to observe in the culture of these plants in future, and one is to disturb the roots as little as possible except when dividing old and cumbersome plants and to increase stock, in which case we should pot into small pots, and pot them on as they require it. We shall also be very careful in the use of bottom-heat from fermenting materials, and always give them plenty of atmospheric heat, careful watering and stimulants when required to encourage growth, and slightly withholding the same to induce flowering.

There are two gardeners in the neighbourhood of Salisbury who are noted for the good cultivation of these plants, viz., Mr. Ward, of Longford Castle Gardens, and Mr. Thomson, of The Gardens, Norman Court; and I know that neither are advocates for breaking up the balls and sorting the bulbs when potting, unless absolutely necessary.—*C. W.*

FRUITS.

Fruit Culture under Glass.—Vineries: The work to be done in this department from this date until the Grapes are cut will be chiefly of a routine character. As stated in a former paper, the lateral and sub-lateral growths will require to be pinched once or twice a week, the borders—inside borders and outside ones, too, in the absence of heavy rains—will require watering at least twice in three weeks, and the pathways, walls, &c., of houses in which Grapes are swelling should be well damped over with the syringe and tepid water morning, mid-day, and afternoon at closing time—about four o'clock—when the temperature may be run up to 90 degs., with plenty of atmospheric moisture at the same time. With a view to preventing the berries of such varieties as Lady Downes, Muscat of Alexandria, Madresfield Court, &c., from being caught by the sun when covered with and full of moisture, air should be admitted to the house in which the varieties susceptible to scalding are growing somewhat earlier, during the stoning period, and, with the same object in view, a rather free lateral growth should be allowed until the berries are stoned.

Fire-heat should now be reduced to a minimum, starting the fires only sufficiently early in the evening of bright days to slightly warm the water in the pipes before banking them up for the night. But should the weather happen to be wet or dull during the day-time, the fires, as a matter of course, should be pushed on first thing in the morning, so as to raise the temperature to 75 degs. with a little air on; and aim at a humid rather than an arid atmosphere, except in houses in which the fruit is ripe or ripening, in which case, by a diminution of atmospheric moisture, and a free circulation of fresh air, a buoyant atmosphere should be maintained. The bunches of late Grapes should be looked through, and any small berries that happen to be in them removed carefully with a sharp pair of scissors, as their presence in perhaps otherwise symmetrical bunches is as undesirable as they are themselves useless.

Where large bunches of Gros Guillaume, Trebbiano, and other large-growing varieties of Grapes are tied out, so that they may the better ripen and develop themselves, they should be looked over a couple of times a week while growing, and, if necessary, have additional ties put to them, so that the weight of the shoulders of the individual bunches may be duly balanced over the several ties by which they are suspended from the trellis, because, in the event of any of the horizontal points of the bunches so tied inclining ever so little to the perpendicular from the point of support, loss of those parts of the bunch would probably ensue, in consequence of injury to the stem at the point of contact with the tie.—*H. W. Ward, Longford Castle, Salisbury.*

Carter's Blenheim Orange Melon and Improved Telegraph Cucumber.—Those amateurs who have small houses, and who may wish to cultivate Melons and Cucumbers would, I think, find these two varieties suit them admirably, as they fruit wonderfully well in a small space. I have a little lean-to house, 23 ft. long and 6 ft. wide, which is divided into two compartments, 13 ft. for the Melons and 10 ft. for the Cucumbers. Of the latter, three plants were put out in the end of February, and from these I have cut 250 fruits, and there are now thirty more hanging on the plants. It is a very straight and well-flavoured variety. Of the Melons I have five plants, which were planted in March, and which have now thirty-two beautifully netted fruits upon them, and all of a good size. I may add that I used Clay's Fertilizer for the Cucumbers, and an excellent and comparatively inexpensive manure. I find it.—*F. King, Kenton Grange.*—[If other readers would favour us with the benefit of their experience with different varieties, they would confer a great boon on those who cannot afford to experiment with new sorts.—*Ed.*]

FLOWERS.

Work in the Plant-houses.—Dracænas: Young plants that are to be grown on for autumn and winter use should be potted on as soon as they require it, and have every encouragement to get them to make vigorous growth through the summer. They do well plunged where there is a brisk bottom-heat, but as this cannot always be obtained in a position sufficiently close to the glass, a good plan is to make up a hotbed for the purpose. The best materials for making up such a hotbed are leaves and dung. Leaves retain the heat longer than most fermenting materials. The planting-out system is largely practised on the Continent; the plants so treated make very vigorous growth, and if taken up carefully in the autumn they suffer very little from being moved. It is essential that the plants should have plenty of room, as if they are crowded they will run up too tall, and the lower leaves will suffer. After the plants have made a good growth, if they are not colouring satisfactorily they should be taken out from the hot-bed and stood on inverted pots, so as to bring the plants as close to the glass as possible.

Dieffenbachias.—These do well under similar treatment to that recommended for Dracænas, except that they require a richer compost, and more liquid manure. Marantas should also be liberally treated during their growing season.

New Chrysanthemum "Coquette de Castille."—In your last issue I noticed that this novelty had bloomed in the nursery of Mr. Owen, of Maidenhead. I wish to record the fact that the same variety is now coming into bloom in my garden. I think, therefore, considering that it is blooming so early in two different places at least, it may be regarded as a great acquisition to the early-blooming section of Japanese varieties. I may also state that the plant which is now coming into bloom with me is not the original plant sent to me by Messrs. Delaux & Son, of Toulouse, in their set, but one which I struck in April, making it, therefore, not over ten weeks since it was put in as a cutting. I have also another of the same set showing colour, it is named M. Ghys, and Roi des Precoces, a novelty in the summer-flowering section of Japanese varieties sent out this season by Messrs. Delaux (with four other summer-flowering Japanese, named respectively, Mandarin, Fleur d'Été, Bouquet d'Estival, and Été fleuri) is also in bud. I look forward to the time, which I fully believe is not far distant, when we shall have as many and as fine flowers in the summer-flowering section of Japanese as we have of the later varieties.—*W. Clark, 56, Ferme Park Road North, Hornsey, N., June 15th.*

The "Onion Plant" (Ornithogalum longebracteatum.—I have one of these plants about nine years old, which bloomed three years ago. After it had flowered I re-potted it, and in the very ordinary compost which I used I placed three small pieces of the parings of horses' hoof. It did not bloom again till last December, but since then it flowered in March and is now throwing up another very fine spike. I have never known this old favourite to flower so frequently. As it has not been repotted and the hoof parings are very slow in decomposing, I should like to know if its free flowering now is to be attributed to its being pot-bound or to its feeling the benefit of the manure. Would it flower as freely if potted in a rich compost? I may add that I have used the hoof-parings for some years with success for Liliums in pots.—*J. W., 21, King Edward Street, S.E.*

Paul's Double Crimson Thorn.—While all the Thorns have flowered with great freedom during the past month, that superb variety, Paul's Crimson Thorn, has been particularly effective. There are some fine trees of it at Gunnersbury Park, Acton, and it is not too much to say that their branches have been laden with richly-coloured flowers, and they proved a great feature in the landscape. The value of the Thorns as early summer-flowering plants cannot be too highly appreciated.

Double Pyrethrums.—The value of these for cutting from is being admirably illustrated by Mr. Barron at the Chiswick Gardens. On a border facing the north there is a plantation of Pyrethrums. The plants have grown into large tufts, and they are now flowering with surprising plenteousness, even for Pyrethrums; bushels of blooms might be taken from the plants, so thickly are they covered with flowers. Many gardeners, aware of the usefulness of the Pyrethrum in this respect, have made a plantation of them, but there are not a few gardens where they can be looked for in vain. As selections of the best varieties can now be had at reasonable prices there is no reason why they should not be extensively grown. —*Quo.*

Nemophila insignis.—If anyone would see this popular blue annual in all its beauty, they should fix their eyes on a large patch or two of it in the Seed Trial Grounds of Messrs. Sutton & Sons, at Reading, or, where it can be seen growing on a much more extended scale, at the Seed Grounds of Messrs. Carter & Co., at Dedham, and St. Osyth, at Essex. Looked at from a distance a large patch of it looks like a carpet of the loveliest sky-blue. The patches at Messrs. Sutton & Sons now in flower, are from seeds sown in autumn, and this can be done in light warm ground. The consequence is the plants root deeply into the soil, they grow strongly, and make a great display. When the seeds are sown in early spring they come into flower earlier than when sown in autumn; the plants do not therefore make such a free growth, nor produce such enduring masses of bloom. N. insignis, the showy Nemophila, was introduced from California in 1833. I can well remember, when a little fellow of some six years of age, being sent by my father with some plants of it to a lady of his acquaintance who was passionately fond of annuals. That was my first acquaintance with this useful plant. —*R. D.*

Costus igneus.—A beautiful stove plant of dwarf habit, and with bright orange-coloured flowers, it is said to be a native of Bahia. The stem grows from 1 ft. to 1½ ft. high, the leaves are broadly lanceolate and bright green, and the flowers, which are almost circular and with notched edges, measure 2 ins. to 2½ ins. in diameter. There is a coloured illustration in the June number of *The Botanical Magazine*. It thrives well under ordinary stove treatment, producing its brilliant flowers in the autumn.

An Autumn-flowering Horse-chestnut.—At p. 52 of The Gardening World is a note respecting the autumn-flowering of a Horse-chestnut tree, owing perhaps to the plant going to rest during the drought of last summer, but commencing to grow again with the autumn rains. In any case the tree bore a large number of small panicles of flower. It is interesting to note that this tree has again flowered this spring, the panicles being of the normal size. It is not, however, as floriferous as most other trees—the flowers might be described as about half a crop—and this may possibly be due to the precocious development of last autumn.

Lapageria rosea superba.—The red and white Lapageria rosea and alba are so well known, almost in every garden where there is a greenhouse, that it is nearly impossible to write anything new about them of a cultural nature. The variety under notice is, however, an exception, and is not nearly so well known as it should be for the benefit of horticulturists generally. It so completely supersedes the old variety, rosea, that it is a question whether the latter variety would be grown at all were the variety rosea superba better known. The only description required to recommend this variety is to state that the flowers are fully double the size of rosea, and that the trumpet form is much more clearly defined and altogether more striking and noble in appearance. These remarks were suggested by the sight of a stock of all three kinds growing in an establishment where plants are raised in hundreds annually, and where a display of flowers second to none in autumn adorns a whole house devoted solely to the culture of the Lapagerias.—*H. W.*

VEGETABLES.

The Kitchen Gardener's Calendar.—Broccoli: This will be a good time to get large breadths of Borecole and autumn and spring Broccoli planted. Of the Borecole, the dwarf curled Scotch and Cottager's are undoubtedly the best and the most hardy varieties, and in order to secure sturdy plants the seedlings should, as recommended in a previous calendar, be transplanted into nursery-beds before they become crowded in the seed beds, and then, as soon as the plants have thoroughly established themselves, and before they get crowded, be finally planted out, and in the absence of rain carefully watered until they have taken root. Ground on which old Strawberry plants and early Peas have been grown, and not subsequently dug, is the best for receiving winter and spring Broccoli, the plants not making therein an over-luxuriant growth.

Planting Winter Greens.—In the act of planting, the stem should be inserted in the soil as deep as the lower leaves, in order to keep them dwarf, so that in the event of a severe winter the plants may have the protection of both the soil and snow, if any; moreover it is a fact that cannot be too well known, that it is the stems of Broccoli, Borecole, and kindred plants that suffer most, and that where these, through habit or cultivation, are dwarf, the losses are inconsiderable, hence the advantage of growing dwarf, sturdy plants. Borecole will succeed moderately well in almost any garden soil and position, but where a good strong open piece of ground can be given to it, the quantity and quality of the crop will be correspondingly enhanced. The green curled Kale should not be planted closer than 20 ins. between the plants in the rows, and 2 ft. between the latter; and Cottager's Kale should be allowed from 9 ins. to 12 ins. more space each way.

The following varieties, together with Walcheren and Autumn Giant Cauliflowers, make a good succession, and a good planting should be made forthwith, in ground prepared as for Cabbage and Cauliflower plants, in drills 3 ins. deep, 2 ft. apart, and the same distance in the rows, viz.: Veitch's Self-protecting, Grange's Early White Cape, Early Purple Cape, Dancer's Late Pink Cape, Snow's Winter White, and Early Penzance. The later and stronger growing varieties of Broccoli should be allowed from 6 ins. to 9 ins. more room between the plants each way, using an iron dibber or a crowbar if the ground is very hard, as it will often be after Strawberries, &c. In planting Broccoli plants some kind of classification of the respective varieties, and the time at which they come in for use, should be observed, so that the crops may be cleared in convenient rotation, and the ground made available for other cultivation.

Make another planting of Early London and Veitch's Autumn Giant Cauliflowers, and cover the heads of those now coming into use with the leaves, so as to keep them white and firm. Also plant out a sufficient number of dwarf Savoys in rows 15 ins. by 12 ins. apart. Another planting of Brussels Sprouts should also be made in drills at from 2 ft. to 2½ ft. apart, and at the same distance from plant to plant in the rows. It is a good plan before planting to dip the roots into a puddle made of ordinary garden soil, with sufficient clay added to make it adhesive, and with which a few handfuls of fresh soot has been mixed. This will have the effect of making the roots distasteful to worms, which are sometimes very troublesome in gardens.

Capsicums, where much in demand, may now be planted out under a south wall or wooden fence in a bit of rich soil, which should then be watered to settle it about their roots.—*H. W. Ward, Longford Castle, Salisbury.*

New Vegetables.—This is a perennial announcement in the seed catalogues of all the leading firms, and one that is read with interest, more or less, by all who have to provide for the culinary department. But after all has been said, the announcement simply amounts to this, that someone has been more or less successful in raising a few varieties of vegetables, the equals of which have been in the country for years. I have not the least desire to disparage any honest effort in this direction; on the contrary, such efforts, I think, should meet with every encouragement, for in this, as in every department of human endeavour, there will always be room for improvement. For instance, a particular kind of Pea may have the desirable qualities of coming quickly into bearing, and great productiveness, and yet be deficient in flavour, but by cross breeding, this deficiency may be corrected. The progeny of such a cross may be found, however, to be exceptionally liable to mildew, and this the hybridist will master by recrossing with a more robust variety. We have had for some years a regular supply of so-called new Peas, Beans, Onions, Carrots, Turnips, Cabbage, and Broccoli, but after all, they are only varieties, slight improvements it may be in some cases, of what we already possess. Our list of culinary vegetables, excluding salads, numbers only about forty kinds, and of these there are but twenty-two in general cultivation. Ten more may be found in comparatively few places, and the rest are seldom seen anywhere but in the seed lists. Of the forty kinds, only four or five have been introduced within the last thirty years, and not one of even this limited number has come into anything like general cultivation. Like Belshazzar of old, they have been tried and found wanting. Our plant collectors search every corner of the earth for flowering and ornamental plants, and we are at times almost inundated with them, yet nothing new in the way of vegetables comes from them: how is this? Have all the plants available for the purpose been discovered by the fathers of horticultural science, or is it that there is not held out a sufficient inducement of a pecuniary kind?

Could not our Royal Horticultural Society, through the liberality of some of its patrons, offer a prize, say of £100, to the introducer of an entirely new vegetable, making it a condition that whatever is put into competition for the prize must be an introduced plant, and not a variety gained by cross-breeding or selection, and that before the final award is made, its adaptability to our climate and the public taste must be satisfactorily established. Some money spent in this way may lead to results of the highest importance, and confer untold benefits on producer and consumer alike. We may, perhaps, have all that are really worth growing, but still, as there is at least a doubt about it, it is to be hoped that someone may be induced to have a try.—*W. B. G.*

Late Broccoli.—Without wishing in any way to detract from the merits of Mr. Gilbert's Queen Broccoli, which was awarded a First-Class Certificate on Tuesday week at South Kensington, I think, having seen the samples sent and mentally compared them with samples of Sutton's Late Queen, which I had seen growing but a few days previously, both at Heckfield and Bearwood, that Mr. Gilbert's were of the same kind, but rather looser or coarser in form. That it was neither whiter, nor more solid, nor later than Late Queen is certain, and it is rather odd too that the designation "Queen" should have been chosen; indeed I cannot but think that the samples were sent up to show the late form of the Messrs. Sutton's fine kind, and got certificated under a misapprehension. I know nothing of the raiser of Late Queen; I only know that it is a grand late Broccoli, one of the finest, whitest, and latest in cultivation, and if in splendid form in the south during the first week in June it would not be a surprise if it were equally in good condition at Burghley a few days later. Not only Messrs. Wildsmith and Tegg, but many other gardeners, speak in the highest terms of Messrs. Sutton's variety. At the same time, at Heckfield Mr. Wildsmith had Veitch's Model in fine form. This too is a very late kind, and so distinctive that it cannot well be mistaken. It resembles a skittle pin in shape, but the heads are so covered or protected that they are white to the last. Though not displaying its heads so well as does Late Queen, it is most valuable for very late work, and specially where very large heads are not in favour. As a market Broccoli for late work, especially if finding a profitable sale at that time of the year, I think none can excel Late Queen.—*A. D.*—[If not identical, these two varieties bear a very close resemblance. Mr. Gilbert's Burghley Queen is said to be the result of a cross between Chou de Burghley and Cattell's Eclipse, can any one give us the origin of Late Queen? —*Ed.*]

THE

Orchid Growers' Calendar.

Orchids at Regent's Park.—It is some time since the Orchid bank in the well-known exhibition tent in the Royal Botanic Society's Gardens was found unequal to containing all the Orchids sent in for competition, but such was the case on Wednesday, when, both for numbers and quality, the display of these ever-attractive flowers was above the average. In the amateurs' classes, Mr. James Douglas, gardener to F. Whitbourn, Esq., Great Gearies, Ilford, came out strong, showing the healthiest and best-grown lot of plants we have seen before from Great Gearies, and winning the first prizes for twelve specimens, and twelve small plants respectively. In the first group he had a superb example of Odontoglossum vexillarium, with a mass of flowers nearly 3 ft. over, the best-flowered plant that has perhaps been seen at any London show. Accompanying this were also well-flowered specimens of Oncidium macranthum, Lælia purpurata, Masdevallia Harryana, Odontoglossum Roezlii and Roezlii album, &c. Mr. C. J. Salter, gardener to J. Southgate, Esq., was second with a nice mass of Epidendrum vitellinum majus, Cattleya Mossiæ Southgatei, a very richly-coloured variety; Dendrobium suavissimum, Cymbidium Lowianum, &c. Mr. Hill, gardener to H. Little, Esq., was third.

In the small plant class, Mr. S. Cooke, gardener to De B. Crawshay, Esq., was second, and Mr. Salter third. In the nurserymen's class, Mr. Cypher again secured first honours with a collection of large plants, including good masses of Dendrobium thyrsiflorum, D. Bensoniæ, D. Parishii, &c., and smaller pieces of Cattleya gigas Sanderiana, C. Mendelii, &c. Mr. H. James, who came in second, had a large and well-flowered mass of Epidendrum vitellinum majus, and good examples of Cypripedium Stonei, Cattleya Mossiæ, &c. Messrs. J. Jackson & Son, Kingston, were third. With a dozen small plants, the last-named firm turned the tables on their opponents with a very neat lot. Messrs. F. Sander & Co. were awarded a Bronze Medal for a small, but very choice collection of Odontoglots, mostly varieties of Alexandriæ, three of which were also selected for the award of Botanical Certificates, viz., O. Alexandriæ rosea punctata, a neat flower of a pleasing shade of rose, with deep crimson spots; O. Alexandriæ Johnsoni, an extra fine-shaped flower, heavily blotched with Chestnut-red; and O. Alexandriæ Phalænopsis, a very fine, smooth flower of a pale lilac colour, lighter in the centre, with a few small crimson spots. Besides the new hybrid Lælia Canhamii, which was certificated, Messrs. Veitch also received a similar award for Masdevallia Gairiana, a hybrid between M. Veitchii and M. Davisii; Cypripedium Sedeni candidulum, white, with a rosy lip; Cypripedium macropterum, a hybrid between C. Lowii and C. superbiens, with a bronze-green lip and purple-brown sepals; and Thunia Veitchii, a very interesting hybrid between T. Marshallii and T. Bensoniæ, raised from seeds sown in April, 1881, and having white sepals and petals, and a mauve-coloured lip, flushed with lemon-yellow. Mr. B. S. Williams also exhibited what appeared to be clearly the same plant under the name of T. Wrigleyana, and which, we believe, was raised by Mr. Wrigley, of Bury, but whether from the same parents we were unable to ascertain.

NEW HYBRID COLUMBINES.

Cattleya Wagneriana, C. Reineckiana, and C. Reineckiana superbissima.—At the New Plant and Bulb Company's sale at Stevens's Rooms, on Wednesday, of Orchids collected and brought home by Mr. Edward Wallace, a grand piece of C. Wagneri, with over one hundred bulbs and forty-two leaves, fell to the bid of a well-known amateur grower for 90 guineas; two smaller plants realizing 19 guineas and 12 guineas respectively. The same gentleman also gave, at the same time, 76 guineas for a splendid piece, with thirty-two bulbs and fourteen leaves, of C. Reineckiana superbissima. This was the only plant offered of this rare subject. Of the typical species, a plant with eleven bulbs realized 15½ guineas.

The Orchids at Kew.—Having re-opened this discussion, at p. 636, to admit letters from Sir Charles Strickland and Mr. Rolfe, "A. F. L." claims, in fairness, the right of reply, and sends us the following note, which we insert in the hope that the subject may now be allowed to drop:—Mr. Rolfe having stated that he had nothing to do with the Orchids, I naturally said, "Why then do you write about them?" This question required no answer. But you allow him to tell me *tu quoque*. Well, Mr. Editor, I profess to know what I write about. I wrote because I am very fond of Orchids. I grow them extensively, and know something about them. I was induced to go and see the Kew Orchids by puffing paragraphs in your contemporaries, and I was disappointed, to use a mild term. As a ratepayer, I believe I am entitled to pass an opinion on gardens maintained partly at my expense, and I did so without blaming anyone in particular.

Now if Mr. Rolfe will refer to *The Gardeners' Chronicle* of May 16th, he will see (p. 641) that at the Orchid Conference the President of the Royal Horticultural Society stated, "Referring to Kew, I think it is much to be regretted that, mainly owing to the excessive economy with which money is given to these valuable institutions, there is no sufficiently representative collection of Orchids there at present." It is in substance what I said on April 19th, when the disappointment I felt drew forth the exclamation "Oh, rubbish!" As a simple ratepayer I am more at liberty to pass a free and easy opinion than the distinguished baronet who holds an exalted position in the horticultural world.—*A. F. L.*

Dendrobium Phalænopsis.—We are delighted to be able to figure one of the most beautiful of Dendrobes, belonging to the bigibbum section, and which we consider to be one of the best introductions of late years. It is a very rare plant, of which we have only seen two examples in blossom, one of which is the original of our present illustration, the drawing for which was taken from a specimen in the fine collection of W. Lee, Esq., Downside, Leather-

head, where it bloomed in the autumn of last year under the care of Mr. Woolford.

This Dendrobium Phalænopsis is partly evergreen. The flowers are similar in form to those of D. bigibbum in *The Orchid Album* (Plate 28). It produces numerous flowers in an upright terminal raceme, the flowers being bold in character, the sepals of a pale magenta, with a whitish centre, the petals of a warm magenta-purple, and the lip rich rosy-purple, with maroon-crimson veins. It flowers during the spring months, and remains some time in beauty.

The North Australian species, including Dendrobium superbiens, D. Goldiei, and D. bigibbum, all approve of the same treatment. We find them all to do best in a warm house, with all the light possible, very little shade to be given excepting during the hottest part of the day, when they must be kept free from scorching heat. Ample directions as to their growth and treatment will be found at the reference above given, and also full particulars of the treatment of this class of Dendrobes. We are still of the opinion there expressed, to the effect, that although some growers pronounce them difficult of cultivation, we do not find them to be so, as, with us, every small piece makes a good plant that will bloom freely under the treatment there recommended.

They are propagated by producing young plants on the old growths, which can be taken off when they are matured, and put on blocks, or in small pans or baskets, where they soon grow on into flowering plants.—*B. S. Williams, in Orchid Album.*

FLORICULTURE.

Hybrid Aquilegias.—Until Mr. James Douglas some few years ago introduced his fine hybrids, A. cœrulea hybrida, and A. Californica hybrida, both of which took the popular fancy at once, the best known forms in gardens were the old fashioned A. vulgaris, the very beautiful A. cœrulea, the rich golden A. chrysantha, and the scarlet A. Californica; while that finest of all Columbines, Aquilegia glandulosa, Gregor's variety, may be said to have been known only to connoisseurs.

Aquilegias have always been favourites, but a great impetus was undoubtedly given to their cultivation and improvement by the introduction of the seedlings raised at Loxford Hall. Amongst others who have taken them in hand may be named the firm of Messrs. James Veitch & Sons, who have raised a number of good varieties at their seed farm at Slough, and which are remarkable for the number of shades of colour which they possess, and the striking contrasts which such colours in combination abundantly afford. As will be seen in the accompanying illustration, placed at our service by Messrs. Veitch, the flowers are elegantly shaped, with long spurs, and borne well above the foliage. They are perfectly hardy, will grow freely in any good garden soil, and flower at this season with a profusion that should make them welcome everywhere.

Balsams.—Time was when the Balsam was a much more popular flower than it is in the present day, for then it was regarded as a florist's flower; was greatly improved by careful selection; and the flowers gradually became much more double, and decidedly more symmetrical in shape; it was also largely seen at horticultural shows. Then for a time, owing probably to the bedding-out system having gained such an ascendancy over the minds of gardeners, the Balsam and other kindred subjects fell into neglect. There are, however, indications that this handsome flower is again rising in popular favour: and the systems of culture now adopted are much simpler than they were years ago. Then, "disbudding, stopping, and other interferences with the natural growth of the plant were resorted to, to produce fine specimens and double flowers. But there is only one mode of cultivation worthy of attention, and that is the natural way; and it can be made to produce fine and handsome specimens. The old rules of pinching back the leader to promote the growth of side shoots, and removing the flower-buds in order to increase the size of the plants, were vicious observances, because the natural growth is more elegant and effective, and the finest flowers are produced on the main stem, and, therefore, are completely sacrificed by disbudding."

Balsams can be easily raised from seed, and it is necessary, in order that the flowers shall be satisfactory to the cultivator, that it be of a good strain. It is not necessary to sow the seed in heat, for it can be raised in an ordinary greenhouse by sowing the seeds thinly in pots or pans of light soil, or on an open bed that gardeners sometimes find it convenient to make up in a greenhouse; and germination is hastened by placing a piece of glass over the surface of the pots. Indeed, the seed would grow in an ordinary frame if sown in March or early in April. As soon as the seedlings are large enough to transplant, they should be potted singly into small pots, and if possible placed in a little warmth to quicken their growth. The Balsam is a quick-growing succulent plant, and at all stages of its growth rich soil should be employed. Some good yellow loam, plenty of leaf-mould, rotten manure, and silver sand, well mixed together, make an excellent compost. What the cultivator should aim to do is to encourage a dwarf, stout, and vigorous habit of growth; and it is a great mistake to leave the plants too long in the seed-bed, where they become spindly and weak. As soon as the pots are pretty well filled with roots another shift should be given, and, when shifted, the plants should be placed as deep in the pots as possible. After a shift they should be kept close for two or three days, and then fully exposed to light and air. From all points where the stem comes into contact with the soil fresh roots are thrown out, and these assist to increase the development of the plant; therefore the advantage of placing the plants as deep as possible in the soil is made clearly apparent.

The importance of frequent shiftings in the early stages of growth cannot be over-estimated. It is in this way that the foundations of fine specimens are laid. Any check through being pot-bound or becoming too dry at the roots has an injurious effect on the plants, and should be carefully guarded against. A free growth must be encouraged in every possible way. Pots from 8 ins. to 10 ins. in diameter will be large enough for the final shift, and in these we have seen specimens grown of wonderful size, and carrying remarkable heads of flower. It is when the roots touch the sides of the pots, and crowd the soil, that the plants show flower-buds, and expand into full symmetrical blossom. But it is of the utmost importance that at this stage the plants be on no account allowed to become dry, nor be overcrowded, and that they have plenty of air. The more sturdy and vigorous the growth, the more satisfactory will be the head of bloom.

The Balsam makes an excellent out-door plant, if planted in proper soil. It must be rich, and if it is intended to make a bed or a plantation of Balsams, the soil should be deeply dug and well manured. An open sunny position is necessary: and if the plants have been grown on in pots, they can be planted out early in June, if the weather is at all favourable. In warm, moist, bright weather, Balsams make a very free growth in the open air; and if carefully watered in dry weather, they grow into plants of large size and fine proportions, and make an excellent return for the labour bestowed upon them.

And it is surprising how long a time a Balsam plant will flower in the open air, when it is in good soil and moist at the roots. It throws out a number of lateral or side shoots, and these become filled with flowers, and so the floral succession is carried on. Perhaps Balsams are seen to the best advantage in the open border when they are planted singly among other plants; but we have seen them very effective in a large bed by themselves, with some plants of the Dwarf or Tom Thumb section planted as an edging. It is a good plan to plant tall Asters and Gladiolus among them, as it tends to relieve the formal character or outline of the Balsams; and the added plants, being later in flowering, furnish blossom when the Balsams are fading. It must not be forgotten that the Balsam is a tender annual, and very susceptible of frost, and it should not be planted out in the open ground until the spring frosts have ceased.

There is one good strain of Balsams, viz., the Double Camellia-flowered, and this comprises several varieties, such as the scarlet, purple, rose, cream, white, &c., as well as pretty flaked and blotched varieties. It is also known as the Rose-flowered. The self-colours are generally the most double, and a few of these are somewhat extensively grown for Covent Garden Market.

It is surprising what large and finely-flowered specimens of Balsam one sees in the London plant markets growing in quite small pots. They are grown on rapidly in a strong heat, well cared for, and abundantly watered with weak liquid manure. But it is only market-growers that can produce such specimens in such small pots, and in such an incredibly short space of time. As to the course of treatment pursued to obtain such results, the market-grower selects a few varieties remarkable for fine double flowers. The seeds are then sown in a strong bottom-heat, in spring; and as soon as they are large enough to be handled, they are placed, singly, in small pots, grown on vigorously, and shifted into pots of a larger size, until they occupy 48-size, or pots four and a half inches in diameter. The plants are grown in low span-roofed houses, and kept near the glass, where they have plenty of light: and when the pots are filled with roots, and they are showing for bloom, they are watered two or three times a day, according to the weather; and at least once a day with weak liquid manure. Let anyone purchase a market Balsam, and turn it out of the pot, and he will find a perfect hard ball of roots. But it is the constant watering, and the warm, moist heat in which the plants are grown, that keep them such perfect specimens, and make them the wonder and admiration of all who see the plants in the London markets.—*Cassell's Popula Gardening.*

HORTICULTURAL SOCIETIES.

Royal Botanic, *June 17th.*—The last summer show for the season of this Society, held on Wednesday, was certainly, taken all round, the best of the year, and unlike several of the preceding shows held here in June, was a flower show in reality, and not of foliage plants in great part. The very effective groups of specimen Roses and Azaleas were certainly missed to some extent, but the display of Orchids and cut-flowers of herbaceous plants more than made amends. With flowering, stove, and greenhouse plants, Mr. Cypher again held his own among nurserymen, beating Mr. James and Mr. Tudgey all round; while in the amateurs' class for six, Mr. D. Donald, gardener, Knott's Green, Leyton, secured the highest honours. With fine foliaged plants, Mr. Cypher was also first in the trade class; the corresponding position among amateurs being held by Mr. C. Rann, gardener, Handcross Park, Crawley, who had an exceedingly fine lot, as also had the second prize winner, Mr. Young, gardener to E. O. Coope, Esq., Rochett's, Brentwood, who, amongst other first-class specimens, had one of the finest examples of the old Croton angustifolius we have ever seen, a pyramid about 5 ft. high, with the branches all growing erect, and forming a perfect fountain of golden-yellow. Mr. James had the best half dozen variegated-leaved plants, including a good Dieffenbachia Bauseii; and Mr. R. Butler, gardener, St. Dunstan's, Regent's Park, sent the finest Palms. The honours for specimen exotic Ferns went to Mr. Rann and Mr. Douglas; and for twelve Begonias, to Messrs. John Laing & Co. Show and Fancy Pelargoniums were fairly represented, Mr. Turner, as usual, taking the lead among nurserymen, while among amateurs, Mr. Wiggins, gardener to W. Clay, Esq., was first for Show varieties, and Mr. Hill, gardener to H. Little, Esq., for Fancies; the second prize in both classes going to Mr. Phillips, gardener to R. W. Mann, Esq., Langley Broom, Slough, a new exhibitor, who made an excellent start.

To the miscellaneous section Mr. B. S. Williams contributed a large and valuable collection of flowering and fine foliaged plants, as also did Messrs. John Laing & Co. and Messrs. E. G. Henderson & Son, indeed for variety, good quality, and attractive arrangement, we have seldom seen three finer groups.

The cut-flowers were both extensively shown and of unusual brightness and excellence. The herbaceous plants were indeed grandly represented, large collections, remarkable alike for their great variety and fine quality, being exhibited by Mr. T. S. Ware, Messrs.

Paul & Son, Messrs. Barr & Son, Messrs. Hooper & Co., Mr. Van der Rees, and Messrs. Kelway & Son. Roses were also well represented, especially the Tea section. In these classes the leading winners were Mr. B. R. Cant, Colchester; Messrs. Paul & Son, Mr. Rumsey, Waltham Cross; and Mr. Gibson, gardener to T. F. Burnaby Atkins, Esq., Halstead Place, Sevenoaks. Other successful exhibitors of cut-blooms were Mr. C. J. Salter, with Orchids; Mr. T. S. Ware, with herbaceous plants; Mr. Turner with Show Pelargoniums; Mr. H. James with stove and greenhouse plants; and Mr. K. Dixon, gardener to Sir J. M. Wilson, Searles, Uckfield, with wild flowers.

The display of fruit, which at the June shows in former years was always one of the leading features, seems to be getting of a poorer character every year, and certainly requires but little notice this time. The prize offered by the Fruiterers' Company only brought out one exhibitor, Mr. Robins, gardener to E. Dyke Lee, Esq., Hartwell House, Aylesbury, who had a fairly representative collection, which would have been much better had all the fruits been ripe. Mr. Douglas was first or Melons with Scarlet Premier and Hero of Lockinge; and Mr. H. W. Ward, gardener, Longford Castle, second, with the last-named variety and Read's Scarlet Flesh. The best basket of Black Grapes came from Mr. Bates, gardener to Mrs. Meek, Poulett Lodge, Twickenham; and Mr. P. Feist, gardener to R. J. Ashton, Esq., Bishopsgate House, Staines, had the finest sample of Muscats. The finest of nine Queen Pines was staged by Mr. H. Morris, gardener to A. P. Vivian, Esq., M.P., Tiabach, South Wales. The first prize dish of Black Hamburghs, good, well-coloured bunches, came from Mr. Smith, gardener to W. H. Sewell, Esq., Warren Hill, Loughton; and Mr. Mowbray, gardener to the Earl of Leven and Melville, with Black Prince was first in the any other Black Grape class. The best ripened Muscats came from Mr. Cakebread, gardener to Sir Philip Rose, Rayners, Bucks. With Peaches and Nectarines, Mr. Mowbray was also first, showing Royal George and Noblesse, Pitmaiton Orange, and Elruge. Mr. Laxton sent from Bedford good samples of his new Strawberries, The Captain, a flat, cockscomb-shaped fruit of good size and fine colour; and Noble, a large, fine-looking sort, of a rich crimson colour, and stated to have been grown entirely in the open air. Messrs. Paul & Son, Waltham Cross, sent their early variety, Pauline, a long, tapering fruit, not of a particularly prepossessing appearance, whatever other good qualities it may possess. Mr. B. S. Williams had a good-looking round, yellow-rhined, white-fleshed Melon, named Harefield Grove; and Mr. Cypher, Cheltenham, had somewhat of a novelty in the shape of a splendid cone of Encephalartos villosus.

The new plants certificated, besides the Orchids mentioned in another column, were Spiræa palmata alba, with pure white flowers; Euonymus japonicus "Silver Gem," a handsome silvery variegated form; Fagus sylvatica tricolor, a pretty rosy-red and bronze-green variegated-leaved variety, pretty in a small state; Cyathea divergens, a distinct and very handsome Basket Fern from New Grenada, with long graceful arching fronds; and Phyllanthus Chantrierii, all from Messrs. Veitch. Alocasia Hendersoni, a very handsome, noble-looking plant, with long leaves of a rich dark and light green metallic hue, from Messrs. E. G. Henderson and Son. Cupressus Lawsoniana erecta vividus alba variegatus, sufficiently described by its name, from Messrs. Charles Lee & Son. Agapanthus umbellatus variegatus, is a pretty golden variegated-leaved variety of this old and popular favourite, and came from Mr. B. S. Williams. Caladiums Raymond Lemonier, silvery-grey ground, with crimson centre; Albo luteu maculatum, almost white ground colour, with a few crimson spots; and Comte de Germiny, a small-leaved variety, pale green and crimson ground, with small white spots; Begonia Mr. Brissenden, a fine large double crimson-scarlet; and B. Salmonea, a pretty double variety, of a pale salmon-red colour, came from Messrs. John Laing & Co. Brodiæa stellaris, a showy violet-purple shaded flower, came from Messrs. Barr & Son; and Cattleya Mendeli marginata, from Mr. H. James. Mr. Cypher was the exhibitor of Dendrobium Falconeri delicatum and Dendrobium crystallinum album. In the Florists' Flower Section the certificated plants were Show Pelargonium Pluto, from E. B. Foster, Esq.; Statice floribunda, from Messrs. C. Lee & Son; Fancy Pelargonium Mrs. Langtry, from Mr. Turner; Verbenas Purity and Dr. Feyerlin, and Begonia Louise Bouchet, from Messrs. Cannell & Son; Decorative Pelargoniums Vesper Bell and Portia, from Mr. J. Wiggins; and Carnation Pride of Penshurst, from Messrs. Veitch.

THE BAOBAB TREE.

The Baobab or Monkey-bread, Adansonia digitata, has long afforded the most celebrated instances of vegetable longevity; Humboldt indeed calls them "the oldest organic monuments of our planet." They are not uncommon on the western coast of Africa. The tree is remarkable for the small height it attains, compared with the immense diameter of the trunk and length of its branches. Trunks which are 70 ft. or 80 ft. in circumference rise to the height of only 10 ft. or 12 ft., when they divide into a great number of extremely large branches, 50 ft. or 60 ft. long, which, spreading widely in every direction, form a round verdant mass perhaps 150 ft. in diameter, and only 70 ft. in height. The roots likewise are of vast length; one of these, laid bare by a torrent which had washed away the earth, was traced to upwards of 110 ft. without reaching the extremity. To these peculiarities, rather than to the nature of the wood, which is light and soft, the great age to which the tree attains may probably be traced. Its form opposes an effectual resistance to the tempests which would overthrow ordinary trees. The history of these Baobabs, possibly of the very trees which Adanson's account has rendered famous, reaches back to the discovery of the coast of Senegal and of the Cape de Verde Islands by Cadamosto in 1455, who in his narrative mentions the singular disproportion between the height and girth of these trees. But they were first fully described by the French naturalist Adanson, who examined them scarcely a century ago. The largest trunks measured by Adanson were 85 ft. in circumference, or 27 ft. in diameter. Golberry is said to have measured one that was more than 100 ft. in girth, and M. Perrottet in 1824 met with many Baobabs in Senegambia varying from 60 ft. to 90 ft. in circumference, yet still in a green old age, and showing no signs of decay; but, on the contrary, if wounded in the smallest degree, they exuded a copious sap. There can therefore be no doubt respecting the prodigious size which these trees attain, and there is great reason to suppose that Humboldt was right in supposing them to be the oldest in existence.—*Forestry.*

ANSWERS TO CORRESPONDENTS.

Orchids.—*B. D. K.*—Pescatorea cerina, true.—*W. Thomson.*—The largest, darkest coloured, and best Oncidium crispum we have ever seen.

Names of Plants.—*A. A.*—Saxifraga granulata flore-pleno.

Orchid Baskets.—At p. 652 for Mr. Percy Williams read Mr. Sydney Williams.

Erratum.—At p. 650, in the note on the Rocky Mountain Columbine, the fifth line should read "blue, and the corolla pure white, forming a most pleasing combination." In the same column for "Arenarias" read "Armerias."

Amateur Rosarian.—*A. T. K.*—At the National Rose Society's Shows no person is allowed to compete as an amateur who habitually sells Rose plants or Rose blooms, nor any person in the employ of a nurseryman.

Communications Received.—W. S.—A. W.—E. J.—S. W.—W. C.—T. B.—E. H. J.—J. Scott.—J. B.—T. S. B.—J. D.—T. Williams.—Sunderland.—R. O.—F. H. A.—J. W. C.—Z.—Nemo.—M. T.—S. & S.—D. P. L.

NOTICES TO CORRESPONDENTS.

The Editor *begs to inform his readers that special attention will be paid in the columns of* The Gardening World *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's bona fides. No notice whatever will be taken of anonymous letters.

LONDON SEED TRADE.

June 17th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a very small attendance on Market, and business quiet. Values of all kinds of Clovers are firm, last week's prices being fully maintained in the few transactions which have been completed. Advices recently received from some of the producing districts on the Continent indicate a short crop of White, and if these prove reliable, an early advance may be looked for. Sowing Rape and Mustard meet with improved demand at last week's quotations. Bird Seeds still move slowly and show no change in values.

COVENT GARDEN MARKET.

June 19th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6- 6 0	Pine-apples, Eng., lb.	2 0- 4 0
— Nova Scotian, per barrel	-	—St. Michaels, each	3 0- 7 0
Grapes, per lb.	2 0- 5 0	Kent Filberts and Cobs, per 100 lb.	-
Melons, each	2 0- 3 6	Strawberries, per lb.	1 6- 4 0
Peaches, per doz.	3 0-10 0		

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Horse Radish, bundle	3 0- 5 0
Asparagus, English, per bundle	6 0- 8 0	Lettuces, Cabbage, per dozen	2 0-
Beans, French, per lb.	- 2 0	— Cos, each	0 6-
Beet, per dozen	2 0- 3 0	Mushrooms, p. basket	1 0- 2 0
Cabbages, Spring, doz.	1 6- 2 0	Onions, per bushel	5 0- 7 6
Carrots, per bunch	0 6-	Parsley, per bunch	0 6-
Cauliflowers, English, per dozen	4 0- 6 0	Radishes, per dozen	1 6-
Celery, per bundle	1 6- 2 6	Small salading, per punnet	0 4-
Cucumbers, each	0 6- 1 0	Spinach, per strike	2 0-
Endive, French, per dozen	2 6- 3 6	Tomatos, per lb.	2 0-
Garlic, per lb.	0 6-	Turnips, per bunch	0 6-
Herbs, per bunch	0 2- 0 4	Young Carrots	1 6-
		Young Turnips	1 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lily of the Valley, 12 bunches	0 3- 0 9
Anemone, 12 bun.	1 6- 2 0	Marguerites, 12 bun.	3 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Narcissus, various, doz. bun.	-
Azalea, 12 sprays	-	Pæony, 12 bunches	5 0-12 0
Bourvardias, per bun.	0 9- 1 6	Pelargoniums, per 12 sprays	0 6- 1 0
Camellias, 12 blooms	-	—scarlet, per 12 sprays	0 4- 0 6
Carnations, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	1 0- 4 0
Chrysanthemums, 12 bunches	-	Primula, double bun.	1 0- 1 6
— large, 12 blooms	-	Primulas, Chinese, bun.	-
Cyclamen, doz. blooms	-	Pyrethrum, 12 bun.	2 0- 4 0
Cineraria, per bunch	-	Rhodanthe, 12 bun.	6 0- 9 0
Day Lily, 12 bunches	6 0- 9 0	Roses (coloured)	2 0- 4 0
Epiphyllums, 12 blms.	-	Roses, indoors, p. doz.	1 0- 3 0
Eucharis, per dozen	3 0- 6 0	Roses, per dozen bunches	4 0- 9 0
Gardenias, 12 blms.	1 0- 4 0	Spiræa, 12 bun.	6 0- 9 0
Heliotropes, 12 sprays	0 6- 1 0	Stephanotis, 12 spr.	2 6- 4 0
Hyacinths, Roman, doz. sprays	-	Tuberoses, per dozen	0 6- 1 0
Iris, 12 bunches	4 0- 9 0	Tulips, per doz.	-
Lapageria, white, 12 blooms	2 0- 3 0	Violets, doz. bun.	-
Lapageria, red, 12 blms.	1 0- 2 0	— French, per. bun.	-
Lilium candidum, 12 blooms	1 6- 2 0	— Parma, per. bun.	-
— Longiflorum, 12 blooms	3 0- 6 0	White Jasmine, bun.	-
Lily of the Valley, doz. sprays	-	Woodroffe, 12 bunches	-

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Genista, per dozen	-
Arum Lilies, per doz.	6 0-18 0	Heaths or Erica, var., per doz.	12 0-42 0
Azalea, per doz.	-	Hyacinths, doz.	-
Balsams, per doz.	6 0- 9 0	Hydrangea, per doz.	9 0-18 0
Begonias, per dozen	4 0-12 0	Ivy Geraniums, per dozen	3 0- 6 0
Bouvardias, dozen	9 0-18 0	Lilium longiflorum, per doz.	18 0-36 0
Calceolarias, per doz.	6 0- 9 0	Lobelias, per doz.	4 0- 6 0
Cineraria, per dozen	-	Marguerites, per doz.	9 0-18 0
Cockscombs, dozen	4 0- 6 0	Mignonette, per doz.	4 0- 6 0
Cyclamens, doz.	-	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargonium, per doz.	6 0-18 0
Deutzia, per dozen	-	Pelargoniums, scarlet per dozen	3 0- 9 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	6 0- 9 0
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	-	Rhodanthe, per doz.	6 0- 9 0
Evergreens, in var., per dozen	6 0-24 0	Spiræa, per dozen	9 0-12 0
Ferns, in var., dozen	4 0-18 0	Stocks, per dozen	3 0- 5 0
Ficus elastica, each	1 6- 7 0	Tropæolums, per doz.	3 0- 6 0
Fuchsias, per doz.	6 0-12 0		
Foliage Plants, various, each	2 0-10 0		

Bedding Plants, in variety, 8*s.* to 16*s.* per hundred.

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Ditto, in pots ... ... 6s., 8s., and	12	0
Pelargoniums (Geraniums), Zonals, Choice Varieties, named	3	6
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Seedlings, Single and Double	2	0
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Pompone or Bouquet, Show, Fancy & Single.		
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Geraniums, for bedding ... ... from 1s. 6d. to	4	6
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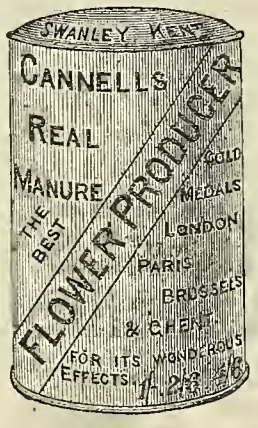
List of Wholesale Agents will appear in this paper on July 11th, 1885. AGENTS WANTED.



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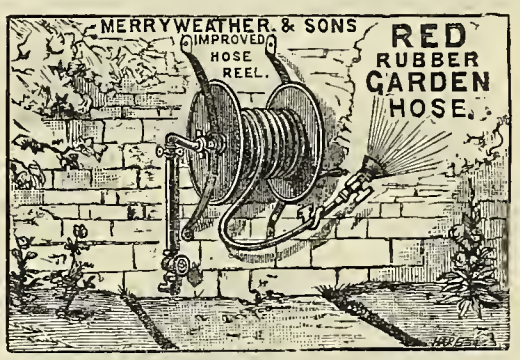

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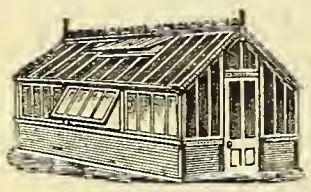

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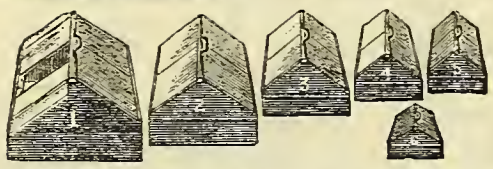

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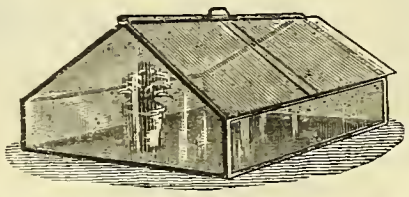

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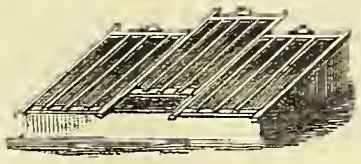

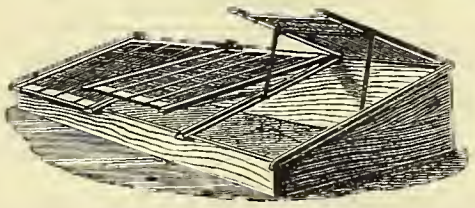

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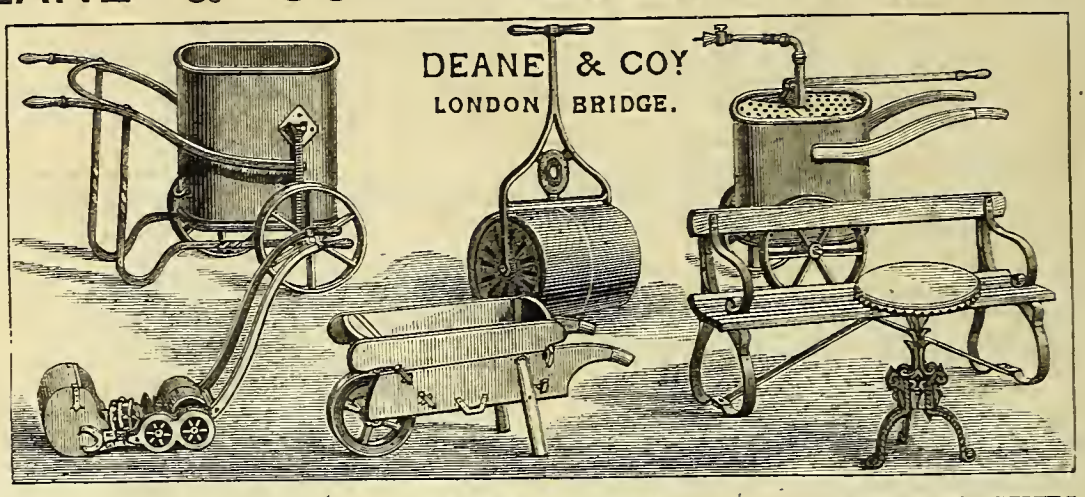

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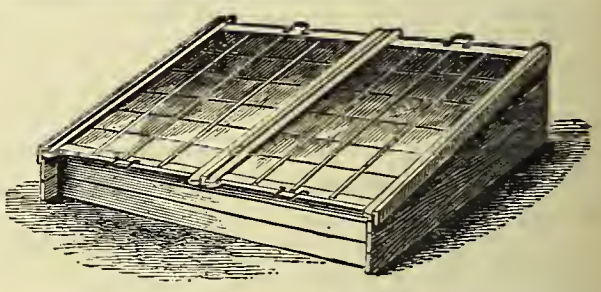

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TESTIMONIAL.

"The Gardens, Burghley, Stamford,
"September 11th, 1884.

"GENTLEMEN,—I have received the Garden Frames, and I am quite delighted with them. They are really well got up, well timbered, and the sides and ends being grooved, will prevent that objectionable swaging so prevalent in these kind of boxes. I shall certainly recommend them to my brothers in the trade.—R. GILBERT, Head Gardener to the Marquis of Exeter."

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THE GARDENING ILLUSTRATED WORLD

No. 43.—1885. SATURDAY, JUNE 27TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

FLOWER SHOWS.

CRYSTAL PALACE. — GREAT ROSE SHOW Of the Season.
SATURDAY, JULY 4th. For Schedules apply Mr. W. G. HEAD, Garden Superintendent.
N.B.—Messrs. W. PAUL & SONS, of Waltham Cross, will hold a SPECIAL EXHIBITION of ROSES (cut and growing) at the Crystal Palace, from Saturday, July 4th, till Saturday, July 11th (inclusive).

Sheffield Botanical Gardens.

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£250 in Prizes.
Entries close 13th July.
Prize Schedules may be obtained from the Curator, Mr. JOHN EWING.

J. WEEKS & CO., HORTICULTURAL BUILDERS and HOT-WATER APPARATUS MANUFACTURERS, KING'S ROAD, CHELSEA, S.W.
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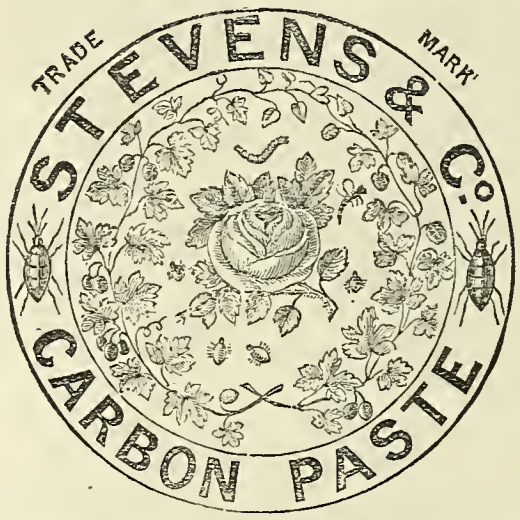

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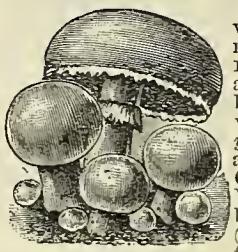

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, JUNE 27TH, 1885.

The Market Pea Crop.—We are now in the midst of the season of Market Peas, and, excepting Potatos of course, there is no vegetable crop which is so largely grown, and upon the profits of which more dependence is placed. It is not an unusual thing for one grower to have 100 acres of land under Peas, to employ almost an army of gatherers during the summer, and to send hundreds of bushels into market almost every day, till the bulk of the crop has been gathered. In such case, it is indeed a matter of no inconsiderable difficulty for foreign growers to enter the lists with home producers; indeed, we may say, that in bulk it is almost impossible to do so with any prospect of success. Home Peas grown, for instance, within twenty miles of London, are gathered during one day, loaded on vans in the evening, and are into the central market, ready for sale and distribution all over the metropolis, by *four* o'clock the next morning. In such case the Peas are as fresh as they well can be, as far as the supply to vast urban populations is concerned.

But in spite of this practical command of the home market on the part of our own growers, they find no great profit resulting from the Pea crop, be it ever so good. Very few persons who know anything of the immensity of London and of its teeming population—the largest mass of consumers of vegetables in the world — have much knowledge of the extent of land specially employed in the production of vegetables for that same market, or of the wonderful industry to which, under the pressure thus put upon the land, market gardening has grown to, and how capable it is to deal with London's enormous demands. Even now that the Pea season is in, and all London may be supposed to be consuming Peas, the prices obtained in the market are low, indeed disappointing, as compared with first crop returns of some ten or twelve years since.

We learn that some very few favoured growers started the season at 20*s*. per bushel, but the sample was such that it was but waste to gather it. But in a few days the price came down to 10*s*., then to 6*s*., and now it stands at from 3*s*. to 4*s*. per bushel for good samples of white Peas, such as Sangster's No. 1, Day's Sunrise, or even William the First, for these small-podded kinds all come in as white Peas. Usually the earliest of "blues" is Harrison's Glory, a dwarf kind well suited for field culture, and very hardy. It is an abundant cropper, and a good sample will perhaps secure 1*s*. a bushel more for the first week, then it will find the level of the white Peas, as its quality is indifferent. It may be said, Why not sow good early marrows to follow whites, rather than such an inferior kind as Harrison's Glory, or even Laxton's Supreme? The advice is well intentioned, but it is not possible to discern ahead the nature of the spring weather, hence there is great risk in committing too early to the soil such expensive and tender kinds as most wrinkled marrows are. Harrison's Glory and Supreme are so hardy, being round Peas, that no doubt exists as to their capacity to withstand a cold spring, should that interpose after seed is sown.

Growers must have some consideration for the price of seed, and of course wrinkled Peas are always the dearest—not but that they crop freely, and, as far as the production of green pods is concerned, are, in good seasons, very profitable—but the securing of a clean stock of seed from these kinds is so dependent upon the season also that prices vary considerably. Of course, and in spite of seed prices, large breadths of wrinkled kinds, Hundredfolds, Champions, and Veitch's, are grown, because these only are suitable for the later crops. Peas form very bulky loads, and the cost of getting them to market is considerable. The best samples, as a rule, go in round bushel baskets, which will load upon each other, so that 100 to 150 are often placed upon one waggon. Inferior samples are placed in sacks, but peas very soon heat, hence the freshness found in newly-gathered samples is soon destroyed when sacks are used. Those who grow Peas at long distances from markets naturally feel the difficulty incidental to getting their produce there fairly fresh and crisp. On the other hand, the more remote from London for instance, the less the rent of the land, and also cost of labour.

In the metropolitan districts where, as a rule, labourers obtain 3*s*. per day, and extra for overtime, women and children, who chiefly gather Peas, have 6*d*. per bushel, and a woman and a couple of capable children can often earn £2 per week, and if the sample of Peas be good, even more. The price per bushel is usually the same whether the sample be bad or good, or the crop heavy or otherwise. They have to take the rough with the smooth. Of course in Pea-producing districts a large amount of labour, hard and at times very miserable labour, is provided, and the labouring classes earn large sums. Too often they spend foolishly as they earn laboriously, but that is their own fault. It is no secret that very often the pickers are at the close of the Pea season relatively richer than their employers, when risks and responsibilities are compared. A grower finds the middle man or dealer a hard customer, as also do the public, for whilst the grower's returns are too often unremunerative, the prices charged to the public are atrociously high. A remedy for these evils may some day be found when grower and consumer are brought into immediate contact.

New Vegetables.—There are few, we suspect, who will be found to appreciate the tenor of "W. B. G.'s" remarks in our last issue on the lack of new vegetables, for, much as it may gratify the palates of the overfed to find some new delicacy wherewith to tickle their jaded appetites, those who eat food, and vegetables especially, because food—to satisfy the cravings of hunger and not for the gratification of vitiated tastes—will, we are certain, agree with us in affirming that we have a wealth of vegetables of the most delicious kind that cannot be excelled for tenderness and flavour in any other country in the world. We have had practically on offer to us for years a vegetable delicacy, so-called, in the form of the green cobs of Maize, which are held by some to be even as pleasing, if not more so, than Asparagus. We can grow Maize easily here for the production of green cobs, and some may be raised in every garden. Still the delicacy does not take. It may be a matter of taste, or even ignorance, still the fact remains that what is held to be a very favoured dish in America is utterly disregarded here.

If we were lacking in vegetables of good quality it is evident that such an introduction as green Corn-cobs would be hailed with delight; but having such an abundance of favoured sorts with which we are familiar, and have learned fully to appreciate, what wonder that green Corn-cobs, though so easily grown, fail to meet with appreciation. We will not assert that English tastes in the matter of vegetables are insular or peculiar. The English people are great travellers, and in their wanderings all over the world come into contact with the vegetable cuisine of all nations, yet do we not find any anxiety shown by these peripatetic Britons to introduce products which shall oust our Potatos, Peas, Beans, Broccolis, &c., from popular favour; indeed all these things, old as the hills in a certain sense, are still of our most favoured garden products, and most widely consumed.

We are, perhaps, the greatest of vegetable consumers under the sun, for various reasons. We have wealth to purchase, and in addition to home enterprise, literally all the world to grow for us. The temperature of our climate permits ample feeding, and ample feeding always has been a characteristic of English character. It is true that our present vegetable wealth has been developed out of meagre elements, for 100 years ago the kitchen garden could show poor results as compared with its present aspect. If those who persist in denying the progressive march of improvement in vegetable production will but compare the products of a kitchen garden of a century since and now, and will not then acknowledge that progress in improvement has been marvellous, then indeed are they beyond the pale of argument.

Pessimists compare our present form with those of a few years since, but though progress is real, it is slow. Take periods of fifty years apart however, for comparison, and then the improvement is found to be enormous. Look at our marvellous cropping and splendid kinds of Potatos, our wondrous wealth of Peas, Broad Beans, Runners and Dwarfs, the singularly varied kinds of Cabbages; indeed the Brassica family has given to us almost *embarras de richesse*, for it alone covers with its wondrous profusion of Cabbage, Sprouts, Broccoli, Cauliflower, and Collard, the whole year. In addition to vegetables for cooking, we have also in salads wondrous variety—Celeries, Beet, Lettuces, Endive, Radishes; indeed, how many products of this class that make up a salad collection is there not which merit, and as a rule obtain, wide cultivation. Probably the chief difficulty under which gardeners labour is not so much in failing to find variety in garden products, as in finding space in which to cultivate them all, but happily good judgment in selection may do much to alleviate that difficulty.

Judges' Experiences.—Those members of our profession whose duty it often is to make the awards at flower shows in many parts of the kingdom often have odd experiences, though, let us hope, as a rule, they find pleasant ones. By no means of that nature, however, was the experience of a couple of excellent men not so long ago at a rural show. It seems that a certain gentleman, a member of the Show Committee, had duly threatened his gardener that if he was not pretty successful at this particular show he would be discharged. Literally that was sending him to exhibit with all the exuberance of enjoyment a man may feel when he has a rope round his neck. Taking advantage of his position, this estimable employer and exhibitor accompanied the judges in the discharge of their duties, and thus overheard all the observations made by them upon the merits of the respective exhibits, and whilst praise of his own things received no notice from him, all deprecatory remarks were duly treasured, and, to the disgust of the judges, retailed to the unfortunate gardener, who happily, however, was fairly successful.

Gardening Miscellany.

Flower Shows for Next Week.—*Monday:* Maidstone Flower Show. *Tuesday:* Bagshot and Colchester Flower Show. *Wednesday:* Royal Botanic Society's Evening Fête.—Croydon, Ryde, Farningham, Cardiff, and Farnham Flower Shows. *Thursday:* Shepperton and District Flower Show.—Bath Rose Show.—Bury Horticultural Society's Summer Exhibition.—Reigate Rose Show. *Friday:* Tunbridge Wells Annual Rose and Fruit Show. *Saturday:* Crystal Palace and Eltham Rose Shows.

On Friday next, at 6 p.m., the forty-second Annual Festival of the Gardeners' Royal Benevolent Institution will be held at "The Albion," Aldersgate Street, the Treasurer, Edward Tidswell, Esq., in the chair.

It is rumoured that there will be no Chrysanthemum Show in the Middle Temple Gardens this year.

Mr. James Campbell, late gardener to J. Eccles, Esq., Farrington House, Preston, has been engaged as gardener to Lord Mexborough, Methley Park, Mexborough, Yorks, and is succeeded at Farrington House by Mr. A. Waters, late gardener to C. Magniac, Esq., Colworth, Beds.

We are glad to note, for the benefit of those who possess copies of *The English Flower Garden*, that Mr. John Murray is now publishing an index to it, which contains the names of between 8,000 and 9,000 plants, with the illustrations indicated by the use of italics. Although the arrangement of the book is, for the greater part, alphebetical, a good index was none the less wanted to enable any one to use the book readily.

Mr. John K. King, seed grower, Coggeshall, Essex, has just received a special and Royal warrant under seal bearing date 9th inst., appointing him seedsman to H.R.H. the Prince of Wales.

Mr. John Jones, gardener to O. O. Wrigley, Esq., Bridge Hall, Bury, Lancashire, died on the 3rd inst., after an illness of only four days' duration. Mr. Jones had been in Mr. Wrigley's service for ten years, the last six of which he was head gardener, and the condition of the vast collection of Orchids under his care is a proof of his skill as a cultivator.

From the present time to the end of October, Mr. T. S. Ware, of Tottenham, will keep the half of one side of the large conservatory at the "Inventories" gay with cut flowers of hardy herbaceous plants. The wealth of these charming flowers in bloom just now is truly remarkable.

At a meeting of members of the Fruit Committee, held at South Kensington on Tuesday, it was decided to recommend to the Council of the Royal Horticultural Society that a Pear Congress be held at Chiswick in the autumn, to commence on October 21st; and a provisional committee, consisting of Dr. Hogg, Mr. G. Bunyard, Mr. John Lee, Mr. J. Roberts, Mr. Woodbridge, and Mr. H. J. Veitch, with Mr. Barron as secretary, was appointed to make the necessary arrangements.

A portrait of David Douglas, the famous botanical explorer, to whom we are indebted for the introduction of so many good hardy plants, was shown by Sir Joseph Hooker at the meeting of the Scientific Committee on Tuesday.

Over 20,000 people visited the Horticultural Exhibition at York on the 18th inst.

The Hungarian Lilac (Syringa Josikæa).—Though not so handsome as the common Lilac (S. vulgaris), this is worth growing because of its distinct appearance, and also because it is at its best just as the other Lilacs are over, with the exception of the Himalayan S. Emodi, which is still later. S. Josikæa forms a stouter, more upright-habited bush than the common Lilac, with larger and rougher leaves. The spikes of flowers, too, are much narrower and erect, or nearly so, on the branches, their colour being pale lilac. It seems rather more particular than the common kind as to soil and situation, for here on light dryish spots, where the other thrives perfectly, this does not grow in a satisfactory manner. In a moister and cooler spot it is, however, thoroughly at home.—*L. T., in The Garden.*

AUTUMN AND WINTER BERRY-BEARING TREES.

The remarks in your last issue, at p. 659, anent the flowering of the Holly and the probability of a good crop of Holly berries for our Christmas and mid-winter decorations, induce me to say that our autumn berry-bearing trees give promise of as fine a crop as the welcome Holly. Never before have I seen the Fowler's Service tree or Mountain Ash, Pyrus aucuparia, and the White Beam, P. Aria, so full of flowers as they have been this summer in some of the plantations and woods in this district. The White Beam has been especially heavily laden, the trees being completely borne down by their clusters of creamy-white flowers, and no doubt the crop of berries will be in proportion, an abundant yield, circumstances permitting, as you prudently remark, to gladden our eyes during the coming autumn. Being in fruit from August to November or later, if not destroyed by birds, they come in very useful for decorative purposes in our churches at Harvest Festivals, for which purpose they are much used and appreciated by many of our lady decorators.

DODECATHEON MEDIA.

Passing through Cheshire last autumn on one of the railways, I noticed some fine trees heavily ladened with bunches of coral-red berries, and "Oh, look at those trees, how grand they are!" was the frequent exclamation of some of my fellow passengers as we sped past first one lot, then another, and truly their appearance was really grand.—*B. L., Lindley, Huddersfield.*

Vriesia amethystina.—This new, Brazilian, Bromeliad, with tufted leaves dilated at the base and prolonged into a long narrow blade pointed at the end, and of reddish colour beneath, has recently been figured in *The Belgique Horticole.* The long yellow flowers are loosely disposed in two ranks on an erect raceme.

AMERICAN COWSLIPS.

In our last we published a portrait of the very fine Dodecatheon splendidum, which this week we supplement with illustrations of the best-known of all the species, D. Media, and a grand variety of it, D. Media giganteum, which Mr. T. S. Ware recently exhibited at South Kensington. The first-named plant throws up its flower stalks to the height of 12 ins. to 15 ins., and bears an elegant umbel of rosy-purple flowers, divided into five broad reflexed segmens. The variety giganteum, also sometimes called elegans, is abont a third larger in all its parts, and perhaps of a paler shade of colour, though still very bright.

CLEANING PLANTS.

The old proverb that "cleanliness is the mother of health" in regard to mankind, is also applicable to plant life, and in these days when so much is written on the cultivation of fruits, flowers, and vegetables, I am inclined to think that too little is said on the subject of cleaning plants. Writers on horticultural subjects, at the end of a long chapter on the treatment of plants from the seed-pan or the cutting pot as the case may be, till the plant is ready for the exhibition table, usually wind up with the sound advice that it is necessary for the well-being of the plant that it be kept clean during all stages of its growth. Well, the soundness of the advice cannot be disputed, but the operator is left to find out as he can what is best to be done for that end, and in many cases the cure applied is worse than the disease. This is especially the case in regard to amateurs, and it is in the interest of such a deserving class that I take it upon myself to pen these few remarks, for they form no small section of the gardening "fraternity" on both sides of the Tweed, and especially in the suburbs of our large cities. Amongst this class your valuable publication will be found as great a boon as it has already proved to more advanced professional gardeners.

Leaving out of the question altogether the high-class insecticides that are now offered, I will deal with three pests in particular, and which are the most troublesome in every garden, viz., the green-fly, mealy bug, and scale. The general remedy for the former is fumigation, and no doubt it is the most effectual remedy, but at the same time it is a very dangerous practice in the hands of the inexperienced. If a conservatory gay with Pelargoniums be fumigated, what a sickly sight often meets the eye on entering the house the next morning. To avert this wholesale destruction of flowers I find the following to be a safe, and at the same time an effectual remedy: take 1 lb. of black soap and thoroughly dissolve it in five gallons of tepid water; in this dip the plants and let them stand for fifteen minutes, then water over head, when it will be found that the insects have been vanished without doing any harm to flower or foliage. I would strongly recommend this plan to the Orchid-grower for adoption at this season when so many young growths are coming up that the aphis likes so much to feed upon, instead of the usual method of sponging, which often ends in damage to the young leaves. I have treated Masdevallias, Lælias, Dendrobes, and many others in this manner when in full bloom, but I would recommend that they should always be done before the flowers expand. Where fumigation has to be resorted to, as in the case of climbers and large plants, all plants that are liable to be injured by the smoke should be syringed all over before commencing to fill the house, when the smoke will take no effect on them. This will have to be done in the case of Smilax and such like tender-leaved plants.

The next in order is the mealy bug: the only sure remedy for this pest is constant watching, and killing with a little brush and a free use of the syringe with clean water. For large plants or climbers on the roof of a house, where there is a supply of water, a hose is a great acquisition. There may be objections with some to using the cold water. Well, at this season, there is not the slightest danger. I have under my charge a Stephanotis, covering 400 square feet, from which hundreds of trusses have been cut within the last two months, with from six to fourteen pips on each, and still there are hundreds coming on, and every one that sees it asks, "How do you manage to

keep such a large plant so clean and healthy." I reply by pointing to the hose near by, and adding, "A shower-bath off the main once a week." Days are often spent with the sponge, where ten minutes with the hose or garden engine once a week would bring about far better results. If left till they appear in numbers, as is too often the case, there is the danger of their spreading over the house; but when once got under keep them under, for prevention is better than cure. In the case of the brown and white scale, it must come to a hand-to-hand battle if the foe is to be dislodged, for the syringe and most insecticides are of little avail if used at a strength that would not be injurious to the plant. For hard-wooded plants I find the following the most effectual:—Rub over the infested parts with a fairly hard brush, say a well-worn paint-brush, cutting away the soft ends, then dip or syringe with the solution recommended for green-fly, with the addition of a wine-glassful of paraffin oil well mixed and kept stirred while using, which will ensure the total annihilation of the pest. For tender plants the sponge and a little soapy water can only be used.—*R. C. F.*

GOOSEBERRIES BY THE TON.

Mr. Gladstone hit a gold nail on the head when he told the farmers of Great Britain that, although they might not be able to make money by growing grain, yet there was still an "agricultural fringe" worth looking after, and that in fruit-growing and market gardening, there existed a supplemental means of increasing the profits of the farm. The late Premier believes that jam is a word to conjure with, in attracting gold sovereigns from odd corners. Of one thing we are certain, the Irish farmer might, with very little cost indeed, draw luxuries worthy of the palates of nobles out of that neglected spot—the garden. When sugar is cheap enough to give to cattle, and small fruit can be grown by the cwt. at so little cost, what farmer or cottager should be without that delicious compound of sugar and fruit that sets children dreaming about when they are asleep, and crying about when they are awake? Indeed, we cannot imagine any children's wonderland or fairyland without multitudinous pots of jam in it.

It is nearly ten years ago since we conceived the laudable ambition of producing Gooseberries by the ton. Of course, the project would have been a foolish one if we had not previously calculated that a ready market could be obtained for the produce of our Gooseberry plots. We had, however, the prospect of a ready market situated about ten Irish miles distant. The market was indeed too far away, if it could have been helped; but as part of the distance was traversed by railway, the objection of distance did not appear quite insurmountable. In working up the Gooseberry business we experienced a number of good and bad fortunes, an account of which may prove useful to every man who owns a Gooseberry bush. In superintending some science examinations lately, we came into contact with an officer of Royal Engineers who was an enthusiast in gardening. In talking over Gooseberry culture we gave him our experience, and some points of our management he regarded as positive discoveries, and urged us to make them public. Every one who owns a Gooseberry bush knows that the plague of the Gooseberry is the caterpillar. Well, we fancy we have discovered a new method of dealing with that green-and-yellow individual. We have stopped him on our own grounds, and others, we believe, may do the same by a few precautions, so simple that probably they may not be regarded as discoveries at all.

In beginning our Gooseberry culture, we laid off a considerable portion of a fairly fertile field—there is no use in talking about gardens when you want to grow Gooseberries by the ton; then we purchased about 3,000 young bushes at three-halfpence each, obtained at a nurseryman's auction. We did not stop here. We began to raise several thousand more young bushes from cuttings. Let us observe that young bushes are almost as easily propagated as Cabbages, if you only know how to go about the matter. They are slow growers, however, and you must wait five or six years for a heavy crop, though they bear sparingly in a much shorter time. We planted our bushes in long rows the whole length of the field, not on the level, but on ridges; two rows of bushes on each ridge, and about 6 ft. or 7 ft. between each row. Our business then was to keep the land quite clear of weeds, and wait on our young plantations. We were not impatient, as we had plenty to do on the rest of the farm, so we kept our bushes in trim and manured them occasionally. No manure we ever used pushed them on like nitrate of soda; but we used it only to promote growth, and not fruit. About the third year, when a fair sprinkling of fruit was beginning to appear—nearly

DODECATHEON MEDIA GIGANTEUM.

as much as would pay the rent of the land—a formidable disaster happened; the caterpillar came in tens of thousands and began to strip the leaves off our bushes. We were "entirely bothered," and something more. The growth of our bushes was stopped, for no vegetable product can advance without leaves. We wrote to the agricultural journals demanding information and relief. We were advised to dust the bushes with newly slaked lime on a windy day, to try hellebore powder, to prepare a decoction of quassia chips, &c. Such were the remedies prescribed, and not one of them was worth a button. The quicklime was the best, but it stuck to the fruit as well as the leaves, and who would eat fruit with specks of lime on it. Next we tried hand-picking.

A lot of labourers were employed with cans, and nearly a ¼-cwt. of caterpillars were caught and buried in the adjacent county. It did not, however, stop the plague; caterpillars were always forthcoming, and the supply far more than kept pace with the demand. The Gooseberry caterpillar is the larva of the magpie moth, and in some nondescript shape or other, it shelters itself in the soil at the bottom of the bushes every winter, and recuperates itself for fresh operations in the spring. Of course, it is in a different stage of insect-life during the winter months, and only assumes the caterpillar form in the months of May or June. Our disappointment and vexation were very great on finding our Gooseberry plantations ravaged, and rendered almost worthless. We had spent upwards of £10 on the project of producing Gooseberries by the ton, and were nearly foiled.

After further wasting a couple of years we began to think that the bushes would have to be removed and the land put to tillage or pasture again, but we kept pegging on, and solved the great caterpillar difficulty. One morning we were standing in the midst of our spoiled plantations, concluding that the caterpillar must have its way. Looking over the hedge that separated our field from a slovenly neighbour's garden, we observed with surprise that not a Gooseberry bush in his enclosure was touched. Every leaf was as green as emerald, and not perforated in the least.

Here was a problem, and we resolved to get to the bottom of it. We observed that our neighbour had not dug the ground under his bushes since the crop had been taken the previous autumn, though now it was advanced spring. This was purely the outcome of neglect on his part, but his bushes were bearing well, and he had no caterpillars. We resolved now not to dig the ground after the crop was taken, but simply to remove all weeds, and allow the surface to remain pretty hard till the winter frosts had scourged it, and the frosty winds had winnowed all insect life away, as far as possible. Gardeners may turn up their noses at this because it looks so simple, but next year, after the treatment we have just described, the caterpillars were gone, and our experiment just amounts to this—we did not by forking and pulverizing the soil render it a fit and ready habitat for the insect life that was to rise in spring and devour our bushes for food. We allowed the ground to harden on the surface in autumn when the growing season was nearly over, and either dug or forked it in spring, say early in March, when the rigour of the frosts was abating.

Thus the caterpillars, in whatever embryo state they exist during the winter, were left without a cover, and the frosts and frosty winds, it is presumed, made an end of them. We have followed this plan now for five years, and during that time our Gooseberry plots, containing at least seven or eight thousand bushes, have not to our knowledge bred a single caterpillar. In manuring we do not fork in the manure, but spread it on the surface and allow the winter rains to carry it down. Our bushes are at present growing more vigorously than we could wish, for it is not easy keeping such a large number pruned down to the proper standard, but bulk in the fruit is our object; and this is the way we solved the caterpillar question. —*Thomas Swann, The Maze, Lisburn, in The Agricultural Gazette.*

Ants.—In *The Revue Horticole*, the following method of destroying or banishing ants is described as having proved quite successful:—Take 2 ozs. of soft soap, 1 lb. of potash, and 2½ pints of water. Boil the whole together for some time, stirring the ingredients occasionally. The liquor may then be allowed to cool. With a pointed stick or dibble make holes here and there in the soil infested by the ants, at a safe distance from any plants which may be growing there, to avoid any chance of their roots being injured by the mixture (although this is doubtful), and fill the holes once or twice with the preparation. By this means M. de Forghet was completely successful in clearing his Melon beds of these troublesome insects.

SCOTTISH GARDENING.

Notes on Celery Growing.—The growth of large Celery (according to observations we have made in different parts of the kingdom) is not so common now as it was twenty-five years ago. Neither does the forcing of this valuable crop into gigantic proportions by the agency of strong stimulating manures receive the same amount of attention from growers as it did when the crops were judged by the great height of their leaves, which almost came to a level with the labourers' heads when they were putting on the finishing touches during the last "earthing up." Good, solid, well-blanched produce from stem to core is what we consider the criterion for well grown Celery. A "nutty" flavour and little waste by having to remove non-blanched leaves are very important items with connoisseurs of Celery; and justly too, as a mass of long, hollow, gross leaves are qualities which render Celery almost valueless. Such may be of use for soup, in the form of green Celery, which we have often had to supply all the year through. At some of the leading exhibitions, notably three "Internationals," we have observed the judging of Celery, and the censors have wisely used the knife, splitting the stalks down, thus revealing the state of the hearts, detecting "bolting," and showing the amount of blanched stems, which should be so compact as to appear as one solid stem. White kinds are more easily blanched than the pink or red kinds, but the latter, according to our experience, when well grown and thoroughly blanched, are appreciated more than the white Celeries.

We have tried a goodly number of kinds of late years, but were we limited to three we should prefer Turner's Incomparable Dwarf White, Ivery's Pink Nonsuch, and Major Clarke's Solid Red. These have given us great satisfaction here and elsewhere—yielding a regular supply from August to May in a position far from being the best for Celery keeping. We have long ceased to form deep trenches, which may do very well on high and dry positions, and where the soil is exceptionally light. The system practised by many marketmen of planting on the level surface, taking one or two crops (such as Turnips, Lettuce, Peas, Cabbage, French Beans, &c.) from between the Celery rows, is a very suitable practice for some localities, especially in the valley of the Thames and similar low and flat surfaces, and for latest supplies anywhere we have known the system suit admirably. An important matter for consideration is the choice of suitable manure for Celery, many believing that because Celery is a gross feeder they can with impunity give the plants manure of the rankest description. If we had our choice, we would choose cow manure thoroughly rotted; and the addition of rotted turves and leaf-mould is of much value when well incorporated and made firm before the Celery is planted out. Loose manure with much straw in it is conducive to the growth of rank, hollow stems, and the plants under such conditions never become solid or have the rich, nutty flavour of well-cultivated Celery.

The raising of early crops is often attended with little success and much loss of time and labour. The sowing of a pinch of seed during January or February to raise a few hundreds for use, say in July and August, is too often made in strong heat so unnatural that piping or "bolting" is hardly avoidable. No matter what watering, mulching, or other care is bestowed on the crops when planted in the ridges, or for earliest in frames, handlights, or other auxiliaries, nothing can make up for the unnatural treatment given in the earliest stages of the plants' development. Too often one has so much to do with their means that Celery raised in heat falls short of its requirements. A portion of a frame or pit where early Potatos are raised, Asparagus forced, or a very gentle even temperature, where plenty of light and air can be given, is a good position in which to start early crops of Celery. Cold drenchings of water, or neglect of moisture, will assuredly lead to "bolting." Second sowings may be made during March and April—two or three are not too many. These should be little more than protected from severe weather—frames and handlights will answer well—and no coddling should be practised. When the plants are pricked out, choose a firm bottom, on which is placed a few inches of solid manure made firm; then 2 ins. of light soil placed on the surface of the manure in which the seedlings are planted, and protected from cold winds and sun till the plants are in active growth, are their chief wants till they are planted out in their permanent quarters.

It is of some moment that when planting in any form there should be no doubling of the roots—the ruin of the crop can sometimes be attributed to this; the plants make little progress, and the flower-stems are then formed. When lifting from the beds to transfer the plants to the ridges, &c., some lift as much of the manure with the roots as they can, and then squeeze the mass into balls as solid as the hands can make them, but this is a practice which should be carefully avoided. The roots often struggle to extend themselves into the new ground, and while this is going on the flower-stems are developing themselves, and before the plants are near their full size the piping appears, and absence of water or some other neglect is blamed for the misfortune. It is well-known that Celery is almost an aquatic, and good drenchings of water may be given with great advantage, but in dry windy weather accompanied with sunshine, these drenchings are positively injurious and often lead to what one is very desirous of avoiding. Instead of daily drenchings, we prefer to give a good watering and then to carefully mulch the surface with half-rotten leaves, or mowings of grass, or manure which is well decayed, which answers as well; indeed, we prefer the latter.

At planting time we give a good soaking of water and carefully mulch the plants; one or two soakings after this we have found abundant, in some of the driest districts of England. In northern and colder districts one good soaking of manure water after the plants have begun to grow is generally enough, but the state of the sub-soil and the amount of rainfall should be the guide in applying water. While we have planted Celery well into August in warm southern districts, and had good supplies from them, in cold and northern latitudes we do not find it profitable to plant later than the middle of July. We plant single rows for the first supply and generally two or three kinds, and for the main crop make ridges which take four rows about 8 ins. or more from plant to plant. There is much saving in this method. On a small space great quantities can be grown, and cropping between is easily practised. When the last earthing is given, the soil may be made circular, throwing off winter-rains to the sides. Dustings of lime as the Celery grows, or a watering over-head with lime water, will keep the plant tolerably free from vermin. During the winter much mischief is often done by leaving the protecting material on after a thaw has taken place, thus causing the Celery to rot in the hearts. A few dozen may be lifted when frost is anticipated, stood on their ends close together in a shed or out-house, protected with straw, &c. Straw is a good protector for plants in the open ground, but it should be removed as soon as a thaw sets in.—*M. T.*

Show and Fancy Pansies.—The fine strain of Pansies for which the Pinkhill Nursery of Messrs. R. B. Laird & Sons has for so many years been famous, was well represented at the Regent's Park Show last week. The Messrs. Laird sent up some five dozen blooms, which, for their fine size, bright and perfect colouring, and perfect form, were much admired by many besides Pansy fanciers, and who fain would grow these bright and showy blossoms if the climate about the Metropolis were only a little more favourable to their cultivation. Among the fancy varieties we were particularly struck with the merits of one of the firm's new introductions of the present season, Mary Anderson, a flower of fine size, with the dark velvety blotch edged with deep yellow, and the upper petals bluish-purple, with a narrow edge of white. Prince Edward is a brilliant dark purple, and all the petals were edged with white. Amongst the yellows, Harry Veitch was especially fine; and Joseph Fleming, a rich maroon, yellow edged, and the upper petals violet-purple, was especially pleasing. For a white self My Lady carries the palm, its dense violet blotch being very striking. The Mahdi is a rich dark self, and R. Glasgow Brown a large yellow, with purple belt.

BALSAM CULTURE IN THE OPEN AIR.

In the paper you quote on Balsams at page 669, it is stated that the soil in which these are planted out-doors should be deeply dug and well manured. Having had many years of Balsam culture in the open ground, and seen the results of diverse systems of culture, I have found ample reason to disagree with the advice you quote. The Balsam is a gross feeder, especially when under pot culture. Therefore the writer seems to have jumped hastily to the conclusion that a plant which needs rich soil and ample feeding in pots must need similar treatment when grown freely in the open ground. The contraction or freedom of root action makes all the difference, for whilst plants with restricted root space will presently be induced to bloom most abundantly, plants in the open, having ample root space, and specially if as advised in rich soil, will grow into dense masses of stem and leafage, and bloom relatively but moderately, that bloom being smothered in growth and leaves.

Thinning of the shoots and leafage too often fails in such case to remedy this defect, because the plants have too much headway, and fail to set bloom freely. My plan is to dibble out plants in rows some 14 ins. apart, taking them when strong direct from the seed-bed, and not potting them at all. When they have been potted and thus favoured, even in rather poor ground, I have found the same inducement created to grow into dense bushes, indeed should the summer prove wet the same result happens almost in any case, I am writing, however, of culture and growth for ordinary seasons, and experience shows that plants thus dibbled out and not encouraged to make too much root-action early, begin to show bloom early, carry more bloom in proportion to leafage, this bloom is finely displayed, and the plants continue to bloom freely until the close of the summer. Let those who contemplate growing Balsams as bedding plants try both ways, dibbling and planting out of pots, but in any case avoid heavily-manured soil.—*Z.*

THE COLUMBINE.

Why Columbine? it may be asked. It would appear that the English name of the Aquilegia is derived from the Latin *columba*, a pigeon, from the resemblance of its nectaries to the heads of pigeons in a ring round a dish, a favourite device of ancient artists. Then from whence comes the generic name of Aquilegia? Well, that comes from *Aquila*, an eagle, from the fancied resemblance of the same parts of the flower to the claw of the king of birds. And it would seem that the plant was formerly called *Herba leonis*, from a belief that it was the favourite herb of the lion. I was greatly impressed with the beauty of the Aquilegias when visiting Messrs. Sutton & Son's Seed Trial Grounds, at Reading, a few days ago. There they were to be seen in large patches of different types, and some of the golden hybrids and seedlings of A. cœrulea were very handsome indeed. Then there are double and single varieties, and it is difficult to say which one admires most, only that the double forms are much more lasting than the single ones. Time was when not a few florists were greatly attached to the Columbine, especially the double forms, and made great progress with the improvement of them, but their work appears to have fallen away to a great extent. There are yet evidences that the Aquilegia is receiving more attention than it did a few years ago; one of these was furnished by what I saw at Reading, and I know that Messrs. Carter & Co. grow some beautiful varieties in their large seed-farms in Essex, for I have seen them there.

The Columbine of our gardens represents the many varieties that have been raised from A. vulgaris, the original species, which is a native of Great Britain. It is said to be rarely found now in a wild state. Then there are several imported species of great beauty. They are all classed under the general head of hardy herbaceous perennials, but some of the introduced species are not nearly so hardy as the varieties of A. vulgaris. These last can be grown in any good garden soil, and they are easily propagated by root-division or by seeds; and I would advise every lover of these beautiful flowers to grow a few seedlings annually, for it is a very pleasant occupation.

Now, let us look at a few of the best of the imported species. There is A. alpina, from the higher parts of the Alps of Europe; it grows from 1 ft. to 2 ft. in height, and bears showy blue flowers. There is a lovely variety of this having white centres to the flowers; but this needs to be planted in a good free soil in moist districts, and then it makes an admirable border-plant. A. Canadensis is the American Wild Columbine, and bears nodding scarlet flowers, 2 ins. in length and of a scarlet hue, with white inside. This does well on rockwork in sunny positions. A. caryophylloides is a handsome striped form, very striking and showy. A. cœrulea is a beautiful and distinct species from the Rocky Mountains of North-west America, and produces great blue and white flowers. It is a true hardy herbaceous perennial, blooming rather early in summer and continuing a long time in flower, and flourishes were the soil is sandy and deep, and not too wet in winter. This is a point that should be borne in mind, for while the vigorous-growing varieties of A. vulgaris will grow in heavy soil and almost perish in a light, dry one, it is different with some of the fine species, and they need careful culture in the matter of soil. A. glandulosa is one of the most beautiful forms of the genus, very dwarf in growth, the flowers blue with a white centre, and fully 3 ins. across. It should be grown in a well-drained, deep, sandy soil, and it is found to do best on rockwork. This species appears to do well in Scotland, where it is cool and moist; the southern parts of England appear to be too hot and dry for it to do well. Seeds of this can be obtained, and they are found to come true in this way, but if root division is attempted it should be done when the plant is in full leaf. A. Skinneri is a very attractive scarlet and yellow-flowered species, and should have a place in every collection, but it cannot be depended upon to come true from seed, as they appear to vary very much in character. Two fine hybrids, raised by Mr. Douglas, both single forms, are well worthy of attention, viz., A. Californica hybrida and A. cœrulea hybrida—they are both very fine and distinct. But I find I have forgotten the golden A. chrysantha. This is a beautiful form, producing a large number of pale golden flowers, a strong grower and very fine, and reproduces itself from seed.

Let me advise your readers by all means to grow a few Aquilegias, and let them endeavour to improve them too, for the capacities of improvement in the flower are great, and who shall attempt to limit the power of change and development in Nature.—*R. D.*

SELECT HARDY PERENNIALS.

(*Continued from p.* 663.)

Calandrinia umbellata.—This is one of the most charming of dwarf evergreen or shrubby perennials, and a strikingly effective plant with its intense majenta-crimson coloured flowers so freely produced in early summer. It rarely exceeds 3 ins. in height, is of trailing habit, and the fact of its being so freely reproduced from seed should favour its more general use. Owing to its dwarf habit, it is suited for the rockery or the front row of the border.

The Marsh Marigolds, or Calthas, next claim attention, and the popular name of the plant gives a clue to its cultural requirements. These all delight in abundant moisture, and soon become miserable if they cannot be accommodated with it, but when situate in marshy land they grow vigorously and flower with surprising freedom. Caltha palustris when seen covering a moist meadow a few acres in extent has no equal among the golden British flowers of spring. The best double forms are C. palustris flore pleno, C. palustris minor flore pleno, which has flowers of a deeper golden colour than any other kind, and as the varietal name implies it is of dwarf stature; and lastly, the monster flowered kind, C. palustris monstrosa flore pleno. All are of easy culture; plant them in stiff soil, if somewhat holding so much the better, and give abundant supplies of moisture.

Campanulas.—I now venture on to the Bell-flowers, or Campanulas, which include some of the rarest of Alpine gems as well as some of the showiest of perennials. It is a most extensive and valuable group, furnishing flowers from the later days of spring, through summer, and well into the autumn months, so that their season of flowering is of considerable extent, and their height varies from 3 ins. to 4 ft. To do them full justice would occupy too much of your space, so I will content myself by indicating only the very best, and at the same time those only whose requirements may be met in almost any cottage garden soil. First then we have

Campanula carpatica, growing about 1 ft. high and forming compact cushions which are completely covered with erect blue flowers. It makes an excellent edging plant, and there is a pure white kind equally as free as the preceding, and both are strongly recommended, being of free growth and quite hardy.

C. glomerata is a most useful kind, but is considerably inferior to the variety known as Dahurica, which is without exception one of the finest perennials in existence; it grows about 18 ins. high, and produces numerous stems having axillary clusters of flowers and terminating with large handsome heads of rich purple blossoms. It is, in short, one of those good plants whose value it is impossible to overestimate.

C. grandis is a very showy, old-fashioned perennial, a plant of free growth, growing 3 ft. high, and producing numerous spikes thickly set with blue salver-shaped flowers. It is more generally met with now in cottage gardens, where some few hardy plants would seem to have found a refuge during the time of their almost universal destruction. C. grandis alba is a pure white form of the preceding, and a most useful plant.

C. Hendersoni.—One of the most distinct and beautiful of all Campanulas; it grows 1 ft. high, forming compact pyramidal tufts, which are almost hidden by its numerous flowers of a bluish-mauve. I know of none having erect flowers which are capable of equalling this for beauty and usefulness for decorative purposes generally. It is an hybrid, but of its origin I cannot speak with certainty; it appears, however, to be the result of a cross between C. turbinata and C. pyramidalis. Be this as it may, its value as a hardy perennial is considerable.

C. macrantha.—For a bold striking plant for the shrubbery border, or for naturalizing, this is unequalled; it grows 4 ft. high, the flower stems being furnished with large drooping bells of a purple-blue colour.

C. persicifolia (the Peach-leaved Bellflower).—Of this species there are several forms, single and double, growing about 2 ft. high, and having for the most part long spikes thickly set with flowers. The best kinds are C. persicifolia coronata alba, which is a most useful single pure white kind, and C. persicifolia alba plena, the last named having pure white very double flowers, most useful in a cut state, and highly valuable as a decorative border perennial; these two attain a height of 2 ft. 6 ins., or thereabouts.

C. pumila.—A dwarf-growing kind from 4 ins. to 6 ins. high, having numerous drooping flowers of a light blue colour; C. pumila alba differs only in its white flowers. These admirably adapt themselves for massing, or for edgings or lines, the effect of them in flower being very pleasing.

C. pulla.—Of all the dwarf Harebells this is the most lovely. It prefers a cool and somewhat shady spot, and in such a position it carpets the ground completely. It is readily distinguished from all the other dwarf kinds by its deep purple drooping flowers, which are borne solitary on slender stems from 3 ins. to 6 ins. high. When once well planted, allow it to remain for years undisturbed, as when seen in a mass it is most charming.

C. pyramidalis, and its white form, are the so-called "Chimney Campanulas," probably owing to their towering flower spikes, which often attain a height of 6 ft. When seen in good condition they are extremely handsome, and equally as valuable as pot plants for the conservatory as for the back row in the herbaceous border.

C. Van Houttei.—A handsome hybrid growing 2 ft. 6 ins. high, which takes a first place among good hardy plants, and is among the best of this extensive group; the drooping flowers are of a dark blue colour, and are upwards of 3 ins. in length; it should be in all collections of hardy plants. It will be seen that, for the most part, I have confined my remarks to the taller growing kinds, all of which, however, will be found to grow well in any ordinary soil, and are easily increased by division.—*J.*

MARGUERITES.

I was rather surprised, yet pleased, to see Mr. Dunkin's reply to my remarks on his system of planting out Marguerites, and feel that if my note served no other good purpose, it at least elicited from Mr. Dunkin some remarks which I think embody the most important part of his cultural details, viz., that of lifting and establishing his plants under a north wall, whereas in his former note he said "lift in September, and grow on in vineries or other cool houses during the winter months." Now I know from experience that the latter details were wholly insufficient to ensure success, as I well remember lifting some that had been planted out during the summer, and sufficient care was not taken to cut round the roots of the plants a few days prior to lifting them, neither was another very necessary precaution taken, that is to see that they had a good soaking of water before they were lifted, and the result was partial failure, notwithstanding their being placed under the shade of a wall, and kept syringed.

No one more than myself more heartily welcomes any method of culture that will save labour, providing the results are equal, and it is with Marguerites as with the other forms of Chrysanthemums—to produce the best results they must be grown in pots.

I remember some five years ago going round a garden where some of these plants were used for bedding purposes, being planted in the middle of a bed with a few rows of Zonal Pelargoniums around them. Unfortunately we were not favoured during that year with so much sunshine as we could wish, and a quantity of rain fell during August, and the consequence was the plants grew rapidly and were soon too tall to be in harmony with the surroundings, and so had to be cut down, which resulted in a second crop of shoots, but no flowers. A year or so afterwards I was instructed to plant some Marguerites in beds in the flower-garden, and to obviate the evil which my neighbour suffered from, I planted them out without turning them out of their pots, and the result was everything that could be desired, an abundance of flowers without exuberant growth. Still another instance in support of restricted root action. On looking through the houses of another neighbouring gardener last February, I had pointed out to me a splendid specimen or two of these plants in 8-in. pots, and which were one mass of flower, and the remark made was, "I intend to have a lot of these another winter; they are some plants I had set in some vases."

"R. D.," on p. 586, speaks in high praise of these plants. It would be interesting to know that gentleman's cultural details.

I think it was scarcely necessary for Mr. Dunkin to tell me what he did not recommend, as he must have known that I was as well aware of that as he himself.

In conclusion, I may say that it is not every lover of Marguerites who is content to wait till May for their first blooms, and here, as in many other districts, flowers may be had of the common Ox-eye Daisy by the middle of that month in ordinary seasons; and for dressing vases and all cut purposes these will vie with any of the cultivated kinds.—*Bellis.*

THE TAM O'SHANTER HONE.

We have received from Mr. John C. Montgomerie, of Dalmore, Stair, Tarbolton Station, Ayrshire, a sample of his famous Tam O'Shanter Hones, with the quality of which we have been agreeably surprised. We expected, as a matter of course, that these sharpening stones would prove of good average quality, but a few trials quickly convinced us that they are real treasures, putting a keen and lasting edge on a knife in a few moments, and that, too, without the use of oil.

Every expert "knifeman" knows that nothing pays better, or gives more pleasure when at work, than keeping a good edge on his knife, and it is surprising what blunt tools are often found in the hands of gardeners, and young gardeners especially. Such tools, too surely mean bad cuts, bad work, and very frequently bad temper also. The Tam O'Shanter Hone has stood the test of a century; it is the best stone we have ever used, and is so cheap that every potting-shed ought to contain one for the use of those employed in it.

The Amateurs' Garden.

THE GREENHOUSE.

Zonal Pelargoniums.—For making a show in the greenhouse at this season, few plants are more useful than the Zonal Pelargoniums, but to have these really good they must either be grown in a house or pit where they can have full light and air, or be plunged in some sunny spot out in the open. For winter blooming, the last-named treatment is the best, as under full exposure the plants make short-jointed sturdy growth, which gets hard and consolidated, and when in this condition the shoots cannot fail to yield plenty of bloom. To enable them to do this, however, it is necessary to keep them somewhat pinched at the roots, as also those coming on now, which should be assisted by having occasional waterings with weak liquid manure.

Begonias of the tuberous-rooted class are quite indispensable during the present season, and cannot be too largely cultivated, as they are very easy to manage, and make a grand show. For growing them, a pit, where they can be stood on a cool, damp bottom, suits them best, but they require shade, although they should have plenty of light to keep them dwarf and stocky. Deutzias having finished their growth will now do best out-of-doors, but the exposure must not be sudden, or the sun and air will injure the foliage. To prevent this, the plants should be shaded for the first few days, till their leaves get a little hardened, after which the solar rays will do good by ripening the wood.

Camellias.—These ought by this time to have completed their growth, and all that have done so may at once be placed in the open, but a shady position is necessary, the most suitable being that on the north side of shrubs or trees, which not only protect the plants from the sun, but afford them shelter from strong winds, and this is an important point, as with their heavy heads they are apt to get blown over and broken. To keep worms out of the balls, the pots should either be stood on a board or have pieces of slate under them, which will stop their ingress, and ensure having the drainage open, so that the water may pass freely through. If the plants require repotting, this is the best time of year to carry it out, but the doing of the work needs care, as the roots are exceedingly brittle, and generally threaded about in amongst the crocks, which should be picked out from them and soil put in their place; that which Camellias do best in is good fibry loam and peat, in about equal parts, mixed with a little sharp silver sand to keep the whole open and porous.

Azaleas require all peat and sand, and in this they should be potted very firm by ramming it well down around the balls, as otherwise the water will run through the fresh stuff, without wetting the old. If the plants have thrip on them, an insect to which Azaleas are very subject, they should have their heads dipped in tobacco-water, which, if fairly strong, will not only kill all the thrips, but destroy their eggs, and thus prevent others from hatching. To assist the plants in making and completing their growth, free syringing is necessary, and with it strong heat, which may be afforded by having the plants in a house or pit that can be closed early in the afternoon, that the sun may run up the temperature.

Pot Roses.—For spring embellishment, there is nothing equal to a few Roses, which if potted on now and have the strong shoots pinched back will break freely and form plenty of shoots. If these get the green-fly, the remedy is the same as for the Azaleas, or both may be made clean by the use of Nicotine Soap. Although Perpetual Roses make good pot plants, the Teas are the best, as being under glass suits them, and they are nearly always in bloom.

THE FLOWER GARDEN.

Bedding Plants will need close attention for some time, as their roots are yet but little beyond the old ball, which soon gets dry, and till they can lay hold of the soil in the beds water must be given, or the progress of the plants will be slow. To assist them in covering the ground as soon as possible the branches should be drawn out and pegged or staked so as to fill up vacant spots, but before this is done, it is a good plan to mulch, as a mulching is of the greatest assistance in keeping the soil moist and encouraging freedom of bloom, and especially is this so with such things as Verbenas, Calceolarias, and others of that class that like the soil cool.

In the Borders, Crocuses, Hyacinths, Tulips, and other bulbous-rooted plants will now be sufficiently forward to have their tops removed, but to do this before they are dead is the greatest mistake possible, as so long as any portion remains green, the foliage is necessary in storing up strength and assisting in the formation of flowers, which are being packed away now ready for emerging when the spring calls them forth. As Phloxes and most other herbaceous plants are now sending up their blooms they will need staking and tying, which should be done so as to give each stem proper support without an appearance of stiffness, as when bundled up together it quite spoils their beauty. Dahlias do very well with one stake, the laterals or side branches being quite strong enough to support themselves, and in many positions, such as large beds, the single kinds produce a good effect pegged, grown in which way they may be kept dwarf and made to cover the whole of the ground.

Shrubs.—The present is a very trying time for evergreens that have been freshly transplanted, as the winds are drying and the sun searching, and to prevent the combined injurious effects of these agencies on the plants, the ground immediately around them should be mulched and a heavy soaking of water given, which will set the roots in active motion and prevent the leaves from flagging in the way they otherwise would. In small places, it generally occurs that shrubs are planted thick and soon encroach on each other, the stronger growers, which are invariably the commoner kinds, smothering the weaker and more choice, and to stop this they should be cut away to give light and room to the others. If this is done at once they will soon break again and hide the shabby part, as they have yet to make the midsummer shoots, and the same with hedges, which may be clipped now, or the leading branches of Conifers pruned in if the plants are getting too large.

THE FRUIT GARDEN.

Fruit Prospects.—After all the show and great promise, it seems that there will be some disappointment in this department of the garden, as there is "worm i' the bud," and the frost has left its effects behind, for Cherries have been nipped, and are refusing to swell, while Apples and Pears are tumbling wholesale; but these stood in great need of a thinning, and instead of doing this artificially, it will be better to wait a bit to see what will remain on and are likely to swell. This much, however, is certain, they must soon go one way or the other; and meantime the trees should have all useless shoots removed by either pinching or cutting them back, leaving only about three joints at the base, and at them flower-buds will form between this and the autumn.

Plums, Apricots, and Dessert Cherries, require just the same treatment, but the Plums and Cherries will also need close watching to keep them free from aphis, which seems more than usually prevalent this season, as they are showing themselves everywhere, and coating the leaves with "honey-dew," which the bees are taking advantage of, and converting to sweet nectar in their combs, which they will soon be able to fill. To get rid of the fly on the shoots to be laid in, they must be dipped either in tobacco-water, or a solution of some of the insecticides, and afterwards it is a good plan to give the trees a heavy syringing or thorough washing with the garden engine, which will cleanse the foliage and give the trees a fair chance.

Currants.—The way to keep the fruit clean on these is to nip off the tops of the branches, as it is there, on the young tender leaves, that the flies lurk.

Protecting Fruit.—Cherries are always a great temptation to birds, and as the fruit is now ripening, it will be necessary to securely net the trees over to keep off the depredators, the best way being to run a piece of fine meshed wire-netting along the ground some feet from the wall, and there support it with stakes, when the other can be brought from the coping down to it, and there tied, thus keeping it well away from the trees. Strawberries may be managed in a similar manner, and netted over the tops of the beds, if a rod is placed on stakes, or wire or string strained at a height to admit of anyone going under to gather the frnit, which is a far better plan than having the net close over the plants, where the birds can press it down by their weight and then help themselves. Before the beds are covered, however, it is advisable to give a good soaking of water, or liquid manure, which will be a great help in bringing the Strawberries to a large size, and improving their flavour.

THE KITCHEN GARDEN.

Peas and Beans.—Up to the present, and a little later on, Peas are always plentiful enough, but the difficulty is to keep up a supply in the autumn, which can only be done by paying every attention to those just up, or sowing at once in deeply-dug ground or shallow trenches prepared the same as for Celery. To assist those in flower and bearing, the thing is to mulch along the sides of the rows, and then water, or give a good soaking of liquid manure, which should be repeated weekly if the weather sets in dry, and the same with Scarlet Runners, as without such help down comes the bloom. The last named may still be planted or sown, and any got in now will bear till the plants are destroyed by the frosts, as also will the dwarf French, which should be sown on a south border, or some sheltered spot where they get plenty of sun.

Cauliflowers.—It is quite time now to make a last sowing of these to turn in in the autumn, the sort most suitable for the purpose being the Walcheren, which when up and large enough to handle should be planted in rich ground, in drills drawn 2 ft. apart, and the plants placed about 18 ins. asunder, and as soon as this is done a watering should be given to help them to start.

Broccoli.—Although Broccoli shonld be out before this, it often happens that ground is not at liberty till other crops are cleared off, and if plants are pricked off so as to be in readiness, and well rooted, they may be planted till quite the end of the month, but in doing this it is advisable to pick a dull time for the work, or they suffer and receive a great check.

Tomatos will now be growing fast, and should have their shoots kept thinned by cutting away part of the laterals, which will give the main leaders full light and air. The way to manage with these is to let them run, and support them by nailing them to the wall, or tying them to stakes, as the case may be, and to get a good set of fruit the plants must be kept well watered, or the blooms will fall and make the crop late.

Ridge Cucumbers.—These ought now to be sufficiently advanced to do without the handlights, which should have the tops taken off for a few hours in the morning, to harden the leaves first, and when they will bear the sun the lights may be removed altogether, and the plants regulated and pegged out over the ground, where, to keep the fruit clean, short straw or other litter should be placed to train the stems on. Vegetable Marrows need similar attention, and both they and the Cucumbers will be benefited by frequent applications of liquid manure.

IPOMÆA THOMSONIANA.

The genus Ipomæa includes several species which are used in medicine, such as jalap, scammony, and other drugs of a purgative character, and I. batatoides furnishes the Sweet Potato of South America. Several species, too, are of an extremely ornamental character, and were at one time more largely grown in gardens than at present. Perhaps the best known of all is the rich rose-coloured I. Horsfalliæ, a native of the East Indies, and a climbing stove-plaut of the greatest excellence. What was for some time considered to be a white-flowered variety of this fine plant, but which proves to be quite distinct, has within the last year or two been sent out by Mr. B. S. Williams and Messrs. Ireland and Thomson, under the name of I. Thomsonianum, and a valuable addition it is proving to our list of stove-climbers. It resembles I. Horsfalliæ in habit, having thick, fleshy leaves, with stalked, entire leaflets, but differs widely in the

size of its flowers, which are as large again as those of the popular species named, being about 3 ins. wide, pure white, and produced in clusters of two and three blossoms. It is more effective as a roof-climber than as a pillar plant, but is free blooming and highly ornamental in either position.

CHINESE HORTICULTURE.

If the Chinese do not care to grow Potatos except where there are Europeans to eat them, they grow the Batata, which is sold boiled at every street corner. Of the Water Lily sacred to Buddha, they eat the sugary seeds; and also a sort of sago made from the roots. "Water Chestnuts" too (eaten by the old lake dwellers in Switzerland) are largely grown. Every canal is full of floating islands of them; and the gathering must look like the picture of "Athelney in Flood," where young and old are going about after the Apples in boats. Instead of boat put tub, each pushed with a Bamboo pole by a yellow man or woman, and paint two or three upsets, for John Chinaman is full of fun, and those who have seen a Water Chestnut harvesting, say that everybody is on the broad grin, and accepts a ducking with the same good humour with which he gives one. They cultivate fungi too, burying the rotten stump of a tree which bears harmless ones, and so ensuring a crop. One kind, the lin-chi, is one of the emblems of immortality. It gets as dry as those honey-combed fungi which they eat in mid-France, and "keeps good" for years. The bonzes use it as the foundation of their ambrosia, and picture their gods with lin-chi in their hands. The "five fruits" are Peach (sign of love, because it blossoms in winter), Apricot, Plum, Chestnut, and Jujube. The wild Apricot is valuable for the oil extracted from its kernels. The first came into use, say the Chinese botany books, in our fourteenth century. A good and wise physician lived in a district so poor that he scarcely ever got a fee; so, having found out the use of Apricot oil, he said, "If you can't pay you must do this. Let every patient plant a wild Apricot on that bare hill to the east." Fifteen years went by; the hill was pretty well covered. "Now," said the good man, "I am growing old, and after me you will perhaps not be able to get your doctoring gratis. Let the village undertake to keep up this Apricot orchard that has cost you nothing. The oil will not only pay a doctor and buy as much medicine as you can want, but it will also do a good deal towards supporting your old men and your orphans." . . . Wax-trees and tallow-trees are invaluable to the Buddhists, who, of course, must burn no animal fat on their altars. There are half-a-dozen trees and plants which make better paper than the Bamboo—what we call rice-paper, for instance, comes from the paper-mulberry.

A Chinese Nettle and a giant Hibiscus make excellent rope; and the Ramia has its leaves covered with threads just in the right state for spinning. When Virgil said, "The Seres comb from leaves a slender fleece," one used to fancy he was speaking of silk, confounding in fact the worm with the food it eats; but the latest idea is that some notion of the Ramia and its produce had travelled as far as the Greek naturalists on whom Virgil relied. If any of your friends are homœopaths you will have heard plenty about Rhus; one of the many kinds, the Rhus vernix, makes, along with the Elaeo-cocoa (added because its juice is fatal to insects), the famous lacquer. Great at dyeing, the Chinese have managed to find out vegetable mordants. Hair-dyeing they manage in a peculiar way; they drink their dye. A six months' course of some vegetable decoction is said to be infallible; and was regularly used, we are told, by the Christians to darken the hair of their European priests, that so they might escape detection. Nearly all their dyes are vegetable, the imperial yellow being got from the root of the Curcuma; Saffron and Gardenia flowers, and Mignonette, and all other yellow dyes being held unworthy of this great object.

And now, to prove what has been said about their great skill in landscape gardening, let us say a word about the Pekin Summer Palace Park. Mr. Swinnoe and Sir Hope Grant both paint it in glowing colours—such a pleasure garden as Kublai Khan planned round his "wondrous dome, by Alp, the sacred river." "Twelve miles of pebble paths leading through groves of magnificent round lakes into picturesque summer houses; as you wandered along herds of deer would amble away from before you, tossing their antlered heads. Here a solitary building would rise fairy-like from a lake, reflected in the blue water on which it seemed to float. There a sloping path would carry you into the heart of a mysterious cavern leading out on to a grotto in the bosom of another lake. The variety of the picturesque was endless and charming in the extreme. The resources of the designer appear to have been unending." And what the Emperor had in its full glory round his summer palace, every Chinaman who has made a little money tries to have on a small scale round his house. It is the gardens which, in the absence of many of our modes of sanitation, keep the dense populations of Chinese cities tolerably healthy, for trees are great absorbers of bad and diffusers of good gases. We have a great deal still to learn from them in the way of gardening, and it is no use crying down our climate—the climate of North China is a very harsh ungenial one, far worse for both men and plants than ours. It is not the climate that is in fault, but the gardeners; ours do not put the heart and patience into their work that John Chinaman does into his.—*All the Year Round.*

IPOMŒA THOMSONIANA.

Liquid Manure.—At the recent half-yearly meeting of the Highland and Agricultural Society, Mr. Wardlaw Ramsay announced that the committee appointed to consider the above subject had recommended the society to offer a premium of £400 for the discovery of the most practicable and satisfactory method of utilizing the urine of house-fed animals. The committee had further recommended that the directors of the various show districts should be requested to undertake the collection of subscriptions towards this premium. Mr. G. Syminton, Glenluce, has already intimated subscriptions in his district to the amount of over £80.

FRUITS.

Fruit Culture under Glass.—Strawberries: Preparing Plants for Forcing.—The first step to be taken in this direction is to obtain the necessary number of 32 and 24-sized pots—only a small percentage of the latter for late varieties—and well crock them by placing a large piece of crock in the bottom of the pots, then a couple of inches thick of two or three smaller sizes (the smallest pieces being placed on the top), over which sprinkle a handful of fresh soot, to prevent the ingress of worms, and over that a few rough pieces of loam or leaves. This being done, fill the pots to within an inch of the top with a compost consisting of three parts good loam and one of horse-droppings rubbed through a quarter-inch sieve, ramming it in firmly together as the work proceeds. The pots should then be taken to the Strawberry quarters and placed so as to reduce to a minimum the chances of the runners being displaced in the process of watering the plants and gathering the fruits.

The runners should be layered in the centre of the pots as soon as large enough to handle, and secured there by means of small pegs, a sufficient number of which should be made beforehand, out of old brooms, on wet days. The best runners should, as a matter of course, be selected, and the superfluous ones cut away as the work of layering proceeds. The plants thus layered should be watered overhead every afternoon during bright sunny weather; this, in addition to keeping the surface of the soil moist (which is all that is needed until the roots have pushed into it), will keep the young plants clean and fresh. As soon as they have become sufficiently established to admit of their being severed from the parent plants they should be removed to a favourable situation, where they will be well exposed to the sun, and placed, not too closely together, on sifted coal ashes, or on the brick walls enclosing Vine borders.

From this time until the plants have completed their growth, they should have liberal supplies of diluted liquid manure at the roots, together with an occasional surface-dressing of Beeson's manure, so as to develope large consolidated crowns, and, with this object in view, all the runners and any small crowns that may proceed from the original and principal ones should be removed as soon as they appear. As the runners are being layered, the points immediately beyond the miniature plants should be pinched out.—*H. W. Ward, Longford Castle.*

Floating Melon Gardens in Cashmere.—In the beautiful Valley of Cashmere, among the Himalayan Mountains, lies a lovely lake called Dal. Floating about on its surface, sometimes carried by the winds from one end of the lake to the other, are numerous small islands, on which grow the finest Cucumbers and the most luscious Melons known. The way in which these floating gardens are made is very curious. All about the main shores of the lake grow quantities of Reeds, Sedges, and Water Lilies. When these grow very thickly together people cut them from the roots which hold them near the shore. The leaves of the plants are then spread out over the stems, making a sort of trestle-work to support the soil with which it is next to be covered. After this has been done the seeds are planted, and the floating garden is left to care for itself until the fruits are ready for picking.—*St. Nicholas.*

Venetian Fruit Houses.—Being about to put up a Peach-house, I should be obliged if some of your readers would give me their experience with the Patent Venetian Fruit House described in your paper some time since.—*A. W.*

Flower Stands.—Mr. R. Behrens, Hamburg, has invented a flower stand with moveable bottom, which may be raised by a drum with linked levers at each end, and having a ratchet catch to fix it at any height, or the bottom may be inclined at any angle. The lever moving on a pivot has slots in each of its ends in which work levers. These move a plate through intermediate levers and pivots. A securing pin holds the lever in any desired position.

FLOWERS.

Work in the Plant-houses.—It will now be time to consider what repairs, &c. will have to be done during the time that the plant-houses can be emptied without inconvenience. So much depends upon circumstances, that it is impossible to say what ought to be done first, yet there are a few points which should always be borne in mind. In any case where there are no climbers or other plants planted out which cannot be removed, the stove-houses should be the first to have attention, as the plants will do well in any house where a little artificial heat can be given in case of dull or wet weather. Where it is possible the stove should always be emptied once a year. After the houses have been emptied the first thing that should be done is to remove all rubbish, and any material that has been used for plunging or standing the pots on, after which the houses should be thoroughly washed out, glass, woodwork, walls, and in fact the whole of the interior. When thoroughly cleansed, they should be left open until the woodwork, walls, &c. are quite dry, and in every case where the houses are not to be painted, they should be washed with some kind of insecticide, and it is a good plan to add a little sulphur to the lime-wash for the walls. Before refilling the houses all the plants should be thoroughly cleansed from insect pests, and any that require it should be repotted.

Another matter which should have attention while the houses are empty is the hot-water apparatus; the pipes should be examined to see if there are any leaky joints, and to see that they are on a proper level; the boiler should also be thoroughly cleaned, and if the masonry requires any repairs, if it is done now it will stand much better than if it is left until just before a strong fire has to be put on.

Antirrhinums.—It is a remarkable fact that of all the florists' flowers that are raised from seeds, and which are annually so raised by thousands, the Snap Dragon has yielded the least amount of novelty as regards colour. The form of the flower has been greatly improved, and such is the case also as regards size and substance, but of fresh shades of colour we have literally had none, not a "fresh break" so far as we know for some years past. The Messrs. Dobbie, of Rothesay, are therefore to be congratulated on their success, after several years of careful selection, in obtaining a break or strain in which all the tubes of the flowers are pure white, instead of the whole of the flower being striped as in the old strain. We thus have a change at last, and one that is worth retaining, the pure tube affording a much more decided and very pleasing contrast. The spikes too are reported as being exceedingly large.

Hoya Bella as a Basket Plant.—Those who have not grown this little gem as a basket plant I would strongly advise to do so, as it possesses a delightful perfume, and bears its drooping bunches of flowers in great profusion, as you can see by enclosed branches, which were grown in a basket suspended from the roof over the pathway of a plant-house, and, consequently, near the light. It is grown in a mixture of peat, loam, sand, and leaf-mould, and kept in a temperature of 55 degs. by night, with a rise by day in the winter; and until it commenced to open its flowers it was kept at a night temperature of 65 degs., with a rise by day of 10 degs. after March. It is now in an intermediate house to prolong the flowering as much as possible.—*Joshua Atkins, The Gardens, Tatton Park, Knutsford, Cheshire.*—[This beautiful East Indian species is the finest of all for basket work, being so neat and compact in habit. It should be found in every stove.—*Ed.*]

Cytisus hirsutus.—This handsome hardy shrub is figured in the June number of *The Botanical Magazine*, from a specimen grown by G. Maw, Esq., of Benthal Hall, Shropshire. It is an old garden plant, having been cultivated by Philip Miller, at Chelsea, in 1739, and is said to be a useful plant to relieve the monotony of the shrubbery border. The flowers are deep yellow, and borne in clusters in the axils of the leaves. It is a native of South Europe, ranging from Southern Switzerland to Greece, Bosnia, and Bithynia.

Bauhinia variegata.—This very handsome plant is figured in *The Botanical Magazine* for June. It is said to be "an exceedingly common plant throughout India, being more often seen planted than indigenous; it forms a small tree, 6 ft. to 20 ft. high, and when covered with blossoms, which appear in March, it resembles a gigantic Pelargonium, and is indeed a glorious object." It appears to have been grown by the Earl of Portland as long ago as 1690. There are doubtless two reasons why the plant is not more grown, one being that it requires too much room, the other that it requires a hot, dry season to ripen the wood. The flowers vary greatly in colour, from white variegated with yellowish-green, to rose variegated with crimson, cream-colour, and purple; in size they measure about 4 ins.

Phyllocacti, a showy genus of Cactaceous plants, deserve much more attention than they usually receive. We have seen them in several establishments put away beneath the stage, or some other out-of-the-way quarter, and only brought into view when a charming flower has attracted attention. Under such a system of treatment they wear a very scrubby appearance, and look more fit for the adornment of the rubbish heap than either the stove or the greenhouse. They like a good open compost to root into, and to be kept moderately dry during winter, but at the turn of the year water may be freely given, with an occasional dose of weak liquid manure, and they should be syringed often on fine days. A plant of Phyllocactus Edwardsii, in a 10-in. pot, had twenty-two blooms, twelve of which expanded at the same time. These flowers, like many other members of the order Cactaceæ, open towards the evening, and last from two to three days. P. latifrons fades away sooner than any other that I am acquainted with. We have had a succession of these beautiful flowers all through May, and some are still flowering. The following have proved very attractive with us:—Phyllocactus nitens, P. Gordonianus, P. Edwardsii, P. crenatus, P. multiflorus, P. Jenkensoni, and P. latifrons.—*W. H.*

VEGETABLES.

The Kitchen Gardener's Calendar.—Planting, &c.: This will be a good time to make another planting of the strongest plants of the respective varieties of Savoys, the distance between the plants each way being, as with kindred subjects, determined by the size which the different varieties attain, as well as by the nature of the soil, in poor land less space being required than in rich ground. Small varieties, like Tom Thumb and Early Ulm, may be planted as stated in my last calendar, in rows 15 ins. apart and 12 ins. from plant to plant in the rows, while Drumhead should have a space of 2 ft. between the plants each way. In taking up the plants, care should be exercised in examining the roots and hearts of the same to ascertain whether they are clubbed or button-hearted or not, and all that show symptoms of such deformities should be destroyed.

Continue to make successional plantings of Celery in trenches prepared as advised at p. 539, and in the manner there indicated, and see that the plants do not suffer for want of water at the roots at any time. Do not trouble about earthing them up until they have attained to 12 ins. or 15 ins. in height, and thereby not only economize labour in the operation, but also lessen the chances of the soil getting into the hearts, which is frequently the case when the plants are earthed up when only 6 ins. or 8 ins. high, and the object—blanching the head—is secured as completely as by carrying out the operation at more frequent intervals.

Tomatos Out-of-doors.—The chief points to be observed in Tomato culture, whether indoors or out, are to keep the shoots and leaves well stopped and thinned. If the plants are trained up the wall or wooden fence with one or more stems, these should not be closer to each other than 10 ins. to 12 ins., all side shoots should be pinched at the first joint and be kept persistently stopped afterwards, and the leading and secondary branches stopped above the fruit. As soon as the latter have set, their development will be

hastened by the plants having liberal supplies of liquid manure at the roots or a surface dressing of Beeson's manure, which, in addition to causing the fruits to attain to a greater size, will also impart a better colour to them than would result from the use of liquid manure. Thus treated, we are now gathering ripe fruits from plants which had been grown to a large size before they were planted out early in May, and afterwards treated as recommended at p. 571; and with ordinary summer weather the plants should yield an abundant supply of ripe fruit until cut off by the frost. In tacking the shoots to the wall sufficient shred room should be allowed for their expansion.

General Work.—Get ground well manured and dug in which to plant Coleworts and Cabbage plants; 15 ins. each way will be sufficient space between the plants of the former, and 20 ins. between those of the latter. As young plants of Cauliflower, &c., become large enough to handle in the seed-beds, prick them out in nursery-beds, as previously advised, before they become crowded. Advancing crops of Canadian Wonder Beans will now be the better for having some short sticks put to them to keep the stems erect and the pods clean. The supply of Peas will now be plentiful enough to take the place of Asparagus therefore the cutting of the latter should be discontinued. This is necessary to enable the plants to make foliage, and consequently fresh roots, and thus acquire more vigour for the ensuing year. The only attention which the beds will require for the next few months will be freeing the ground from weeds and seedling plants—plants resulting from seed which dropped from the plants last autumn, and which, as a rule, are found in abundance.—*H. W. Ward, Longford Castle.*

Broad Beans.—I think there can be little doubt but that amongst the very earliest of Broad Beans, stands the now pretty well known Seville Longpod. How this kind came also to be termed Aquadulce, and Leviathan, I cannot comprehend, as having grown these sorts so called, I am absolutely unable to find them differing in any way from a good stock of the Seville. Long-podded as it may be, however, and early too, I am by no means sure that it is the most profitable kind to grow. Market gardeners, I think, will hardly care to cultivate it because it is so shy of bloom and pod. Any good form of Broad Windsor or Johnson's Wonderful gives twice the quantity of bloom and of pods, so that what is gained in the former case in exceeding length of pod is in other kinds more than compensated for by quantity of pods.

Looking over a wholesale seed list, I observe that the Leviathan and Seville Beans are quoted at the same price; and in a retail list where the Seville is quoted at 1*s.* per quart, producing pods 10 ins. to 14 ins. in length, the same thing under the name of Wonder Long Pod, also giving pods 14 ins. in length, is priced 1*s.* 9*d.* per quart, thus compelling purchasers to pay dear for a name. A distinguished educationalist commenting upon the false pride shown by some people who would not send their children to good elementary schools in preference to dearer but indifferent private ones, said that "they paid 2*d.* per week for education and 10*d.* for pride." That is very much the case with people who purchase certain good popular vegetables, and indeed other things, which because retailed under big appellations are made 30 per cent. dearer because of their grand designations.

The size of the pods on the Seville Beans is usually in accord with the number produced. Some stems set only one or two blooms well, and of course these develop into big pods. Hence the very finest produce of this class would be termed Giant Wonder, Leviathan, or something else, and the ordinary sample Seville. In judging Beans at the show table, these huge pods should not receive encouragement, as they always represent a very moderate crop.—*A. D.*

Turnip Early Purple Munich.—This is the earliest Turnip I know of, and since my first acquaintance with it I have been able to secure a supply for the kitchen quite fourteen days earlier than when I depended on Early White Stone. We sow our first lot on a south border under lights raised above the soil the thickness of two bricks, which are placed at the corners. Litter is placed round the sides and remains there till the Turnips are up, when it is gradually moved, one side and the highest end being the first to be attended to. Much is done by regulating the side protection according to the way the wind blows, and not moving both sides when it is cold, and so cause a cold current to be continually sweeping over their surface and subjecting them to a greater degree of cold than if fully exposed. Some seasons they require much less care in this way than others, and after moving the litter from the west side they have had no further attention till the lights are moved entirely for the sake of getting daily at the Radishes which we sow amongst them.

Gardeners whose experience is confined to the southern counties will smile when I tell them that with these expedients I have not been able to produce Turnips more than 2 ins. in diameter before the second week in May in the most favourable seasons. Like all other early sown Turnips, Early Munich is disposed to run to seed, and cannot be relied upon to be sweet and tender for more than three weeks or a month at most, so that it is necessary, if an unbroken supply is to be maintained, to make a sowing in the open as soon as the weather and state of the soil will permit. Some of ours, in consequence of the warm dry weather we experienced for about three weeks up to the 19th inst., are now a foot high in the flower stems, and are consequently only fit for flavouring. Since that date it has been blowing quite a gale from the north-west, and as cold as any "nor'-easter," and vegetation instead of being excited and stimulated by the rain on Friday, has received a temporary shock by the roughness and coldness of the wind as well as a good pelting from some hail on the morn of the 21st. To-day the wind has abated, but the day has been cold and gloomy. —*W. P. R., Preston, June 22nd.*

Late Broccoli.—The Burghley Queen: In your last issue I see that my friend "A. D." has an impression that Sutton's Late Queen and the variety that was brought before the Fruit Committee of the Royal Horticultural Society by Mr. R. Gilbert, of Burghley Gardens, and certificated by them, are identical. Having grown a plot of the former variety this year, and proved it to be indeed a good one, I can say that mine were quite distinct from those I saw and tasted at Kensington, and which came from Burghley direct. The fine quality and appearance of this new production of Mr. Gilbert's, in my opinion fully warranted the honour accorded to it by the Committee. An error is often committed in cutting late kinds of Broccoli too early, because these compact-headed varieties when cut prematurely, as a rule are so strong in flavour as to make them quite unpalatable, if not uneatable.—*G. T. Miles, Wycombe Abbey, High Wycombe, June 23rd.*

I think your correspondent "A. D." has been too hasty in coming to the conclusion that the Burghley Queen Broccoli and Sutton's Late Queen are "of the same kind," for I have some knowledge of both sorts, and am convinced that the similarity between them begins and ends with the unfortunate application of the name "Queen" to both varieties. "A. D." has, perhaps, forgotten that on May 27th last year, both varieties were shown in competition at South Kensington, and that Burghley Queen was placed first; Leamington, second; and Model, third, out of some nineteen or twenty samples staged, Sutton's Late Queen failing to get into the prize list at all. Friend Gilbert has been growing Broccoli too long not to know one sort from another, and much too shrewd a man to attempt to obtain certificates "under a misapprehension," though I do think he was unfortunate in his choice of a name for his latest bantling. —*X. Y.*

The unfortunate province of Bessarabia, which has been suffering grievously for some time from a visitation of locusts, is now subjected to a fresh misfortune. It appears that a destructive insect, whose rapaciousness exceeds that of the phylloxera, has made its appearance in the extensive Bessarabian vineyards. The insect is described as of similar size to the phylloxera, but of a different and unknown species. A special commission is leaving Odessa for Bessarabia in order to consult on means for the destruction of this new plague.—*Daily News.*

THE CROTON IN INDIA.

The Croton still maintains its position as the favourite plant among amateurs in most parts of India, and till some worthy rival for public favour can be found, it will probably continue the plant of plants. Many others have endeavoured to come into the front rank, such as Orchids, Ferns, Dracænas, Dieffenbachias, Anthuriums, Caladiums, and Begonias, but the majority of these are either too difficult to grow successfully, or too slow in attaining maturity to suit the proverbial impatience of amateur gardeners. The Croton, however, like all good things, is in a fair way of being overdone. Year after year brings us hosts of new varieties, and the cry is "still they come." If these were all really improvements on existing species, they would be hailed with delight, but the truth must be confessed: the appetite of the amateur must be appeased, even if at his own cost, new varieties must be had for him, consequently new names are continually being brought before the public, some good, some indifferent, and many really worthless. Nor does it stop here; we have to put up with old friends, not with new faces, but with new names. For instance, there is a good old variety that came from Australia to Calcutta about 1879 under a certain name; in 1881 it was introduced in Belgium under another cognomen; in 1882, in London it was again rechristened, and finally in 1883 was sent out by another Belgian firm under a new synonym. In the same way most of the best old varieties have been introduced at various times under more than one name, for instance, Challenger, syn. Imperator; Variabilis, syn. Falcatus; Princess of Wales, syn. Gloriosus; Triumphans, syn. Harwoodianus; Mutabilis, syn. Princeps.—*The Indian Gardener.*

Obituary.

We much regret to hear of the death, on Monday last, of Mr. William J. Cross, of the firm of Cross & Steer, nurserymen, Salisbury. Mr. Cross, who was driving into Salisbury accompanied by two of his children, fell out of his trap, either in a fit or accidentally, and was killed on the spot. The deceased was one of the mildest-mannered and most inoffensive of men—one of the very best practical gardeners of his day—and his untimely death is much lamented by a large circle of professional friends and acquaintances in the city and neighbourhood of Salisbury, where he established himself in business a few years ago, and was widely respected.

Mr. Cross was born on September 10th, 1832, at Whitechurch, near Reading, and began his gardening career at Coombe Lodge, in the same parish. In the spring of 1851 he entered the Pine Apple nursery, and was placed under the late Mr. Fancourt, one of the best of propagators. After a time he became foreman of the soft-wooded propagating department; and we next hear of him making a brief stay at Leigh Park, Havant. From Hampshire he went to Kinmell Park, North Wales, as foreman, and his next place was taken in 1858 as gardener at Cowery Grove, near Uxbridge. In the autumn of 1860 he was engaged to go to Ards, County Donegal, the seat of A. J. R. Stewart, Esq., and two years later went to Melchet Court, Romsey, where he made his reputation as a successful plant cultivator. A large and valuable collection of plants was formed on the completion of the new mansion at Melchet Court, and it was here where Mr. Cross succeeded in raising from spores that lovely little Fern, Actiniopteris radiata, whose fronds remind one more than anything else of a fan Palm in miniature, and for which the Council of the Royal Horticultural Society awarded him a silver medal. He also raised the hybrid Cypripediums Ashburtoniæ and Crossianum, and amongst other fine specimens which were developed under his hands were a glorious Phalænopsis, and one of the grandest examples of Lilium auratum in a pot which has ever been seen in the conservatory at South Kensington, and both of which were awarded Lindley Medals. Mr. Cross, however, did not receive them, for in 1869 he left Melchet and went to Porthgwidden, Cornwall, where he stayed for two years, and then returned to Melchet, and the specimens had been exhibited in the meantime. Mr. Cross was the winner of many substantial prizes in the west and south of England, and with stove and greenhouse plants especially was very hard to beat.

THE

Orchid Growers' Calendar.

Cattleyas of the Amazon.—During a residence of some eight years in Para and on the Amazon, we have received many letters asking information as to Amazonian Orchids. The notes given in Orchid manuals, that a certain Orchid comes from Brazil, lead many to suppose that it comes from the Amazon, whereas the Amazonian region, vast in extent as it is, comprises only a small portion of the immense empire of Brazil. The two genera of Orchids concerning which there is the most inquiry (and well do they merit the attention) are Cattleya and Lælia. Now there is not a Lælia of any kind in the Amazonian valley, nor, as far as our knowledge extends, have any ever been found on any of the Amazonian tributaries. To the north Lælias are found in Mexico and Guatemala, but the Brazilian Lælias are natives of the southern provinces, generally in the region of Bahia or Rio de Janeiro, and thence toward central Brazil. The large genus of Cattleya is also sparingly represented in the Amazon valley, the great proportion of the Brazilian Cattleyas being natives of the same regions as the Lælias. But as compensation for the lack of number the Amazonian Cattleyas are pre-eminent for their beauty.

To one who now has only to wire them on to the trees, or on to blocks which hang on the fences, to have them establish themselves at once and bloom profusely, the general complaint that they do not thrive in cultivation would augur want of proper care, did not his experience in times past in their culture in the Orchid-house lead him to believe that they are not easily grown. A few notes as to the conditions under which they naturally grow may furnish some suggestions as to their culture.

The Cattleyas of the Amazon are Cattleya superba and its varieties, El Dorado and its varieties, Luteola Wallisii, and the almost unknown species—if species they be called—Schrœderi and Leeana.

None of these are found on the Amazon this side of Manaôs, which city is situated on the rizer Negro just above its junction with the Amazon, about 1,000 miles from Para, and, as far as our knowledge goes, no Cattleyas have been found above Tabatinga, the frontier fortress on the Amazon between Brazil and Peru. They are also, except Cattleya luteola (and perhaps superba), confined wholly to the northern bank of the Amazon.

The Cattleya regiou thus seems to comprise a tract of about 800 miles on the northerly bank of the Amazon, extending northerly to Guiana, Venezuela, and Colombia. The whole of this region for many miles north of the Amazon is of the same general character—varzea, or land overflowed in the annual rise of the rivers, with stretches or isolated portions of higher land known as terra preta. There are innumerable lakes, many of great size, countless igaripes and parana-meris, or water-courses which connect the various rivers, but never any high hills or great elevations until far north, near the boundaries of Brazil. The greater part of the soil is alluvial, though there are sandy plains and rocky formations. No road or path of any kind exists in the whole of this immense extent of territory, and the only communication is by way of the water.

The evaporation is very great, and in the woods the air is generally surcharged with moisture. The rainy season begins in December and continues until June, the rain at times falling continuously in a deluge. During the remainder of the year there is but little rain, but the air at night is always damp from the great condensation. The days are hot, the mercury often rising to 80 degs. or 90 degs. in the shade, and the nights cool, often cold, the thermometer sometimes falling to 55 degs. The annual rise of the rivers, as shown by marks on the trees, is from 20 ft. to 30 ft.

It is under these conditions of temperature that the Amazonian Cattleyas grow. It must be remembered that Cattleyas are uever found in the close, dark woods, and never in pestilential localities. Orchids like a free circulation of pure air, and the Cattleyas often grow on the topmost branches of the immense trees in the full sunlight. They also never seek to cover or bury their roots, which run up and down the branches often to the length of 15 ft., but always on the surface clinging close to the bark, but in large clumps the roots often wind round and ronnd the dead roots and pseudo-bulbs of past years, and make large masses, but these inner roots are all dead, and these masses become the habitation of fire-ants—a fact which does not add to the pleasures of Orchid collecting.

The Cattleyas thus experience a season of six months of constant moisture, followed by six months of intense heat by day, during which they become very dry, but are every night refreshed by the copious condensation; the maximum and minimum of temperature in the shade being about 80 degs., rising to 120 degs. in the sun, and about 55 degs. at night. The nearer we approach these conditions in cultivation the nearer we shall be to success.—*The American Garden.*

Orchids and Art.—Some time ago in a letter to you I called attentiou to the steady progress Orchids were making as subjects for the artist's pencil, and at the same time I ventured to predict a wide field for them in that direction. Since that time I have had repeated proofs that my surmises were correct; indeed I find they have, by their strange beauty and grace, insinuated themselves into the artist's favour even beyond my expectation.

The other day I was pleased to find in a friend's house a folding screen, on each panel of which a lovely group of Orchids alone were cleverly painted. The first panel had Cypripedium longifolium, C. Harrisianum, and C. hirsutissimum; the second, Phalænopsis Schilleriana, Odontoglossum cordatum, and Cattleya citrina; the third Zygopetalum Gautierii and Epidendrum fragans; and the fourth, Phajus Wallichii, with Trichopilia suavis beneath. The whole thing was admirably got up as to form, colouring, and habit of the plants, and reflected great credit on the designers.

My friend, who knows nothing of Orchids, said she was told by the upholsterer that the Cypripediums were Pitcher plants, and the others Butterfly plants, so he has evidently taken his first step in Orchidology, and with the help of the lovely pictures before us, I was not slow to advance my friend and the others assembled a degree further in the science, which may have effect some day in causing Orchids to appear in their greenhouses. I would not for a moment seek to depose the favourite Roses, Carnations, Gardenias, &c., but I must say that, considering how beautiful Orchids are, and how easy they are to grow, they should command more extensive cultivation in gardens generally.—*Madeline.*

Odontoglossum Œrstedii. — This handsome little Odontoglossum is figured in the June number of *The Botanical Magazine.* It was discovered by Warcewicz in 1848, but was not well known till some time afterwards. It is said to be a native of Costa Rica, growing at an elevation of 9,000 ft. on Mount Irasu, near the town of San Juan. The plant is believed to have first flowered in Europe in 1877, with the firm of Messrs. Veitch & Sons, and its usual time of flowering is from February to May. It grows to about 6 ins. high, the peduncles producing from one to four flowers, which measure 1 in. to 1½ ins. in diameter; the colour being pure white, with the exception of the base of the lip, which is orange-yellow.

The Orchid Album.—The last number of the fourth volume of this admirable work contains portraits of Catasetum macrocarpum, taken from a specimen in Mr. McDonald's fine collection at Woodlands, Perth; Lælia anceps Williamsii, a rare and costly variety, pure white, with the throat and crest yellow, striped with reddish-brown; Saccolabium ampullaceum, remarkable for its short, dense spikes of rosy-purple flowers; and the old yellow Oncidium varicosum, still a valued plant for autumn and winter flowering.

Orchid Prices.—At the second day's sale of Mr. Armitage's Orchids, which took place last week in Manchester, the following prices were realized:—Cymbidium Lowianum, 9 gs.; Dendrobium Aiusworthii, eight leads, 10 gs.; Cattleya exoniensis, £13 10*s.*; Cœlogyne cristata, Chatsworth variety, £7; Dendrobium nobile intermedium, £14 10*s.*; Vanda suavis Gottesschalckii, £8; Cypripedium Dominianum, £8 10*s.*; C. caudatum, 12 leads, £15; Dendrobium clavatum, £5 15*s.*; Dendrobium moniliforme, £5; Cymbidium eburneum Dayanum, £5 15*s.*; and Cattleya Trianæ, in basket, 14 ins. by 18 ins., £5 15*s.*

NOTES FROM THE NEW FOREST.

Early one sunny morning, in this leafy month of June, the writer booked from Salisbury to the Lyndhurst Road Station on the London and South-Western Railway from Salisbury to Weymouth, for the purpose of having a quiet stroll through that part of the great historical Hampshire Forest which is situate in the neighbourhood of Cadnam and Lyndhurst. It is three miles from the Lyndhurst Road Station to the town of Lyndhurst, three miles to Cadnam, and the same distance between the last-named places. An omnibus from the Crown Hotel, Lyndhnrst, meets all the trains stopping at the Lyndhurst Road Station. The New Forest—the most extensive and wildest of woodlands now existing in the south of England—was, as every schoolboy knows, created by William the Conqueror. He it was who first placed this vast tract of wooded country under the severe restrictions of the Norman forest laws, and increased its limits so as to include the whole extent of land between the Southampton estuary on the east, and the southern Avon on the west.

This remarkable district is nearly sixty miles in circumference, or about the size of the Isle of Wight, and contains 66,000 acres. Of these, 900 acres are encroachments, 11,200 acres enclosures round the keepers' lodges, 25,000 acres belong to manors and freehold estates, independent of the forest laws, and about 1,000 acres are held of the Crown by leases. The remainder consists of woods and (about 14,000 acres) of pasture lands. Its original extent (as computed by Cobbet) was 144,000 acres. The present boundaries may be defined by drawing two lines from Blackhill, in Wiltshire, to Dunley Chine, near Poole, on the west, aud to Calshot Castle on the east, the coast forming the base of the triangle. It is divided into nine bailiwicks, which are subdivided into fifteen walks, and the whole is under the control of a Lord Warden, who formerly appointed a cohort of woodwards aud verderers, regarders, foresters, and underforesters, but in pursuance of a Report issued by the Royal Commission in 1857-8, the administration has been greatly simplified and brought more directly under parliamentary control.

Oak and Beech are here extensively grown for the supply of Her Majesty's dockyards. The Oak does uot attain to a great size, but is gnarled and knotted in a most picturesque fashion. There are now no deer in the grassy glades, and they never, it is said, at any time reached the size and strength of their northern brethren. The last great "deer hunt" is said to have taken place in 1838, when upwards of thirty masters of hounds and about 1,500 sportsmen assembled on the heath at Stoney Cross. After the stag got away, the number of his pursuers speedily dwindled down to seven, and at length he was secured by John King, Esq., the master of the Hambledon Hunt, in a barn attached to one of the keeper's lodges. He was removed to Windsor, and appropriately named "King John."

The appearance of the New Forest on entering it from the direction of Fordingbridge is calculated to impress the tourist visiting it for the first time with the idea that he was passing through a series of large and beautifully wooded private domains, and of which, in truth, there are several of more or less extent in the Forest. Looking over the tops of thousands of acres of trees from the vantage-ground at Stoney Cross, the huge mass of undulating leafage surface, of various shades of dark and green, is very effective; aud when contrasted with the Southampton Waters, bedecked with steamboats and craft of various sizes plying hither and thither on the glassy waters iu the background, together with a long stretch of south coast sceuery away in the distance, completes a picture of sylvan beauty and picturesqueness of outline which would gladden the heart of a Rubens.

The present denizens of the Forest are badgers, but not in great numbers; foxes and squirrels in plenty;

rabbits; the famous Hampshire hogs, which run wild in herds, and are generally dark brindled, and may be described as a "cross" between the domestic pig and the wild boar; and the small, hardy, New Forest ponies, resembling in many points the ponies of Shetland and the Hebrides. These generally congregate in herds of twenty or thirty, and command at the neighbouring fair prices ranging from £10 to £20 each.

The scenery of the New Forest is richest, perhaps, between Minstead (where a fine mansion is being erected for the Right Hon. Sir William V. Harcourt) and Ringwood, though the vistas of gleaming waters opened up through the branching trees in the vicinity of Beaulieu may better commend themselves to the taste of many. The grand avenue running—first with a declivity and then rising in the distance—from the Salisbury and Lyndhurst Road in the direction of Minstead, is in itself worth a visit to see. There are "nooks of greenery" in several parts so wild, so venerable in character, that the wayfarer almost expects to hear the ringing blast of the huntsman's horn echo through the silent glades. Here, over purple heaths and acres of the Whortleberry (Vaccinium myrtillus), and through avenues of Beech, and Fir, and Birch, up fresh grassy knolls, down pleasant valleys where the water-nymphs are ever singing, the pilgrim may wander unheeded and undisturbed, gazing with admiration at the wildness and solemnity of woodland beauty, as he sees far around him one deep shadow, one thick and continuous roof of boughs, and thousands of hoary boles, standing clothed as it were with the spirit of silence, or he may admire the grotesque forms of particular trees, which seem to have been blasted into blackness and contorted into inimitable crookedness. One splendid Oak which I measured has a spread of branches 111 ft. in diameter, and a trunk 16 ft. in circumference at 2 ft. from the ground.

Far below the elevated position of Stoney Cross, nestling amidst majestic Oak and spreading Beech—

"A fair stone in green Malwood
Informs the traveller where stood
The memorable Oak tree"

under whose shadow the second Norman King of England is supposed to have met his death. It is enclosed in an upright triangular casing of iron, 21 ins. wide each side, 5 ft. high, and 24 ins. through at its base to a few inches above the ground-line, and surmounted by an iron grating through which the stone can be distinctly seen. It bears the following inscription:—On the north side: "Here stood the Oak tree, on which an arrow shot by Sir Walter Tyrell at a stag, glanced, and struck King William II., surnamed Rufus, on the breast, of which he instantly died, on the second day of August, anno 1100." West side: "King William II., surnamed Rufus, being slane, as before related, was laid in a cart belonging to one Purkess, and drawn from hence to Winchester [twenty miles from the stone], and buried in the Cathedral Church of that city." East side: "That the spot where an event so memorable had happened might not be hereafter unknown, the enclosed stone was set up by John Lord Delaware, who had seen the tree growing in this place anno 1745." Underneath this inscription are two crossed arrows, below which it is stated that, "This stone having been much mutilated, and the inscriptions on each of its three sides defaced, this more durable memorial, with the original inscriptions, was erected in the year 1841, by William Sturges Bourne, Warden."

The charcoal-burner who conveyed the king's body to Winchester, is, as already stated, said to have been named Purkess, and his descendants live in the neighbourhood to the present day, never becoming richer or poorer than their ancestor—

"And still—so runs our forest creed—
Flourish the pious yoeman's seed,
E'en in the self-same spot:
One horse and cart their little store,
Like their forefather's—neither more
Nor less the children's lot."

The late Lord Palmerston, in a debate in the House of Commons in 1859, observed that there was still "a Purkess in the Forest, who regarded his patrimonial piece of ground, handed down from father to son for some centuries, with as much pride as the peer of the longest pedigree, and the squire of a thousand acres."

The principal seats in the Forest (Lyndhurst district) are Cuffnells (R. G. Greaves, Esq.; gardener, Mr. Miller), Bentley Lodge (Lieut. Lillingston, R.N.; gardener, Mr. Chisham), Castle Malwood (Mrs. General Robbins; gardener, Mr. Lindsey), Northerwood (Lord Londesborough's beautiful place), under the able management of Mr. J. C. McPherson; and Glasheys, Col. Macley's charming place. This is undoubtedly a representative and well-managed garden. There are some fifteen glass-houses, including vineries, plant-houses, conservatory (a new one, and, like the 180 ft. long orchard-house, erected by the Messrs. Driver, of Southampton, in excellent style), Melon and Cucumber houses, pits, &c. The Vines are swelling creditable bunches of Grapes, the plant-stoves contain a choice assortment of plants, both foliage and flowering, including a hundred or two healthy plants of Orchids in variety. Particularly healthy and well-flowered plants of Stephanotis floribunda, Ipomæa Horsfalliæ, &c., embellish the trellis underneath the roof in the stoves; Melons and Cucumber plants are bearing heavy crops, as also are the Peach, Nectarine, and Plum trees (pot pyramids and trees planted and trained against the back wall), all of which are in fine condition; so fine, indeed, as regards health and grand show of fruit, that the Right Hon. Sir W. V. Harcourt, who has taken Glasheys during its owner's absence from England until his own new mansion at Minstead is finished, told Mr. King (who has carried out many improvements in the gardens during the eight or ten years he has so ably presided over them) that he had never before seen such a promising crop of fruit in an orchard-house.

Outside the houses on the walks is an extensive display of strong Chrysanthemum plants in their flowering pots. Those who saw Mr. King's plants (6 ft. through and grandly flowered) in the orchard-house above referred to or at Southampton Show in November last, as recorded at the time in your columns, will not readily forget the effect which they made.

The pleasure grounds and flower garden, which are situate opposite the south front of the mansion, whither they extend in an east and westerly direction, have been picturesquely laid out and judiciously planted with choice varieties of Conifers and ornamental and flowering shrubs, the large masses of Rhododendrons, Azalea Mollis, &c., being very effective, as also are the standard Rhododendrons, having stems 5 ft. high and heads as many feet through. One good-sized circular bed has in it a few standards of the above dimensions and of a light shade of colour, and carpeted with the sweet-scented pink-flowered Daphne Cneorum in grand flower, the plants being also the picture of health in the peaty soil in which they are growing and evidently at home in. I had quite lost sight of this most useful sweet-scented and free-flowering plant since I lost a solitary specimen that I found here some years since in carrying out alterations in the bog-bed, in which it was growing among the Rhododendrons, which partly stifled it, and was therefore very pleased to see it again growing under most favourable circumstances, and, moreover, delighted to obtain a promise of a plant or two to make a fresh start with. I must not omit to mention a nice young tree, about 5 ft. high, of Cedrus Deodara alba, one of Mr. Roger's (of Southampton) latest achievements in the way of Coniferæ, I believe, and to say that the condition and thorough good keep of every department of the Glasheys gardens reflect great credit on Mr. King, who is evidently a good all-round gardener. Neither must I forget to mention a large, neatly-trained, and profusely flowered white Banksian Rose, which I saw on the south wall of Mrs. Howard's house in Lyndhurst, and which is the admiration of all who see it. and a grandly-flowered specimen of the white Jasminum on the wall of somebody else's house between Lyndhurst and Lyndhurst Road Station, which very much attracted the attention of travellers by the "Lyndhurst Bus," including *Hortus*.

Action of Frost.—Specimens of espalier Apples were exhibited at the last meeting of the Scientific Committee, in which the young growths were browned and withered. Dr. Masters stated that he had recently received specimens of various trees similarly affected. In the absence of other visible cause, he attributed the effect to the action of frost on the young growing shoots.

HORTICULTURAL SOCIETIES.

Royal Horticultural, *June 23rd.*—What was expected to be a Pelargonium Show proved really to be a fine exhibition of hardy flowers, for the former were not only scarce but poor, owing to the bulk of these plants being over, but of the latter there was an abundance, and of a quality that was truly refreshing. Mr. T. S. Ware, who makes a brave display here every day, contributed an even more extensive group than usual—a rich profusion of Liliums, Irises, border Pinks, Ixias, Sparaxis, Chinese Pæonies, Poppies, Delphiniums, Pyrethrums, &c., shown in masses, and surrounded by all the treasures in season of the Hale Farm Nurseries. A Silver Gilt Flora Medal was awarded to the group. Messrs. Barr & Son's nursery at Tooting also contributed a splendid collection, not so large or so varied as Mr. Ware's, but a remarkable display nevertheless, and a Silver Gilt Banksian Medal was their reward. From the Messrs. Kelway, of Langport, came such a display of Chinese Pæonies as is very seldom seen, some scores of double flowers of a size, freshness, and brightness of colour that was most delightful, and well deserving of the Silver Gilt Flora Medal that was awarded. The same firm had also some remarkably fine double Pyrethrums. Mr. Wiggins, gardener to W. Clay, Esq., staged a large group of Seedling, Show, and Decorative Pelargoniums, among which were several varieties that will doubtless come to the front another season. Messrs. Cannell & Sons, who have been absent from these exhibitions for some weeks, returned in all their old force to-day, staging remarkably fine bunches of the beautiful double white Zonal Pelargonium La Cygne, of Belle Nancienne, a first-rate salmon-red semi-double variety; and of other Show and Zonal varieties, admirable stands of Verbenas, Pæonies, &c. The Messrs. Paul, of Cheshunt, who will soon be as famous for hardy plants as for Roses, had an excellent group of the former, which included some English Poppies, semi-double flowers of a most pleasing character, raised at their Broxbourne Nursery. From the New Plant and Bulb Co., Colchester, came, besides a large group of Japanese Acers, which obtained a Bronze Medal, a plant of Cattleya Mendeli delicatissima, a pure and delicately tinted flower of nice form. A richly-coloured C. Mendeli, named Rosea superba, came from H. Little, Esq.; and a paler-coloured variety, named superba, from Mr. Wiggins.

With Show Pelargoniums in pots, Mr. Little and Mr. Turner secured all the prizes that were awarded, and Mr. Waite, gardener to Col. Hon. W. P. Talbot, Glenhurst, Esher, secured the only prize awarded for Zonals. For a dozen cut blooms of Show varieties Mr. Turner was well first; Mr. Little's gardener, second; and Messrs. Cannell, third. But with the same number of Zonal varieties the last-named firm stood well ahead of the other prize-winners, Mr. Waite and Mr. Hill. A very fine stand of a dozen Pinks, from Mr. Turner, took the leading award in that class; and Mr. James Douglas, gardener to F. Whitburn, Esq., took the first prize for six varieties. The prizes offered in open classes for Gloxinias, Exotic Ferns, and Palms, brought out no competition; and in the amateur's classes for the same subjects Mr. Chadwick, gardener to E. M. Nelson, Esq., Hanger Hill House, Ealing, was the only exhibitor. The cut Rose classes, however, brought out some very fine blooms, and a fair number of them. With twenty-four single trusses in a strong class Messrs. Paul & Son, Cheshunt, came in first, showing, amongst others, superb examples of Ulrich Brunner, Etienne Levet, Souvenir d'Elise Vardon, Madame Prosper Langier, and La Duchesse de Morny, &c. Mr. J. House, Peterborough, was a good second, and Mr. Turner a close third, stands from Mr. G. Prince, Oxford, and R. E. West, Esq., Reigate, being commended. With a dozen Teas and Noisettes, Mr. Prince, always strong in similar classes, was well to the front, again winning first honours with a stand of lovely blooms, conspicuous among which were Comtesse Nadaillac, Alba rosea, Madame Lambard, Anna Olivier, Mons. Furtado, and Marie Van Houtte. Mr. House was second, and Messrs. Paul & Son, third. In the amateur's class for twelve Roses, three blooms of each, T. H. Girdlestone, Esq., Sunningdale, beat the

Rev. J. H. Pemberton, Havering, Romford, with a first-rate box of flowers. For twenty-four varieties of Pyrethrums, Messrs. Kelway & Son were a long way first, showing a superb stand of flowers, loosely arranged bunches of fine flowers of each variety, and such flowers! Godiva, pure white, a perfect gem; Progress, rosy-crimson; Diana, rose tipped with yellow; Ajax, deep crimson, and light centre; and J. M. Twenty, deep crimson with lemon centre were especially fine; but these were not all—there were others as good, the names of which, however, we were unable to read. The second and third prizes went to Messrs. Paul & Son, and Mr. F. Hooper.

The new plants certificated were as follows:—To Messrs. Veitch & Sons for Olearia macrodonta, a very handsome, hardy shrub, with bold, lanceolate, toothed leaves, silvery beneath, grey-green above, and producing an abundance of dense, compact heads of small creamy-white composite flowers; for Styrax Japonica, also an exceedingly fine hardy plant, with small dark green leaves, and a profusion of small, drooping, Snowdrop-like, white blossoms; for the new hybrids, Thunia Veitchii and Masdevallia Gairiana. To Mr. H. Bennett, Shepperton, for a new seedling Tea Rose, Princess Beatrice, a beautifully-shaped flower of good size and substance, pale straw-yellow in colour, with apricot centre. To Mr. R. Dean, Ealing, for the Rocket Candytuft, Empress, a very fine variety, with stout stems breaking out into four to six heads of large white flowers. To Sir Trevor Lawrence, Bart., M.P., for Anguloa Ruckeri, a fine specimen with a number of large flowers, brown and dull orange outside, deep crimson with yellow spots within; and for Cymbidium Parishi, a species with beautiful waxy-white flowers, with a yellow blotch and a few red spots on the labellum. To Mr. Wiggins, gardener to W. Clay, Esq., for Pelargonium Thisby, a good decorative variety, white, with a maroon blotch edged with violet on the upper petals. To Messrs. F. Sander & Co., for Odontoglossum Alexandriæ var. Johnsonianum, a fine variety of a violet-tinted ground colour, and heavy dark chocolate-red blotches; for Odontoglossum mulus Brymerianum, a very pretty variety of good size and form, with fine broad sepals, petals, and lip of a rose-tinted ground colour, and light chocolate-red blotches; for O. mulus Germinyanum, a large yellow ground flower, with long, wavy, margined sepals and petals, blotched with deep bronzy-red; and for O. elegans Aliciæ, an exceedingly pretty form, white, profusely spotted with Chestnut-red, and the lip long and pointed. And to the New Plant and Bulb Co., Colchester, for Eremurus aurantiaca, a handsome herbaceous plant, with a long spike of golden-yellow flowers.

At the meeting of the Fruit Committee, Messrs. Paul & Son, Cheshunt, received a First-Class Certificate for the Pauline Strawberry as an early variety. It is a French variety, raised by Dr. Morère, and certainly cannot be called handsome, being oblong and corrugated, with a long neck, but is of good colour, and, besides being early, is a good bearer. Messrs. Sutton & Son's prizes for a brace of Melons brought out only three competitors, and Mr. James Douglas took the first with the same varieties as carried him to the front last week at Regent's Park—Hero of Lockinge and Scarlet Premier. Mr. H. Eldridge, The Gardens, Chesterfield Park, Saffron Walden, with Hero of Lockinge and Masterpiece, was second. In the competition originated by the same firm for six distinct varieties of Lettuce, the competition was also on a limited scale. Mr. Waite, gardener to Col. Talbot, won the first prize easily, with good samples of Sutton's Superb White and Green, Dunnett's Victoria White, and Veitch's Exhibition White Cos varieties, and two Cabbage varieties. Mr. Mead, gardener, Beckett Park, Shrivenham, was second. The new Melons shown included Mr. B. S. Williams's white-fleshed Harefield Grove, and Mr. Iggulden's Marston House, a round, nicely-netted, white-fleshed variety.

Scottish Pansy Society.—The forty-first annual exhibition of this old society of Scottish Pansy fanciers was held in the Waverley Market, Edinburgh, on the 19th inst., and proved another success, the number of entries being about 300—an increase upon last year. Messrs. R. B. Laird & Sons, and Messrs. Dickson & Co., kindly lent collections of plants to assist in decorating the tables, besides showing Pansies and Violas in considerable numbers and fine form. The President's Gold Medal, which is given to the competitor who takes the greatest number of prizes, was won by Mr. Black, of East Calder, who in the amateurs' and open classes secured a large number of awards. Three of the leading prizes, open to lady members of the Society only, were won by Mrs. D. P. Laird, who had the best arranged table-glass of bedding Violas, the best six small glasses of bedding Violas, and the best-arranged basket of Fancy Pansies; and the prize for the most novel and most tasteful design in Pansies or Violas went to Mrs. Pelkman. Amongst nurserymen competing in the trade classes, Mr. John Sutherland, of Lenzie, and Messrs. Dickson & Co., took the leading honours, the first-named exhibitor maintaining his well-earned reputation by showing the best two dozen Show and Fancy Pansies respectively. Mr. Alexander Borrowman, of Beeslack, among practical gardeners, secured the highest honours in the classes for eighteen, twelve, and six Show Pansies; and Mr. Andrew Borrowman was first with eighteen Fancies, while the highest award for twelve went to Mr. R. Stewart. There was a strong competition in the open classes, the leading winners being Mr. Black, Mr. Dick, Mr. Sutherland, Messrs. Dickson & Co., and Mr. Geo. Ross. Among the Fancy varieties, the most popular sorts appeared to be May Tate, James Grieve, William Dick, Mrs. Jamieson, Miss Bliss, Mrs. M. H. Miller, Lady Wolseley, Bessie Campbell, William Dean, David Findlay, Mrs. John Downie, and Mrs. Welsh. Of Show varieties we may note Archibald Rolland, Bella Hannah, Paragon, George Ross, Mrs. Ross, as being specially fine and well represented. The bedding Violas of Messrs. R. B. Laird & Sons and Messrs. Dickson & Co., who were respectively first and second for twenty-four varieties, were exceedingly fine all round, such popular sorts as Countess of Kintore, Countess of Hopetoun, Queen of Crimsons, and Pantaloon being especially well represented. First-Class Certificates were awarded to Mr. J. Hampton for Fancy, Miss Darling; to Mr. W. Dick for Show, Miss Brooks; to Mr. J. Black for Fancy, James Craig; to Messrs. Dickson & Co. for Fancy, Miss Grieve; to Mr. Thomson for yellow self, Maggie Thomson; to Messrs. Dobbie & Co., Rothesay, Mrs. Lyle; white Fancy, commended Mrs. Maxwell.—(*Communicated.*)

INSECTICIDES.

Of insecticides any number of substances have been recommended, and many of them tried with more or less satisfaction. Of these may be mentioned lime, sulphur, soot, salt, wood-ashes, corrosive sublimate, naphtha, naphthaline, turpentine, alum, carbolic acid, phenyle, cyanide of potassium, blue vitriol, ammonia, alkalies, benzine, vinegar, sulphuric acid, quassia, vitriol (the sulphate of copper), hot water, &c. Most of these may be safely used for specific purposes, either dry, in liquid, or in vapour; but the three most useful insecticides of general application in use during the early days of economic entomology in this country, and up to within a few years, were undoubtedly tobacco, white Hellebore, and soap. Tobacco-water and tobacco-smoke have long been employed against aphides and other delicate insects, and are most useful. A quite recent advance in its use is by vaporising. The vapour of nicotine is most effectual in destroying insects wherever it can be confined, as in greenhouses. Thus the boiling of tobacco in such a greenhouse is as effectual as, and less injurious to the plants, than the older methods of syringing with a decoction, or of fumigating by burning; while experience by Mr. William Saunders at the Department of Agriculture, during the past two summers, shows that the vapour gradually arising from tobacco-stems strewn on the ground, and regularly moistened, is likewise effectual.

White Hellebore, either dry or in liquid, has long been one of the most satisfactory insecticides against Tenthredinid larvæ, otherwise known as false-caterpillars, of which the imported Currant-worm (Nematus ventricosus) is a familiar type; while soap, syringed in strong suds, will kill some soft-bodied plant-destroyers, and when used as a paint on the trunks of trees, is an excellent repellant against the parents of different borers.

Transcending in importance, however, any of these older insecticides are the three now most commonly used because most satisfactory. They are:—(1) arsenical compounds, (2) petroleum, and (3) Pyrethrum. The first act through the stomach, and are effectual chiefly against mandibular insects; the second and third act by contact, and are, therefore, of more general application, affecting both mandibular and haustellate species.

The use of arsenic as an insecticide in the field dates from the year 1871. At the rate of 50 grains of arseniate of soda and 200 grains of dextrine dissolved in a gallon of water, and this diluted at the rate of about 1 oz. to 10 gallons of water, it furnishes one of the cheapest of insecticides at command, and various patented combinations of it have been extensively sold and used. Again, 1 lb. of arsenic and 1 lb. of sal-soda boiled in 1 gallon of water till the arsenic is dissolved, and diluted at the rate of 1 quart to 40 gallons of water, is also a good formula. The chief merits of arsenic are cheapness and solubility. Its demerits are its white colour, which makes it liable to be mistaken for harmless substances of the same colour, and its tendency to burn the plant. Paris green, or Scheele's green, has been more extensively used than any other arsenical compound, and is, on the whole, one of the most satisfactory insecticides. I first used this poison against the Colorado Potato-beetle (Doryphora 10-lineata) in the summer of 1868, but owing, doubtless, to the use of an inferior article, reported adversely upon it (*First Report on Insects of Missouri for* 1868, p. 116). George Liddle, jun., of Fairplay, Wis., experimented with it the same summer, and with one part of the green to two of flour found it eminently satisfactory (*American Entomologist*, i., p. 219); and from the time he announced his experience —May 25th, 1869—in the Galena, Ill., *Gazette*, the green became rapidly popular against the Doryphora. I first recommended it in 1872 for the Cotton-worm, and its use gradually extended to other leaf-eating insects, until hundreds of tons have been sold for insecticide purposes in a single year. It is used dry with various diluents, as ashes, plaster, flour, &c., at the rate of one part of the green (if pure) to twenty-five up to one hundred parts of the diluent. Flour as a diluent has the great advantage of causing greater adhesiveness and permanence. In liquid suspension Paris green can be used at the rate of 1 lb. to from 40 up to 100 gallons of water. The liquid should be kept constantly stirred, and a little dextrine or other substance added to give adhesiveness is an advantage.

A refuse obtained in the manufacture of aniline dyes, and known as "London purple," is the third important arsenical compound that I will mention in this connection. It consists of lime, arsenious acid, and carbonaceous matter, and was first used by me against the Cotton-worm and other insects in 1878, and more fully and thoroughly in 1879. It is used with diluents, either wet or dry, in the same manner as Paris green; while for some insects experience has shown it to be less satisfactory than Paris green, for many others it is equally effective, and has the great advantage over Paris green of being vastly cheaper (costing on an average but five cents against sixty cents per pound); of covering twice the ground, weight for weight; of being more soluble, less poisonous, more adhesive and permanent in its effects, and of decided colour, so that when intelligently used it is in all ways preferable.—*C. V. Riley, in American Entomologist.*

ANSWERS TO CORRESPONDENTS.

Names of Plants.—*R. W. M.*—1. Ceanothus azureus; 2. Pyrus arbutifolia, probably; 3 Viburnum Opulus; 4. Limnanthes Douglasii.—*X. Y.*—1. Antennaria margaritacea; 2. Helianthemum (not in flower); 3. Send when in flower; 4. Veronica spicatum.—*J. M.*—Weigela rosea, one of the finest hardy flowering shrubs now in bloom.—*W. B. G.*—Coronilla glauca.

Cooper's Patent Protection Syringe.—I purchased one of these syringes at an "Uncle's" recently, and am so well pleased with it, especially as a spray-producer, that I am anxious to get another one. I have failed to do this through the ordinary channels, and shall be glad if anyone can give me the address of the maker.—*G. S.*

Tea Seeds.—*T. B. O.*—Fill ordinary cutting-pots up to within 1 in. of the surface with good ordinary potting compost. Press the seeds down level with the top of the soil, give a good watering, and cover with ¼ in. of moss or cocoa-nut fibre refuse. No heat is required at this season to induce them to germinate, if good.

Communications Received.—E. W.—J.—R. G.—G. T. M.—H. W. W.—X. Y.—J. A.—W. E. G.—H. B.—S. M. (Many thanks.)—J. S.—W. B. G.—G. S. O.—J. D.

LONDON SEED TRADE.

June 24th, 1885.

MESSRS. HURST & SON, seedsmen, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small attendance at to-day's market. A few orders are received for Mustard and Rape, which are selling at rates current last week. White Clover is quoted higher owing to reported injury by cold weather to the new crop. Bird Seeds sell slowly, rates unchanged.

COVENT GARDEN MARKET.

June 25th

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6- 6 0	Pine-apples, Eng., lb.	2 0- 4 0
— Nova Scotian, per barrel	-	—St. Michaels, each	3 0- 7 0
Grapes, per lb.	2 0- 4 0	Kent Filberts and Cobs, per 100 lb.	-
Melons, each	2 0- 3 6	Strawberries, per lb.	0 6- 1 6
Peaches, per doz.	3 0-10 0		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Horse Radish, bundle	3 0- 5 0
Asparagus, English, per bundle	6 0- 8 0	Lettuces, Cabbage, per dozen	2 0-
Beans, French, per lb.	- 2 0	— Cos, each	0 6-
Beet, per dozen	2 0- 3 0	Mushrooms, p. basket	1 0- 2 0
Cabbages, Spring, doz.	1 6- 2 0	Onions, per bushel	5 0- 7 6
Carrots, per bunch	0 6-	Parsley, per bunch	0 6-
Cauliflowers, English, per dozen	4 0- 6 0	Radishes, per dozen	1 6-
Celery, per bundle	1 6- 2 6	Small salading, per punnet	0 4-
Cucumbers, each	0 6- 1 0	Spinach, per strike	2 0-
Endive, French, per dozen	2 6- 3 6	Tomatos, per lb.	1 6-
Garlic, per lb.	0 6-	Turnips, per bunch	0 6-
Herbs, per bunch	0 2- 0 4	Young Carrots	1 6-
		Young Turnips	1 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lily of the Valley, 12 bunches	0 3- 0 9
Anemone, 12 bun.	1 6- 2 0	Marguerites, 12 bun.	3 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Narcissus, various, doz. bun.	-
Azalea, 12 sprays	-	Pæony, 12 bunches	5 0-12 0
Bourvardias, per bun.	0 9- 1 6	Pelargoniums, per 12 sprays	0 6- 1 0
Camellias, 12 blooms	-	—scarlet, per 12 sprays	0 4- 0 6
Carnations, 12 blooms	1 0- 3 0	Pinks, various, 12 bunches	1 0- 4 0
Chrysanthemums, 12 bunches	-	Primula, double bun.	1 0- 1 6
— large, 12 blooms	-	Primulas, Chinese, bun.	-
Cyclamen, doz. blooms	-	Pyrethrum, 12 bun.	2 0- 4 0
Cineraria, per bunch	-	Rhodanthe, 12 bun.	6 0- 9 0
Day Lily, 12 bunches	6 0- 9 0	Roses (coloured)	2 0- 4 0
Epiphyllums, 12 blms.	-	Roses, indoors, p. doz.	1 0- 3 0
Eucharis, per dozen	3 0- 6 0	Roses, per dozen bunches	4 0- 9 0
Gardenias, 12 blms.	1 0- 4 0	Spiræa, 12 bun.	0 0- 9 0
Heliotropes, 12 sprays	0 6- 1 0	Stephanotis, 12 spr.	2 6- 4 0
Hyacinths, Roman, doz. sprays	-	Tuberoses, per dozen	0 6- 1 0
Iris, 12 bunches	4 0- 9 0	Tulips, per doz.	-
Lapageria, white, 12 blooms	2 0- 3 0	Violets, doz. bun.	-
Lapageria, red, 12 blms.	1 0- 2 0	— French, per. bun.	-
Lillium candidum, 12 blooms	1 6- 2 0	— Parma, per. bun.	-
— Longiflorum, 12 blooms	3 0- 6 0	White Jasmine, bun.	-
Lily of the Valley, doz. sprays	-	Woodroffe, 12 bunches	-

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, per dozen	6 0-24 0	Genista, per dozen	-
Arum Lilies, per doz.	6 0-18 0	Heaths or Erica, var., per doz.	12 0-42
Azalea, per doz.	-	Hyacinths, doz.	-
Balsams, per doz.	6 0- 9 0	Hydrangea, per doz.	9 0-18
Begonias, per dozen	4 0-12 0	Ivy Geraniums, per dozen	3 0- 6 0
Bouvardias, dozen	9 0-18 0	Lilium longiflorum, per doz.	18 0-36 0
Calceolarias, per doz.	6 0- 9 0	Lobelias, per doz.	4 0- 6 0
Cineraria, per dozen	-	Marguerites, per doz.	9 0-18 0
Cockscombs, dozen	4 0- 6 0	Mignonette, per doz.	4 0- 6 0
Cyelamens, doz.	-	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargonium, per doz.	6 0-18 0
Deutzia, per dozen	-	Pelargoniums, scarlet per dozen	3 0- 9 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	6 0- 9 0
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	-	Rhodanthe, per doz.	6 0- 9 0
Evergreens, in var., per dozen	6 0-24 0	Spiræa, per dozen	9 0-12 0
Ferns, in var., dozen	4 0-18 0	Stocks, per dozen	3 0- 5 0
Ficus elastica, each	1 6- 7 0	Tropæolums, per doz.	3 0- 6 0
Fuchsias, per doz.	6 0-12 0		
Foliage Plants, various, each	2 0-10 0		

Bedding Plants, in variety, 8*s.* to 16*s.* per hundred.

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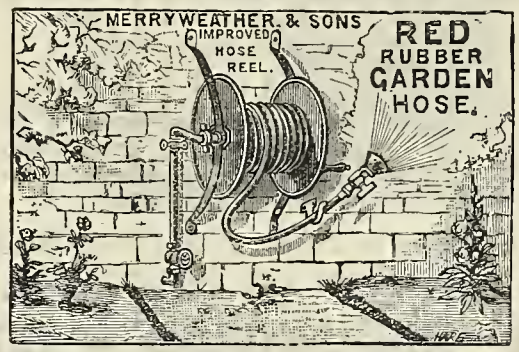

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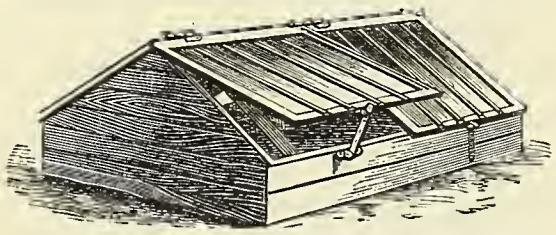

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6 ft. long, 4 ft. wide ...	Packing cases free.	2	15	0
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The glass is nailed and puttied in.

THE GARDENS, BURGHLEY, STAMFORD, September 11th, 1884.

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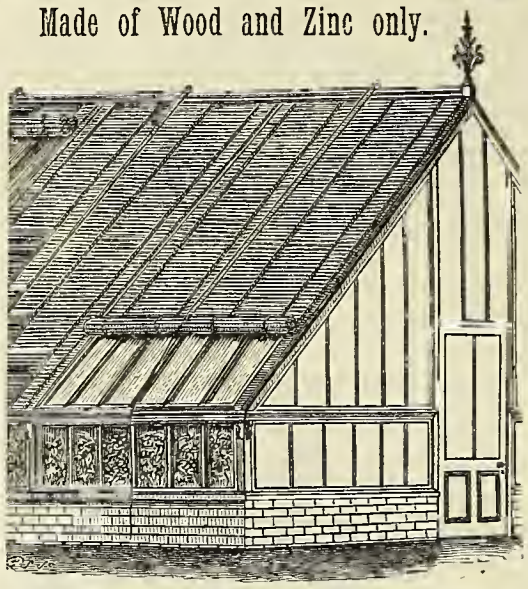

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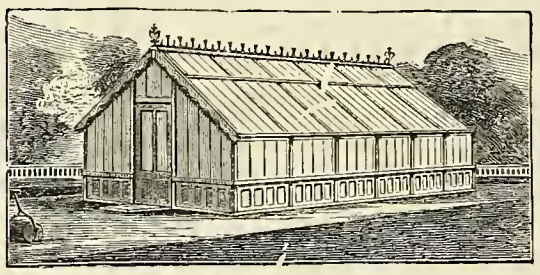

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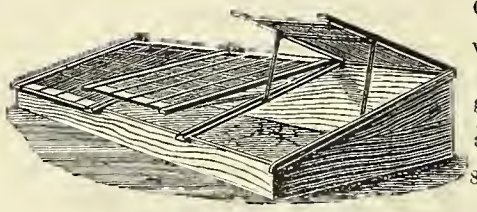

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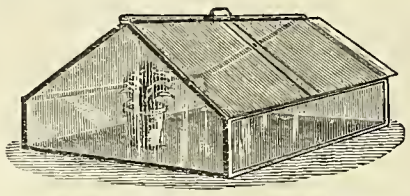

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THE GARDENING ILLUSTRATED WORLD

No. 44.—1885. SATURDAY, JULY 4TH. { Registered at the General Post-Office as a Newspaper. } ONE PENNY.

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Royal Horticultural Society.

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The Gardening World.

SATURDAY, JULY 4TH, 1885.

Cauliflowers.—Evidence of the admirable work being done at the Royal Horticultural Society's Gardens, Chiswick, was shown at South Kensington, at the last meeting, when Mr. Barron sent for exhibition some sixteen assumed kinds of Cauliflower, lifted from the open border and placed in pots, that the public might see for themselves how far attempts at proving the distiuctness or identity of assumed kinds of garden products were being honourably conducted. There were at least a dozen diverse appellations given to the now well-known Early Snowball or Dwarf Erfurt, the forms differing slightly only, although could large plots of each have been grown, probably the diversities seen on this occasion would have been even less evident.

The type is not only very early in heading, but is very dwarf, and has straight, smooth leafage. It was first introduced into commerce here under the name of Snowball, having been imported from Denmark. Presently, it was also found under the designation of Extra Early Erfurt, and at home found many aliases, each seed firm offering it giving it a diverse appellation. Curiously enough, samples from some prominent seed firms were lacking in the Chiswick collection, but of the dozen so sent and grown, it was as evident as daylight that all were absolutely identical. Such a trial as this should show those gardeners who are ever ready to "crack-up" the early Cauliflower of some firm or another, that the thing exists under a score of appellations, and that when they praise one assumed kind at the expense of some other one that is after all identical, they are but exposing their own ignorance. Still farther, when it is stated that some three or four kinds, or rather diverse-named kinds, of the same thing are being grown, and that one is much earlier than the other, it is plain that praise of that sort is concocted to suit a purpose.

What we have so strongly to deplore in the case of these most interesting and instructive trials thus conducted at Chiswick, is that their results are not widely published. We read in the annual report of the Council of such and such things being tried during the year, and such announcements are always dwelt upon when the value of the Society is being emphasised, but what would enhance the importance of the Society so much, and specially its Chiswick gardens, would be the fullest publication in the horticultural press of the results of the interesting trials of all the subjects grown there, that the garden public might be edified. In this instance, for example, but for the fact that Mr. Barron thoughtfully sent samples of these Cauliflowers to South Kensington, we might never have been one bit the wiser.

Added to the first early dwarf type were examples of the next earliest in season, Early Paris and Early London only just turning in, whilst Walcheren and Stadtholder even later had not begun to show flower at all. The seed of all these kinds were sown at a given time, January 19th, and the plants were all put out on April 17th, a period of three months, showing that no heat was given, and that the fullest opportunity was afforded to each kind to display its true character.

Stephanotis Culture.—There are few gardens in which may not be found plants, large or small, of that very beautiful and serviceable climber, Stephanotis floribunda. We have seen them in various sizes and conditions of culture, and have very often heard the expression of satisfied approbation that the plants were quite clean and free from insect pests. There exists, no doubt, in many quarters an impression that the Stephanotis is a very difficult plant to cultivate healthily, an impression which some writers help to continue when they describe in language of the most florid kind the dangers or ills to which the Stephanotis is heir, and the remedies needful to keep it clean and healthy.

Notions of this sort sometimes receive rude usage at the hands of the sturdy matter-of-fact cultivators who grow things for market sale, and special evidence of this capacity to sponge out errors from the records of remedial culture was shown the other day when visiting that interesting establishment at Twickenham where Messrs. Hawkins and Bennett produce such enormous quantities of flowers. There is to be seen a long, low house devoted absolutely to Stephanotis. It is 100 ft. long and 10 ft. wide, and gives a roof area absolutely and completely covered with the plant growth of 600 square feet. The plants, of various ages, are grown in huge pots and much larger slate tubs, in soil which suits them admirably. The shoots are trained along wires that run lengthwise through the house some 9 ins. apart, and are now almost crowded, so much so that, looking upon the plants from above, it is hardly possible to see between the foliage and bloom so thickly set.

The whole of the growth is taken down, thinned, and cleaned once during the winter months only, and cleansed, too, with nothing stronger than water. No powerful recipes for the destruction of bug and scale are employed, for the simple reason that pests of this sort seem to be unknown. Of course the walls of the house are white-washed, the lights which form the roof cleaned, and, if need be, painted, as also the wood-work. The wires along which the plants are trained only receive special treatment, these and the small leaden wire ties used to train the growth being cleansed with some strong disinfectant, which destroys all egg germs, if any exist. The use of these very supple leaden wire ties no doubt assists to keep off scale and bug largely, as such ties present no holding or cover for the insects; still farther they are soft as the finest of raffia, and are employed with rapidity and ease.

When we saw this house of Stephanotis the other day it had been producing bloom for six weeks, and at that time was wonderously full of flower, indeed could count be given at the end of the season of the dozens of bunches of flowers taken off our readers would no doubt marvel at the quantity. These flowers we saw in process of preparation for market, and are sold in what is technically termed dozens, though seventy-two flowers constitute the dozen, which means in this case twelve trusses of six blooms. These gathered in bunches and counted are set stem downwards very compactly into flat punnets, each holding six or twelve bunches, as the case may be, and then wrapped in the usual soft blue paper, placed in boxes, and sent to market. Many dozens of these baskets are purchased by the packers and sent on to the north, whilst others are distributed over the best bouquetists' shops. The plant's season of bloom is from May till October. Prices per dozen vary from 3*s*. 6*d*. to 6*s*. 6*d*., according to season and demand. A top light lifted in the house emits a perfume that is almost overpowering, yet most delicious.

Market Pelargonium Flowers. — Whilst very famous in the London market for their justly celebrated and exceedingly fine strain of Lilies of the Valley, in the culture of which none can excel them, and also in the production of Maiden-hair Fern, of which notable Adiantum a vast quantity of fine plants are grown for the production of fronds, Messrs. Hawkins and Bennett, of Twickenham, devote the larger portion of their very roomy houses to the production of Zonal and other kinds of Pelargonium flowers, the bulk of which are gathered for market, although, as the season advances, many hundreds of the older plants go away to play their part in the production of colour in some furnishing or decorative effort.

As the production of bloom goes on all the year round, we see at Twickenham what can hardly be shown elsewhere, houses ever gay in colour from Zonal Pelargoniums solely. Vesuvius is still a strong element in the production of bloom. Many kinds produce finer flowers, but none are more amenable to winter treatment. In the spring, when bloom is abundant, the Vesuvius-house, 200 ft. long and some 20 ft. wide, is from end to end literally a blaze of scarlet. The plants are chiefly in the ordinary 48-sized pots, and, the best soil obtainable being employed, the growth is good, but of course for winter blooming it is needful to afford the plants some period of summer and autumn rest to ensure that end. De Lesseps is another very favourite kind, a grand scarlet, and one of the best of its class. Brighton Gem is another good kind, these being single sorts grown in bulk. Of pink varieties Master Christine, so free and so constant, still holds sway.

Some few good salmon kinds are also grown, but the next strong feature is found in the single whites. Madame Vaucher is now set aside altogether in favour of such new and distinctive kinds as Queen of the Whites, the very best white Zonal in cultivation, petals large, rounded, and giving a perfect pip. It has a dwarf, free habit, and makes a first-class pot plant. Niphetos is another good kind, the flowers rather loose it is true, but very freely produced, and of the purest white hue. Eureka, Queen of the Belgians, and Jean de Arc, are also largely grown. Of double kinds the best white is La Cygne, a capital free-blooming sort, the finest double white out. The finest scarlets are F. V. Raspail and King of the Doubles, and the finest of pink-flowered kinds the popular Madame Thibaut.

Several of the best double Ivy-leaved varieties are also largely grown, but whilst these, as the single kinds, are cut in trusses and bunched for sale, the double Zonal blooms or pips are gathered singly into small paper bags and sold in dozens or larger quantities, as the case may be. Those purchased by the bouquetists are wired, and then worked into button-hole bouquets and similar uses. Every single-flowered pip is set with a drop of gum before bunching. That work is performed by experts in a warm shed, and so thoroughly is it performed, that any one petal held between the finger and thumb will suspend an entire bunch. But for such manipulation, vast quantities of the flowers would be spoiled ere they reached the market.

Long wide houses are occupied by thousands of plants for the production of these flowers, and still the demand is increasing, both for them and Maiden-hair Fern, hence new houses are about to be erected. This market establishment is always worthy a visit, for the ways and workings of growers of this class differ somewhat from those of ordinary gardeners.

Gardening Miscellany.

Flower Shows for Next Week. — *Tuesday:* National Rose Show at South Kensington.—Ealing, Acton, and Hanwell Horticultural Society's Show at Gunnersbury.—Louth Rose Show (two days). *Wednesday:* Royal Caledonian Horticultural Society's Show at Edinburgh (two days).—Sutton Rose Show. —Flower Show in Montpelier Gardens, Cheltenham. —Wimbledon Horticultural Society's Show.—Lee, Blackheath, and Lewisham Horticultural Society's Show. *Thursday:* Hereford Rose Show.—Norwich Horticultural Society's Show. *Saturday:* National Rose Society's Exhibition at Manchester.—Sidcup Flower Show.

We understand that Mr. Henry R. Newport, late of the Board of Trade, has been appointed Assistant Secretary of the Royal Horticultural Society.

Messrs. James Carter & Co., of High Holborn, have been awarded four Silver and six Bronze Medals for the produce of their seeds at the Agri-Horticultural Exhibition held at Kandy, Ceylon.

At the annual Cherry sales held in Kent, last week, there was more than the usual competition, and high prices were realized. The Cherries on one estate alone are reported to have fetched £1,700.

Mr. J. Muir, who was formerly gardener to Sir Philip M. de Grey Egerton, at Oulton Park, Cheshire, and for the last three or four years gardener to the Earl of Hopetoun, died at Hopetoun House, Queensferry, near Edinburgh, on June 16th.

The Nottinghamshire Horticulture and Botanical Society's annual exhibition will be held in Mapperley Park, on July 23rd, 24th, and 25th.

On Thursday next, Messrs. Protheroe & Morris will sell the collection of stove and greenhouse plants which belonged to the late J. Jackson, Esq., at Eltham Park, Eltham, Kent.

Owing to failing health, the extensive market gardening establishment of Mr. Davies, at New Lodge, Whetstone, will be brought to the hammer at an early date.

The plant of Odontoglossum vexillarium which Mr. Douglas exhibited at the last show of the Royal Botanic Society bore 200 blossoms. Seven years ago it was only large enough to fill a small 60-pot.

Mr. H. G. Jones has been engaged to succeed Mr. Taylor as gardener to Madame Patti, at Craig-y-nos Castle, Glamorganshire.

Mr. James Welsh, of the firm of James Dickson & Son, nurserymen, Edinburgh, died somewhat suddenly, at Erickstone, near Moffat, on the 18th of last month. Mr. Welsh was well known in the trade, and his early death is deeply regretted.

The Wirksworth, Derbyshire, Rose Show will take place on the 23rd inst.

The last number of *The Journal of Horticulture* contains the result of an Auricula election in which some thirty growers took part. The greatest favourites in each section appear to be—Green-edged: Prince of Greens (30), and Col. Taylor (29); Grey-edged: Geo. Lightbody (30), and Lancashire Hero (30); White-edged: Acme (28), and Smiling Beauty (26); Selfs: C. J. Penny (20), Pizarro (20), and Blackbird (20). The figures represent the number of votes recorded for each.

The leading Floral attraction at the Royal Botanic Society's Evening Fête was a grand group of Orchids lent by Mr. J. T. Peacock.

Under the cumbrous title of The Farmers' and Gardeners' Mutual Aid Association, a society is in course of formation to supply dwellers in London and other large towns with fruits and vegetables. The Association, of which Mr. A. D. Cripp, 50, Parliament Street, S.W., is the secretary *pro tem.*, is intended primarily for the benefit of farmers and gardeners in the south-western districts of England served by the London and South-Western, and London, Brighton, and South Coast Railway Companies. But if it prove successful, it is capable of application to other districts. The object aimed at is to bring the producer in the country into more direct communication with the consumer in the metropolis, by means of an agency controlled and managed by a combination of producers and consumers, with a view to the advantage and the profit of both.

GARDENS ROUND ECCLES.

Leaving Ellesmere Park (see p. 661), and passing through Swintonfields and its well-wooded park, stretching to Irlams-o'-th'-Height, we gained the picturesque village of Eccles, and requiring refreshment for the inner man, entered a shop opposite the venerable old church, on which there is a signboard, which tells us that "This is the old original Bradburn's shop never removed," for the sale of that toothsome confection called Eccles Cake. Famous have these cakes been, and famous are they still apparently, for we hear of fabulous quantities being sent out to various places, even to the Antipodes. We were told, as we ate our cake, that formerly, at the wakes and Whitsun ale jountings, and for Mid-Lent Sunday fêtes, they had to begin making for two months before the time, to get stock enough in hand for the retail trade alone.

We then proceeded viâ the Eccles Old Road towards Manchester, through a district which may be said to have been a floral paradise in June. First came the Apple blossom, followed by golden festoons of Laburnum, dark green Hollies, laden with myriads of white blossoms, Lilacs, with thousands of flowers, Horse Chestnuts, double and single Thorns of all kinds, from white to bright scarlet. Then came the Rhododendrons and Azaleas, which, with a grand backing of noble trees, such as common, copper, purple, and Fern-leaved Beeches, Turkey and other Oaks, Mountain Ash, common Ash, Sycamore, and many others, have made this road—Eccles Old Road—a lovely sight, one of the most beautiful, perhaps, in this or any other county. The gardens are also diversified in design and arrangement, and one of them is pre-eminent for its valuable collection of Rhododendrons of all the best kinds. But the place we are in search of is

Fair Hope, the residence of Mrs. Thos. Agnew, whose garden is in charge of Mr. William Elkin, well-known as one of the best of gardeners. It is a pleasure to visit Fair Hope at any time of the year, but perhaps the very best times are when the Cœlogynes or the Deutzias are in bloom. Of the latter, may be seen plants nearly 3 yds. in diameter, and sheets of white blossoms. After flowering, all the blossom sprays are cut off with a pair of scissors, the plants are then pushed on in heat to make growth, and gradually ripened off in the Peach-houses, and afterwards placed in the open air. Early in the autumn the plants are got under shelter and subsequently brought on as wanted.

The Cœlogynes are worth a day's journey to see. One pan, about 15 ins. in diameter, last season bore over 2,000 blooms, and a gentleman who saw it declared he would gladly give £50 for a similar specimen. There seems to be nothing particularly novel in the treatment they receive; they are simply kept near the glass, shaded with thin canvas from the hot sun, and they grow and bloom magnificently.

On the lawn we note a fine young purple Beech, with some coloured Thorns as companions, and as the grass would not grow under the trees, Mr. Elkin has planted the space with the common Saxifraga umbrosa, or London Pride, and it is found to answer well. Another troublesome corner under the shade of a Horse Chesnut tree, and which was long an eye-sore, he has made beautiful with the aid of a few rough stones laid rockery fashion, and some common Aucubas and hardy Ferns, and very fresh and pretty the corner looked. In the shrubberies the Rhododendrons were in fine bloom, among them being such fine varieties as Mrs. Thos. Agnew, Duchess of Bedford, Duchess of Connaught, and John Henry Agnew. Here, planted on the grass, is a specimen of Yucca recurva, 5 ft. high, throwing up a spike of flowers which is already over 3 ft. long, and still growing. The shrubs round the house comprise large masses of golden variegated Euonymus, 3 ft. or 4 ft. high, and as much in diameter, golden Retinosporas, and other variegated plants, intermixed with Rhododendrons. One part of the lawn is very prettily undulated, and a grand old Ash bole some 14 ft. in circumference having lost all its branches is being covered with Ivy.

As we enter the houses we note overhead a profusion of the white and rosea superba varieties of Lapageria. The Azaleas are just over, but the stoves are full of good things, both flowering and ornamental. Stephanotis covering a roof is full of bloom and in great demand; indeed flowers are required in large quantities, and it is surprising how so many can be cut three times a week and the houses yet be kept so gay. Vanda tricolor and tricolor superba were in grand flower; and sweet-scented Rhododendrons, variegated Yuccas, and Crotons are much used. In another part of the gardens are some grand examples of Camellias, some of them planted out. Waterer's strain of Polyanthuses is much favoured here for cutting from in spring to mingle with Narcissus blooms. Roses are in constant demand; some three or four houses are devoted to them, and it is "a joy for ever" to see them when in full bloom; they literally grow like willows.

We cannot stay to write of the Tomatos, Cucumbers, Grapes, Peaches, &c.; but note one other change which Mr. Elkin is making, viz., doing away with some of the mixed herbaceous beds, and filling them in with masses of Lilies, such as L. Chalcedonicum, L. candidum, and others. Mr. Elkin has found out during the past winter that the showy Coreopsis grandiflora, so useful where cut-flowers are in demand, will not live without the protection of a frame in this climate, and like the writer, he has unfortunately lost his stock.—*N. J. D.*

OCHNA MULTIFLORA.

In the spring of 1884, Mr. B. S. Williams put in commerce a plant which, when first exhibited, created something like a sensation among the lovers of curious and beautiful plants, and of which it may be said, that the more it is known the more it is appreciated. This is the singularly beautiful Ochna multiflora, a stove shrub which produces its yellow blossoms in profusion in early spring. The flowers are produced singly from the branches, and in a few days after their perfect development the stamens fall, and the calyx assumes the form of a large fleshy receptacle, of a bright strawberry-red colour, on which the seeds form from three to five together. These are green when young, but assume a rich dark plum colour as they acquire age, when the combination with the red receptacle has a very pleasing effect.

The plant has a neat habit of growth, and as the fruits keep bright for several months, and quite young plants produce them freely, no wonder that it is eagerly sought after for stove decoration. It likes a good compost made up of good turfy loam, leaf-soil, and sand. Its habit is well shown in the accompanying illustration, for which we are indebted to Mr. Williams.

THE VICAR'S GARDEN.

There is a plan pursued here in the formation of clumps of Rhododendrons which might be followed with advantage in many other places. The most usual method is to make up a bed of soil and plant the Rhododendrons at short distances apart, which leads to some at least of the plants in a short time being cramped and spoilt for want of room, and besides renders the formation of a collection of these shrubs more expensive than it need be. Here they are planted in groups of six or seven on the grass, at distances apart which allows ample room for them to develop into good plants before they touch each other, and having the carpet of grass around them, they have not the isolated appearance which they would have at the same distance apart on the bare soil. During the flowering and growing period they are immensely benefited by copious waterings in dry weather.

As the season progresses, it is interesting to notice the marvellous amount of variation in the growth of the occupants of the hardy flower garden. In early spring the major portion of the flowering plants are bulbous-rooted, and the prevailing colours yellow and white; now we have fibrous and tuberous-rooted plants with the greatest diversity of colour, the most conspicuous tints being scarlet, crimson, and purple. Foremost and brightest in colour are the Giant Poppies, which vary considerably, no two plants being exactly alike; one without the usual dark blotch is far brighter and richer in colour than the rest. Not so gaudy, but more beautiful, are the herbaceous Pæonies. Here they have ample room to grow, and

are shown off to the best advantage; and they amply repay a little extra labour. The colours range from pure white through various shades of pink to purple and deep crimson; some are deliciously scented, and all are valuable when cut for decorative purposes. These and the Papaver orientale are of too large a growth for small places, and they are poor things when starved and cramped, but superb when well done.

The Giant Poppies scattered about the garden brightens up the place, as the red coats of our soldiers do a crowd on a gala day. Next come the Pyrethrums, which should be grown by everybody, for however small a garden may be, room could be found for some of them. They will grow anywhere and in any soil, but at the same time they well repay any extra care. Their greatest enemies are the slugs, and where these abound, a sharp look out must be kept or they will eat them all up. They are in full flower now, and if cut over when past flowering, generally produce a second crop of blooms in the autumn. The double-flowered varieties are first favourites here, but the single ones are very useful for vase decoration. A few of the best among doubles are Captain Nares, Delicatissima, Duchess of Edinburgh, Emile Lemoine, La Belle Blonde, Princess Metternich, Progress, Rembrandt, Viscountess Cardwell, and Mdme. Boucharlet; these with Pæonies and Delphiniums are the most plentiful flowers in the garden just now. There are also some German and Spanish Irises in plenty, some of them very beautiful, and were they only Orchids would meet with more admirers than they do now.

The better varieties of Foxglove are fine plants for back rows or scattered about among shrubs. How is it that these often do so badly when planted in the same spot a second time? Dictamnus fraxinella and D. fraxinella alba, two of the oldest and best of our hardy border plants, are not so plentiful as they might be; they will live in the same spot for generations, but all attempts at dividing them fail. They can be readily raised, however, from seeds sown as soon as ripe. Cover the seeds with 1 in. of soil, keep the ground clean of weeds till the young plants appear in the April following, and the next season they may be transplanted anywhere. It is of the utmost importance that the seed be sown fresh, for if kept any time, not one in a hundred will germinate. Were it not for this peculiarity, the plant would most assuredly be more plentiful than it is.

Among the other plants in flower and deserving of notice are Cistus florentinus, Gaillardias, Vibernum plicatum, Spiræa Aruncus, a fine back-row plant; Spiræa palmata, S. Ulmaria variegata, Orchis foliosa, Cypripedium spectabile, Campanula muralis, fine clumps, C. pulla, Rosa rugosa, Allium neapolitanum, Menziesia polifolia, M. polifolia alba, Daphne cneorum, a real gem among hardy trailing plants; Anthericum liliago major, Asperula odorata, Leptospermum prostratum, Caltha palustris flore-pleno, and Verbascum Phœniceum, which, scattered about among other thiugs, proves useful in providing contrasts. There is a plant here also, 5 ft. high, of Coronilla glauca, which has stood out without the slightest protection during four winters. It is one of the very first plants grown in the greenhouse which I learnt the name of, yet seeing it here flowering profusely in the open air, I could hardly at first be certain as to its identity. If it can be depended upon to do as well everywhere, it ought to find a place in all collections of hardy shrubs.

We are all congratulatiug ourselves on the abundance of Holly Berries, such a crop of which is very seldom seen; but what about the Oaks? Many of those look very miserable. I cannot find any insects. Is it the sudden change from heat to cold, and the early morning frosts that have given them such a starved appearance? I have for several years past noticed the withering up of the points on the young Pear-tree shoots, and have always been at a loss to account for it. It has taken place here under such varying conditions of temperature that it cannot result solely from the action of frost; generally it is confined to a few trees, which are affected in the same way almost every season. Are they scalded by the sun shining out suddenly in the middle of the day after a shower, or does the mischief arise from the roots?

There is a pleasant custom springing up in some parts which is well worthy of being followed. I allude to the practice of allowing neighbours, whether rich or poor, to walk round the garden on Sunday afternoons, some confining the privilege to a month or six weeks during the height of summer, others extending it throughout the whole year. So far as I can learn, those who have been so generous as to throw open their gardens have had nothing to complain of, and the opportunity of walking through a good garden, if only of moderate dimensions, is a great boon to many of those whose own gardens are of the most limited extent. We cannot all have large gardens ourselves, but many of those who have would, by following the good example set by some, do much to brighten and cheer the lot of those less fortunately situated than themselves. In towns and suburban districts, some regulations would be necessary, but in villages the gardens might be thrown open to all who conduct themselves respectfully, and very few will be found to avail themselves of the privilege who are not orderly in their behaviour. —*W. B. G.*

OCHNA MULTIFLORA: FLOWERS YELLOW, SEEDS PLUM-COLOURED.

Wild Celery Seed.—The wild Celery seed of Chesapeake Bay, on which the ducks and geese feed, giving the flesh the delicious flavour so much prized by epicureans, is the curious water plant known as Vallisneria spiralis. This plant is among one of the wonders of vegetable life, and always entertains the studious. The leaves are long and grass-like, and the minute flowers have the sexes in separate flowers. At the time of flowering the thread-like flower stalks rise to the top of the water. The male flowers cast their pollen on the surface, and it floats along till caught by the female flowers. The male flowers die after shedding the pollen, but the little female with its embryo seed vessel draws in the flower stalk as if it were a spiral spring, down to the base of the plant among the grassy leaves, where it remains till mature. It is rare for even the botanist to get to see a seed vessel, and, as one might suppose, one is only to be obtained at all under some difficulty.—*Gardeners' Monthly.*

SCOTTISH GARDENING.

Notes on Hardy Flowering Plants.—Where there is a desire to have a display of showy and useful flowers during spring and the early summer months, it can be easily accomplished, and for the growth of many kinds the cooler and later the district the better will be the display, and the longer will the plants continue in flower. The nature of the soil, and state of its cultivation, has also much to do with their successful cultivation. Heavy clay land when only turned over one spit deep gives a short season when drought prevails, such as was the case last year, at this time; and we are barely exempt from suffering by drought at the present time. Where a proper system of trenching and careful preparation of the land has taken place, the difference of growth is very remarkable. We never had better opportunities for proving the fallaciousness of the practice of surface tilling than at present. We often have to do the best we can with the labour and means at our command, and do that which we would avoid were adequate means allowed to do justice to the plants.

Whatever classes of plants may be cultivated, it is always essential that provision for free and healthy root action should be made. Never having had such ample means at our command as at present, we should certainly be blameworthy did we neglect to do justice to the cultivation of the land. It sometimes happens, when one is pressed with a quantity of plants out of the soil, and lateness of the time of planting, that the amount of cultivation due to the ground cannot be given. We will give, as an illustration, the benefits derived from deep trenching for shrubs and trees to shut out buildings from view, to provide shelter, and to yield a good supply of flowers on the same space. Selections of suitable plants were made, and the ground (a damp, tenacious clay) was to have extra care and attention. To raise the surface above the ordinary level some 3 ft., great quantities of material were required. Ashes at no great distance were plentiful, so trenching began, and each trench was filled up with them, leaving a depth of about 3 ft. of the clay resting high and dry on the mass of ashes. The work of planting was followed up closely; some hundreds of shrubs and trees being chosen. The kinds selected for flowering, to mix with a few tall-growing trees, were Laburnums, Cratægus, Brooms (white and yellow), Golden Elders, Berberis, St. John's Wort, Cotoneasters, Ribes, Ligustrum japonica, Lilacs of sorts, Double Gorse, Mezereons, Wiegelias, &c. These and some others, mixed with a fine collection of Rhododendrons, and a choice assortment of Evergreens with remarkable foliage, give a display of colour and beauty during spring and summer, such as would attract the attention of the most casual observer.

It is worthy of notice that the plants placed on the deeply-trenched soil have made more than double the growth of those which were planted on the same kind of soil which was only turned over one spade deep. All had light soil added at planting time, which was carefully mixed and placed round the roots. We have been where we had to put trees and shrubs in large quantities into the solid ground, which was a red clay, and no digging afterwards allowed. Under such conditions plants may live—these did, but two or three seasons had to elapse before a start into fresh growth was made. It is not uncommon for inexperienced proprietors to look upon the proper manipulation of the ground, where planting is being done, as labour and time lost. The makeshift system is false economy with a vengeance.

Flowering plants of another class at this season, which we have placed in clumps in vacant spaces among shrubs, have given much pleasure, both for cutting and for clothing what would otherwise have been vacant ground. While we can cut our Orchids, Eucharis, Gardenias, Stephanotis, &c., among stove plants, and there is a large host of New Holland shrubs which produce flowers during spring, besides the almost innumerable variety of plants which are forced for cutting, we have felt sure when packing these in quantity for transit that the homely flowers from the open ground were not inferior to the gems from under glass, but quite on a par with them. The perfume of many of the hardy flowers is, in our opinion, not surpassed by any exotics we know of. The Wallflowers, for example, have a very rich perfume; Polyanthus, Primroses, Auriculas (of the finer kinds), and Violets, have qualities which render them favourites everywhere. They can be grown easily and well in the most untoward positions; but they well repay any extra attention afforded them. In cool positions they stand longer than when more exposed to sunshine; strong moist soil (when drained and enriched) suits most of these well, and great quantities of many kinds can be raised by a few shillings' worth of seed.

In the herbaceous ground there is no lack of beautiful flowers, even at this early season. Where cut-flowers are much in request a collection of herbaceous plants is of immense value. To get the full benefit of them, attention must be paid to the preparation of the soil by deep cultivation and enriching. Rotted turves and leaf-mould, where such can be had, give fine healthy support to this kind of plant; rank manure induces gross growth, but is not conducive to abundant inflorescence. Keeping each kind free from their neighbours, not chopping off pieces and burying them, thorough cleanliness by removal of weeds, &c., frequent surface stirring, staking in time to prevent breakages, and watchful attention to trapping and destroying slugs and other vermin are some of the simple requirements of a herbaceous ground. The best of gardens without such an auxiliary as a collection of herbaceous plants are very incomplete. Rather than have a collection for mere novelty, we would prefer a selection of the kinds which would be useful for cutting, and be attractive in the ground. Great numbers of herbaceous plants might, with much satisfaction, be confined to the Alpine ground—or wild garden—if such a thing existed. Rockeries, as they are called, are too often burlesques, and only fit to be ranked among things of the past. Imitations of nature are rarely seen among masses of stones, roots, &c., which are huddled together; and where we have had such under our charge we endeavoured to cover the whole surface with plant life as far as we were able, and at the present time where a space has during the last few weeks been filled here with such an erection we are cramming every cranny with plants.

Herbaceous grounds are seldom formal, and a few such plants (of dwarfed proportions) as Retinosporas, Myrtle-leaved Laurels, Double Cherries, Laburnums, Golden and Silver Hollies, &c., which are not insignificant in winter, as well as at the present time, in company with Irises, Pyrethrums, Tritomias, Pæonies (some of the new double kinds are sweet-scented), Spiræas, Dielytras, and others such as we have on a large border which was a little over a year ago the abode of Nettles and Docks growing in great luxuriance.

The gayest of all plants at the present time are the Violas and Pansies, and the variety of colour in this class is very great. Some of the newer strains are so strong in the flower stalks that they can be cut for room decoration, and last for a considerable time. A packet of seeds which we received from a nursery friend for trial yielded plants which are beginning to flower. The colours embrace almost every shade, and partake more of the fancy Pansy class. These already offer to be something new, and as yet none are worthless; they were sown in early spring and planted out in rich, well prepared soil. It is often said that Bedding Pansies are only fit for cool northern districts. It is true they do best where the power of the sun is not allowed its full strength on them; but it is well known that much of the most successful Pansy-growing known in England has been far south. In the neighbourhood of Bath, for instance, we have seen them in great abundance, and flowering almost continuously. We found them great auxiliaries to the usual bedding plants, and when a young stock is propagated annually, and planted on thoroughly well-prepared ground to allow the roots to get away from the surface heat and drought, a floral display can be had from Pansies longer than almost any other flower.—*M. T.*

New Potatos for Market.—Messrs. James Lyburn & Sons despatched from Maypole Station, on June 23rd, twenty barrels of early Potatos, being the first from Ayrshire this season. They were grown by Messrs. Lyburn on their own farm, Balchriston, where they have 100 acres ready for market, mostly raised on the box system introduced by them into Ayrshire several years ago.

SELECT HARDY PERENNIALS.

(*Continued from p.* 679.)

Catananche cærulea.—Among hardy plants this is one of those which needs no care, so to speak, as it takes care of itself when once planted, by seeding freely, and seedlings invariably spring up in numbers in the vicinity of the plants which flowered last season. Though numbered among very old-fashioned flowers, it must not be overlooked, nor must it, since it seeds freely, be regarded as a weed. It is a useful plant for cutting, and lasts a long time in this state; its flowers are produced in great profusion through June and July, and I strongly recommend the plant for the herbaceous border. Besides this kind, which has large blue flowers the size of a crown piece, there is another called bicolor, which is equally useful and free. These usually attain not more than 2 ft. in height, and may be well grown in ordinary garden soil.

The Centaurea, or "Perennial Corn Flower."—A useful free-flowering and effective group of perennials growing 18 ins. high, and producing numerous spikes of flowers from amidst compact tufts of woolly leaves; very hardy, and very showy among border plants just now. The best kinds are C. montana, blue; C. montana alba, white, invaluable for cutting or for market purposes; and C. montana rubra, with rosy-red flowers, thus providing the "red, white, and blue" of the British flag in one group.

Cheiranthus Cheiri luteus plenus.—This name is too long to be used in ordinary conversation, and a much easier and more appropriate one is the "old Double Yellow Wallflower," by which popular name the majority, if not all, of the readers of The Gardening World will recognize, not only a very old acquaintance, but an universally admired plant; a plant, too, which at one time was common, but has now become scarce, though with pleasure I make the observation that it is finding its way into cottage gardens again. I have grown it in quantity, and had some fine plants, but none which I have seen equalled a specimen I met with a short time since, and which was fully 3 ft. high, and as much through. It occupied a centre bed fronting a cottage, and was one mass of bloom. Its powerful fragrance caused me to look around to find from whence it came, and as I took a parting glance, I thought I had never before known what double Wallflowers were—it was indeed very fine, and I shall not easily forget it. Then there is the old double purple, which is equally as valuable, but still rare, indeed difficult to obtain true, a brownish-flowered kind being substituted for it. These all delight in warm, sunny, somewhat dry positions, and in such spots will continue to flourish for years; they do not, however, like a cold or clayey soil. While speaking of doubles, I must not forget a variety, the acquaintance of which I made some time since at Belvoir, and of which Mr. Ingram speaks very highly. It is more compact in habit, and produces dense pyramidal spikes of yellow flowers, possessing, if memory serves me rightly, the fragrance of the Violet. I do not think it is named, or in commerce; it came originally from Wardie Lodge, Edinburgh, where it was much prized by the late Miss Hope. Cuttings of these may now be had in plenty, and to ensure success they should be stripped off the parent plant with a heel attached, and dibbled in sandy soil at the back of a north wall, or in any shady and cool position; these will form roots more freely than if placed in handlights or cold frames. They cannot endure much moisture about the tops when in a cutting state, and they are capable of enduring far greater hardships with impunity when located in the walls of old ruins and the like than they are in a rich border soil.

Passing from the doubles, I will for a moment call attention to two of our finest spring bedding-plants, the single Wallflowers, Cheiranthus alpinus and C. Marshalli. These both form compact tufts of leaves close to the ground, and are admirably adapted for spring gardening, for massing, for the rockery, or the border. The former is covered with fragrant sulphur-coloured flowers, and the latter with those of an orange shade. These may also be increased in the way I have named above, both kinds growing from 6 ins. to 9 ins. in height, and thus making serviceable spring plants, which only require to be more widely known.

Chrysobactron Hookeri.—A most interesting and showy perennial, having long linear leaves and dense spikes of yellow flowers about 1 ft. or 18 ins. high; it prefers a cool, somewhat shady spot, and grows well in light saudy and peaty soils; flowers in July.

Coreopsis lanceolata.—This is not only the best of this family, but certainly one of the best of all hardy plants. It grows 2 ft. 6 ins. high, and its flowers, which are bright golden yellow, are 3 ins. across, and produced in the greatest profusion during the summer mouths. It is indispensable among really choice free-flowering perennials. It is a plant, too, which needs no special culture, but will thrive in most garden soils. It is easily increased by division, and also by seeds and cuttings; the latter, however, must be taken before the plant begins to flower.

Corydalis nobilis.—"The Noble Fumitory" is a most handsome plant, delighting in partial shade. It grows to the height of 1 ft. when established, produces rich golden-yellow flowers early in spring, and is a plant which, though generally supposed to be a lover of peat, I have grown equally well in rich loam, which must be well drained; it prefers abundant moisture in the growing season.

Crucianella stylosa coccinea.—A neat plant of trailing habit, having large globular heads of crimson flowers, the general appearauce of which remind one of the Pimeleas among hard-wooded plants. For a large rockery, for edgings, for sloping banks, or the like, it is very useful. It is of free growth, and easily rooted from cuttings.—*J.*

INSECTICIDES.

Petroleum, in its various forms, has long been recognized as one of the most effective iusecticides in our possession, all oily substances being particularly deadly to insects. Unfortunately, they are also injurious to plants, and one of the problems the solution of which I have had in mind for many years has been their use in such dilutiou as to kill the insect without injury to the plant. Refined kerosene has been used to a limited degree by forcible attenuation in water and spray, while some plants withstand doses of the pure oil. But the safe and general use of kerosene for the purpose under consideration dates from the year 1880. Of the various substances used in attempts to emulsify and mix kerosene with water none are more satisfactory than soap and milk, both being everywhere accessible and cheap. Milk was first suggested in 1880 by Dr. W. S. Barnard, while carrying on experiments for me against the Cotton-worm, and subsequent experiment, especially by another of my assistants, Mr. H. G. Hubbard, has given us the simplest and most satisfactory method of makiug the emulsion quickly and permanently. An emulsion resembling butter can be produced in a few minutes by churning with a force-pump two parts of kerosene and one part of sour milk in a pail. The liquids should be at about blood-heat. This emulsion may be diluted with twelve or more parts of water to one part of emulsion, thoroughly mixed, and may be applied with the force-pump, a spray nozzle, or with a strong garden syringe. The strength of the dilution must vary according to the nature of the insect to be dealt with, as well as to the nature of the plant; but finely sprayed in twelve parts of the water to one of the emulsion it will kill most insects without injury to the plant. An equally good emulsion may be made as follows:—

Kerosene, 2 gals.; common soap, ½ lb.; water, 1 gal. Heat the mixture of soap and water, and add it boiling hot to the kerosene. Churn the mixture by means of a force pump and spray nozzle for five or ten minutes. The emulsion, if perfect, forms a cream, which thickens on cooling, and adheres without oiliness to the surface of glass. Dilute with cold water before using, to the extent to which experience will indicate is best.

The simplest discoveries are often the most valuable, and this discovery of so simple and available a means of diluting, *ad libitum*, oil with water is important and far-reaching in its practical application.

Pyrethrum.

Pyrethrum roseum, a plant native to the Asiatic countries south of the Caucasus Mountains, and Pyrethrum cinerariæfolium, a native of Dalmatia, have long been known to possess insecticide properties, especially in the powder from the dried and pulverized flowers. The powder, sold under various names by druggists, was chiefly used against household pests, however; and though Mr. C. Willemet, as early as 1857, in France, and Mr. William Saunders, in 1879, in Canada, tried it in powder form on some that are injurious to plants, its importance as a field insecticide did not appear till 1880, when, in prosecuting the work of the United States Entomological Commission, we discovered that it could be used in liquid solution. Both species proved to be hardy throughout the greater portion of our country, and Mr. G. N. Milco, of Stockton, Cal., has for some years cultivated cinerariæfolium quite extensively at great profit, the product being sold under the name of "Buhach." The insecticide property dwells in a volatile oil. It acts only by contact, and its action on many larvæ is marvellous, the smallest quantity in time paralysing, and ultimately killing. Its influeucc in the open air is evanescent, in which respect it is far inferior to the arsenical products; but being perfectly harmless to plants, it can frequently be used on vegetables where the more poisonous substances would be daugerous.

Pyrethrum is supposed to have no effect on the higher animals, but that is a mistake, as my own recent experience is that the fumes in a closed room have a toxic influence, intensifying sleep and inducing stupor; while the experience of Professor A. Graham Bell with the powder copiously rubbed on a dog showed that the animal was made sick and was affected in the locomotive organs very much as insects are. The wonderful influence of this powder on insects has led me to believe that it might prove useful as a disinfectant against fevers and various contagious diseases by destroying the microzoa and other micro-organisms, or germs, which are believed to produce such diseases. It should be tried for that purpose. It is remarkable that these two plants of all the many known species of the genus should alone possess the insecticide property.

Bisulphide of Carbon.

Of all insecticides to be used against root-feeding or hypogean insects, naphthaliue, sulpho-carbonate of potassium, and bisulphide of carbon are the chief. Dr. Ernst Fischer, in a recent work, has shown that naphthaline in crystal may be satisfactorily used underground, destroying by slow evaporation. But bisulphide of carbon still holds the first place in France agaiust Phylloxera vastatrix. It is conveyed beneath the ground at the rate of one-half to one kilogram per Vine by special injectors, or by more complicated machinery, drawn by horses. I believe that petroleum emulsions will supersede it as an underground insecticide, and prove to be the best we have, cheapness, safety, and efficiency considered. After the discovery of a satisfactory insecticide, however, various important problems must be solved, and particularly how to apply it to greatest advantage, having safety to man and stock, harmlessness to plant, and economy in mind. The solution of these points, and others that the peculiar habits of the insect to be controlled involve, brings us to the question of mechanical contrivances and appliances; for while much ingenuity has been exhibited in devising mechanical means of directly destroying noxious insects without insecticides, it is chiefly in the proper application of these last that the greatest mechanical advances have been made, both in this couutry and in Europe.

It will already have been gathered, from what has preceded, that the chief insecticides are applicable in liquid form, and as liquids have an advantage over powders iu field use, instruments for atomising and distributing liquids constitute the most important part of insecticide machinery. The desiderata in a spray-nozzle are, ready regulation of the volume to be thrown; greatest atomising power, with least tendency to clog; facility of cleansing; cheapness, simplicity, and adjustability to any angle.

What has been described and illustrated in my late official reports as the eddy or cyclone nozzle, consists of a small circular chamber with two flat sides, one of them screwed on so as to be readily removed. Its principal feature consists in the inlet through which the liquid is forced being bored tangentially through its wall, so as to cause a rapid whirling or centrifugal motion of the liquid which issues in a funnel-shaped spray through a central outlet in the adjustable cap.—*Prof. Riley, in American Entomologist.*

ALSTRŒMERIAS.

It is only rarely one sees a thoroughly effective group of Alstrœmerias, and yet they represent an exceedingly beautiful and profuse genus of tuberous-rooted plants of easy growth, and though once grown in hot-houses because it was thought they required this treatment, they have now come to be regarded as perfectly hardy in many districts if planted at a suitable depth. All the species and varieties have one uniform mode of upright growth, and they do best in a free rich soil, the subsoil of which should be well drained. Under a south wall, for instance, they flourish admirably, blooming from May until August.

There is a remarkable growth of Alstrœmerias at Gunnersbury Park, Ealing. They were planted on both sides of the south entrance to the large square vinery in the rear of the gardener's house, and in all probability having been well treated in the first instance they have done admirably, and have so increased themselves by extending their roots under ground, and also by seeding, that they now form two large groups. Unfortunately, they frequently fall a sacrifice to late spring frosts; but this season they have been spared any disfigurement in this way, and they are just now flowering finely and brilliantly. A good mulching with dung is given the plants every autumn, and this serves as some protection in spring, while it nourishes them during the summer.

The roots of Alstrœmerias are largely grown in Holland and other places, and imported to this country in August and September with other bulbs. They can be had in separate varieties, or in mixture, and with but few exceptions they are not expensive. The roots should be planted from 6 ins. to 9 ins. deep; deep planting is essential to their well-being, while it places the bulbs out of the reach of harm from ordinary frost, which if it reached the roots in the soil would do them great injury. Thus we see the advantage derived from the mulching given to the plants by Mr. Roberts. Once planted they are of no further trouble beyond keeping the soil free from weeds, and giving protection in winter. It is not uncommon for these to produce seeds, and shedding them upon the ground, increase in this way as well as by root-extension beneath. They grow from 2 ft. to 3 ft. in height.

There is one remarkable fact about the Alstrœmerias, that they retain their beauty as cut-flowers in water longer than most plants, rivalling that longest preserved, perhaps, of all cut-flowers, the Gladiolus, which will continue to expand its buds while in water.

Botanists have observed in the Alstrœmeria a strong tendency to variation; and such a race of varieties have been obtained from two or three prolific species, that it is now difficult, indeed, to draw a distinction betweeu species and varieties. Originally, there came from Chili a small group of species, such as Aurantiaca, orange, streaked with red; Chilensis or Hœmanthos, blood-red, very fine; and Versicolor, variously coloured. A few good and distinct varieties that are obtainable are as follows:—Pelegrina, large heads of purple flowers, beautifully striped; Pelegrina alba, pure white; Peruviana, a very distinct plant, and admirably adapted for any moderately dry border; it grows about 2½ ft. in height, and bears heads of flower varying from deep crimson to light rose, spotted and splashed with distinct shades; Psittacina, crimson, splashed with green and orange; Pulchella, white, striped with red; aud Tricolor, beautifully marked with white, cream, and yellow. Mr. T. S. Ware grows a large collection in his nursery at Tottenham, where they can now be seen in flower; and it may be added, that so popular are the Alstrœmerias becoming for cut purposes, that large quantities are grown for supplying Covent Garden Market with cut-flowers.

The peculiar formation of the roots of Alstrœmerias do not fit them for pot-culture; the long-bundled or fasciated roots are too much confined in pots, and require larger space for free development. Where the soil is unsuitable, a fitting compost can be obtained by mixing loam, peat, and sand together, using the largest bulk of the former. The border in which they are planted should be drained, and thus it is that a natural slope suits the plants. They do well also on a gravel subsoil, and it matters not how open and sunny the spot may be. I know of no common name for the Alstrœmeria. It may have one, but I am unacquainted with it.—*R. D.*

The Amateurs' Garden.

THE GREENHOUSE.

Atmospheric Moisture.—The great difficulty that presents itself at this season in the management of the greenhouse is to keep up a sufficiency of atmospheric moisture to maintain the plants in health and freshness of leaf and flower, which can only be done by sprinkling with water the floor or under part of the stage two or three times a day, according to the state of the weather.

Roof Climbers.—These will require thinning and regulating, but the less training they have the better, as it gives them a stiff appearance, and in no way do they look so well as when growing loosely, depending from the rafters in their own natural manner, and especially is this so with Passion Flowers and Tacsonias, which are adapted for that mode of culture. As these and other roof-plants will now be making active demands on the roots, the borders should be well soaked and then left till they become moderately dry again, except in the case of Lapagerias, which only do well when they are kept constantly watered at this season, and until they have done blooming late in the autumn.

Primulas and Cinerarias.—The best place for these at this time, and on through the summer, is a common garden frame, placed somewhere in a cool shady spot, and the floor made or covered with coal ashes to keep out the worms. On this the plants should be stood thinly and sprinkled regularly overhead every afternoon, which will refreshen the foliage and keep the atmosphere damp. To prevent drawing and induce a sturdy habit plenty of air is necessary both night and day, which is best afforded by tilting the lights at the back, as then all draught is avoided.

Chrysanthemums.—Plants of these that are being grown for furnishing purposes, and are required dwarf, may now be stopped for the last time by nipping out the points of the shoots, but in cases where the object is to produce fine flowers the shoots must be allowed to run as they are, and the plants receive their final shift, giving them good rich soil, and potting somewhat firmly, and as soon as this is done the plants should be stood on boards or pieces of slate to prevent the ingress of worms. To shade the pots there is nothing better than loose straw pushed among them, which is preferable to plunging in any close material, but if they are plunged the pots should only be dropped half way, or the plants are apt to get too wet at the roots.

Pelargoniums of the show and fancy kinds are fast losing their beauty, and as soon as the flowers fade the plants should be stood in some sunny spot outdoors, and kept rather short of water, which will bring on a gradual ripening of the wood, and as soon as this becomes fairly hard the shoots may be cut back to within the last three or four joints, and the tops used for cuttings. These strike freely put in under handlights on any half-shady border, and they also strike readily dibbled in in the open.

THE FLOWER GARDEN.

Watering. — The season for summer - flowering plants is but short at best, and therefore every care should be taken to assist them in their growth so as to get the beds filled and covered as quickly as possible, or the autumn will be here before they get well into bloom. What will help them more than anything is frequent watering, if the weather sets in dry, for as yet their roots have not got far away from the balls into the new soil, and till they ramify further the plants are not in a position to take care of themselves. Mulching is one of the greatest aids towards this, as it prevents rapid evaporation, and thus conserves the moisture, so that when a watering is given it tells, and instead of being taken out, it soaks down and remains in the ground till it gradually drains off below. Perennials of nearly all kinds, and especially such things as Larkspurs, Phloxes, and others of that class, are greatly benefited by the same kind of attention, and it will do them much good if they now and then have a soaking of liquid manure.

Staking and Tying.—To keep the spikes and flowers erect and prevent damage by wind, staking and tying will be necessary from time to time, but for small growing subjects, like Pinks and Carnations, it is better to use brushy twigs, such as Birch, which can be stuck around the plants quickly and made to afford the requisite support, and not only do they answer this purpose well, but the flowers they hold up are available for cutting without any bother of getting them loosed.

Roses.—Those who would have fine blooms of these must mulch the ground with half-rotten dung and not be at all sparing with liquid manure, which however should not be given strong, but weak and often, and in sufficient quantity to get well down to the roots. To ease the plants as much as possible, let them be looked over frequently and have all faded blossoms removed, and if there are no more buds on the shoots to open, they should be shortened back a little, soon after which they will break and flower again in the autumn. These remarks apply more particularly to Perpetuals, as the climbing Teas and Noisettes require different treatment, and that is to lay the young growths in, or let them run full length, but as they are subject to mildew and aphis, they will need watching, and if the former shows itself, a dusting with sulphur will stop it, and tobacco-powder or liquid will soon kill the green-fly.

Budding Roses.—Those who have Briers and who can do their own budding, will find this a good time to begin, as the bark runs freely now, and the buds are plump and ripe enough for taking off, conditions that go a long way towards ensuring success. The operation of budding is simple enough, but why many fail is in bruising the rind when taking the wood of the bud out, which requires some practice and dexterity, for if the bark is doubled back it turns black soon after and dies away instead of uniting as it otherwise would. The way to bud is first to rub off all spines from the base of the shoot where the bud is to be inserted, and having done this, the next thing is to draw the knife across so as to just cut through the bark, and then with the point make a slit about an inch long up to it, when the sides may be raised and the bud pushed in, after which the top should be snipped off to fit the cross, and the bud tied in by running a piece of worsted or soft darning cotton round two or three times to keep the slit from gaping and hold the bud close.

THE FRUIT GARDEN.

Peaches and Nectarines.—The cold, changeable weather has been much against these, as when they cannot make quick growth, green-fly is almost sure to assail them; but these must be kept down at all costs, or they soon cripple the shoots, and not only injure the trees greatly for this year, but spoil them for next, as they are unable to form and mature the buds, which must have healthy foliage to feed them and bring them up plump. This being so, the points of the infested shoots should be dipped in tobacco-water, or some other insecticide, or dusted with tobacco-powder, and then syringed soon after to wash them clean and knock the fly off, when they may be tied or nailed in at once. Red-spider is also troublesome on Peaches and Nectarines, but what causes these in most cases is letting the trees bear too much fruit, and dryness at the root, by which they suffer through being impoverished. The remedy for this is timely thinning and watering, and in addition, it will be a great help if the garden engine or syringe is brought into play, as red-spider cannot bear frequent wetting, especially if the water is sent at them with force, by doing which their webs are broken, and the young insects washed off the leaves.

Vineries.—Grapes will now be swelling fast, and should have every assistance afforded them by giving the border a thorough soaking with liquid manure, of which Vines seldom get enough, or of water, at this season, a time when the roots require plenty of moisture to meet the demands made on them by the fruit and foliage, from the latter of which it evaporates at a great rate when the sun is hot, and there is air on the house. The proper time to close is between three and four, when the floors and interior should be damped down, but on no account ought the Vines to be syringed, except any that are young and without bunches, as the water is sure to spot the berries and interfere with their colouring. If there are any laterals showing, as there will be from time to time, if the Vines are strong, they should be taken off at once, as they soon overshadow the main leaves, and not only that, but they take away or divert the sap from the Grapes, and thus prevent them getting their full share of food. Young rods may be allowed to run, as the more top they make the more roots they form, and the faster the rods swell; and instead of taking two or three years to come into a bearing state, they will reach that stage in one.

THE KITCHEN GARDEN.

Tomatos will now be moving fast, and must be well looked after in the way of thinning and training of the shoots, the great point in their successful cultivation being to expose the flowers and fruit to the sun and air, without which they do not set and ripen properly, neither will they if the plants become dry at the roots. To avoid having them suffer in this way and prevent them shedding their blooms, the best plan is to lay some half-rotten dung round them, and every few days give a good soaking of liquid manure, but before doing this it should be exposed that it may be warmed, or it will cause a check by lowering the temperature of the soil and thus retarding their growth.

Ridge Cucumbers and Vegetable Marrows will require similar attention; the first-named besides being thinned should have the laterals stopped, one joint above the fruits, and the main leaders pegged out over the ground they are expected to cover.

Seakale.—This is generally left pretty much to itself, but the way to manage it so as to get fine crowns is to thin out and cut away all weak ones now, as well as any flower or seed heads, that the foliage may have plenty of room, and the strength of the plants be concentrated on those left, which will then develope, and reach a large size by the autumn.

Asparagus.—Beds of this that have been cut from late will be much benefited by having a sprinkling of salt and after that a thorough soaking with liquid manure, which should be repeated as often as is convenient during the summer, as without the plants make plenty of top the produce next year will be small. In exposed places the stems often get twisted or broken by the wind, and to prevent this it is a good plan to stake and tie up the strongest and tallest, or to put a few Pea sticks about in the beds, which will afford support and enable the one plant to help hold up the other.

Broad Beans.—The tendency of these in good soil is to run too much to leaf without filling their pods, and to force them to do this the tops should be taken off 6 ins. or so down, which will not only make the Beans swell quickly, but stop the ravages of black-fly and prevent them spoiling the bloom.

Scarlet Runners.—To get these to set freely, liberal supplies of water must be given, and if the sticks are at all short, the plants should be stopped by nipping out the points, which will make them break lower down, and for the chance of a late supply more seed may be sown, and the same with the dwarf French kinds; the most suitable place for putting these now being on a south border, or other sheltered position well exposed to the sun. Parsley is always in great request, and to have a supply during the winter it is a good plan to dibble in a row of young plants close along the foot of a wall or fence, or sow a bed now in a warm spot where it can be protected by placing a frame or some old lights over it to keep away some of the frost.

TRITONIAS.

Allow me to bring to the notice of those who appreciate sterling good things, a plant which has been grown in gardens for several years, but not to such an extent as its merits deserve. This is Tritonia Brilliant, probably a variety of T. crocata, and which bears flowers of a rich orange-scarlet colour. If treated the same as Ixias and Sparaxis, that is to say, potted in 32-sized pots in September, in sandy loam and leaf-soil, with plenty of drainage, putting eight to a dozen bulbs in a pot, and given cool treatment during winter, it will follow the Ixias, &c., into bloom in early summer and yield a supply of flowers for cutting that will prove most valuable. The way to treat

these plants properly is to stand them out-of-doors after flowering in a position where the sun will shine on them for only half the day, and to gradually reduce the supply of water until the foliage dies off. In September repot them and plunge the pots in ashes until winter approaches, when they should be put on a shelf near the glass in a cool greenhouse.—*A Gardener.*

EDWARD TIDSWELL.

In January last we had the pleasure of presenting our readers with what by common consent was regarded as an admirable portrait of the Father of the Gardeners' Royal Benevolent Institution—Mr. John Lee. To-day we are equally gratified in being able to include among our illustrations an equally satisfactory likeness of the highly esteemed Treasurer of the Institution, Mr. Edward Tidswell, who, before this number reaches all our readers, will have presided, and we doubt not most worthily, at its forty-second anniversary festival. Mr. Tidswell, who was born some fifty-two years ago, entered the house of which he is now a partner (that of Messrs. Bollen & Tidswell, 3, Wood Street, Cheapside), in the year 1847, when about fourteen years of age. He commenced his business career as town traveller, and in due time was sent to represent the firm in the provinces, first in the west of England, and ultimately in Manchester, Liverpool, and other northern towns. Step by step Mr. Tidswell, with energy and rare business capacity, won his way to the front, and on the retirement of Mr. Frederick Bollen in 1858, the business merged into the hands of the present partners, Mr. Henry Bollen and the subject of this brief note, under whose more immediate management it is gratifying to know the business has grown and prospered.

Mr. Tidswell, who greatly enjoys the pleasures of horticulture, and maintains an admirable gardening establishment at West Hatch, on the borders of Epping Forest, first became connected with the Gardeners' Royal Benevolent Institution in 1864, and since that time has been one of its most generous supporters. In February 1883, on the death of Mr. Robert Wrench, who had been treasurer of the institution for thirty-four years, Mr. Tidswell was unanimously elected to the office, and of the wisdom of the choice we need say nothing, for that Mr. Tidswell is the right man in the right place, none now deny, and we trust that for many years to come the institution may enjoy the great advantage of the rare business qualities which he brings to bear on the conduct of its affairs.

EDWARD TIDSWELL.
(*Treasurer of the Gardeners' Royal Benevolent Institution.*)

Diplopappus chrysophyllus.—This plant, which is of Heath-like habit, and is seldom seen in private collections, would make a useful subject for grouping in beds. Many dwarf-habited plants lose their entire effect through being dotted among massive shrubs of a similar tinge of colour, whereby their presence is hardly ever noticed except by those who have a keen eye for distinguishing shades of colour. Planted in groups they not only give variety, but they often give distinct tone and character to arrangements, and break the sameness of two or more classes of plants that are nearly allied to each other in formation of leaf and colour. The plant above-mentioned is neat in habit, perfectly hardy, and has a bright golden tinge at the extremities of the shoots which renders it very attractive. It has a small flower truss not unlike the Eupatorium, but unlike many showy plants at a distance, the nearer you come to it the better you like it.—*O. C.*

THE APPLE AND ITS HISTORY.

The cultivated Apple can lay claim to a great antiquity, and it seems to have been scarce at Rome in the time of Pliny, for he states there were some Apple trees in the villages near Rome which yielded more profit than a small farm, and he mentions nine-and-twenty kinds of Apples as being cultivated in Italy. The trees at this early time seem to have required the fostering care of man. Of all the fruit-bearing trees in Italy, Pliny says the Apple is the tenderest and least able to bear heat or cold—particularly the early one that produces the sweet Jeneting.

In our lists of cultivated Apples of the present day, appears one named Joannetting or Juneating, undoubtedly one of the oldest of Apples, but whether it is the Jeneting of a more remote period is doubtful.

Of late years there has been a great quantity of new sorts of Apples added to the list of varieties, but they have not all proved improvements, for, as a modern writer remarks, "Some of our oldest Apples are the best, such as the Nonpariel, the Golden Reinette, Ribston and Golden Pippins: they have been in our gardens for centuries. Pippin Apples were first introduced into England and planted in Plumstead, in Sussex, by Leonard Maschal, in the reign of King Henry VIII. The Nonpariel, according to Gerarde, who published his account of Apples in the reign of Queen Mary, was brought from France in the time of Elizabeth, and first planted in the gardens of Oxfordshire. The Golden Pippin is considered the native growth of England, and is said to have been first reared at Parham Park, in Sussex. Catherine, Empress of Russia, was so fond of this Apple that she was regularly supplied with it from England. Then there is that delicious Apple the Ribston Pippin; it is a native of Ribston Park, Yorkshire. The original tree was raised from a pip brought from France in the year 1688. There is no doubt about this being the original tree, as the suckers produce fruit of the same kind, and such numbers have been propagated from it, that they are now to be met with in almost every garden."

The account of the origin of this Apple, as given in *The Fruit Manual*, is as follows:—"The original tree was first discovered growing in the garden at Ribston Hall, near Knaresborough, but how, when, or by what means it came there, has not been satisfactorily ascertained. One account states that about the year 1688, some Apple pips were brought from Rouen and sown at Ribston Hall; the trees then produced from them were planted in the park, and one turned out to be the variety in question. The original tree stood till 1810, when it was blown down by a violent gale of wind. It was afterwards supported by stakes in a horizontal position, and continued to produce fruit till it lingered and died in 1835. Since then, a young shoot has been produced about 4 ins. below the surface of the ground, which, with proper care, may become a tree, and thereby preserve the original of this famous old dessert Apple."

Pippins are so called because they are raised from seeds and pips, and will come into bearing in five or six years without grafting. The Reinette is a much longer time before it is fruitful. These two are quite distinct, and easy to recognize by their seeds. In the Pippins the seeds or pips have the appearance of a boy's top; the Reinette, on the contrary, has them broad and flat.

"The Pippin should never be grafted on a Reinette stock, for they will not live and thrive on any stock but the race of Pippins. The Blenheim Pippin makes the best stock for this purpose; it is a stronger grower, clean and healthy; and if they are grafted on this sort we should have less complaints of unhealthy trees. The Blenheim is one of our best Apples, but at times an uncertain cropper." So writes an old gardener. In Shakespeare's *Merry Wives of Windsor*, Sir Hugh Evans says, "I make an end of my dinner: there's Pippins and cheese to come." This shows that Pippins were rare at the time of Elizabeth, and thought delicacies for the dessert.

A writer named Bradley, who lived a century or so after Lord Bacon, published a work in 1718, in which he alluded to artificial fertilization as practised, but the process was not very clearly described. But this reached its highest perfection in Thomas Andrew Knight's time, for he benefited his country by raising several valuable Apples, such as the Downton Pippin, Knight's Codlin, Red Ingestre, and others.

Dr. Short informs us that cider was first invented by a Norman, who much admired the flavour of Apples; and there is high medical authority for the statement that cider is very nutritious, and those that chiefly drink it are healthy, strong, and have a good complexion.

The origin of the word "pomatum," which is used for the hair, is said to have been derived from the Apple, for the Old Holborn Gardener says: "There is made an ointment with the pulp of Apples, swines' grease, and rose-water, which is used to beautify the face, and take away the roughness of the skin, which is called in shops pomatum, because it was made from the pulp of Apples."—*Pomona.*

Hæmanthus puniceus. — This plant, which resembles the Rochea falcata in the character of its flowers, but is Lily-like in foliage, would make a good companion for the Rochea by-and-bye. Arranged amongst Ferns or Grevilleas, or with any plants of a deep green, or green shade, it is peculiarly effective. A few such plants for the margins of side stages of greenhouses would be a welcome addition to the general run of things usually found in cool structures in the autumn; and when the brilliancy of flower gardens is on the wane, plants that produce bright flowers will be more in request, and be more enjoyed than at present, while the terrace gardens and parterres are aglow with Pelargoniums and other bright-coloured plants.—*O. C.*

FRUITS.

Fruit Culture under Glass.—Young Vines: These, if planted and subsequently treated as recommended at p. 506, will have made satisfactory progress during the interval. Assuming that the individual Vines have been stopped a couple of times since, and that in each case the laterals resulting from the said stopping have been pinched out as soon as they appeared, thereby causing the latent bud at the base—which, if the laterals had been allowed to grow, as is frequently the case, would not move until next year—to push into growth after the lapse of eight or ten days, the sap in the meantime will be necessarily directed to the development of both stem and buds below. Thus treated, an uniform plumpness of buds is secured the entire length of the rods.

When the Vines so stopped have made a couple of feet of fresh growth, stop them again in the manner indicated, and repeat the operation to the end of the growing season, except in the case of the temporary Vines, which are to be cut down after they have fruited next year. These may be pinched hard at 8 ft. from the bottom of the trellis, but should there be any danger of the buds in the axils of the leaves bursting, a few of the laterals and sub-laterals at the top of each rod so disposed can be allowed to grow to draw off the sap, and thus prevent the fruit buds from pushing into growth.

In order to concentrate all the energies of the Vine in the thickening of the rods and the enlargement and consolidation of the buds proceeding from its base, the lateral shoots springing from the same source must be stopped at the first or second joint, as also should the sub-laterals, and those which may afterwards appear should be pinched close back. These remarks are also applicable to that portion of the Vine between the ground and the trellis to insure thickness of main stem from its base. Better results will be secured from Vines thus treated than would be the case from rods the laterals of which have been allowed to grow uninterruptedly during the previous season with a view to encouraging a corresponding amount of growth at the roots.

I have tried both methods of stopping and non-stopping the shoots side by side on a great number of Vines here a few years since, to prove which one was right, and the result of the experiment was decidedly in favour of the one recommended.

Watering and Ventilation.—Give copious supplies of clear water to the roots every eight or ten days, following with a few tubfuls of liquid manure to each strip of border; syringe the Vines and house generally morning and afternoon at closing time, about four o'clock, and damp the pathways, &c., about mid-day, during bright sunny weather, as much with a view to promoting a growing atmosphere as to preventing the Vines from being attacked by red-spider. Ventilate the vineries freely between the hours of admitting fresh air in the morning (after that which should be put on late in the evening had been taken off for an hour when damping the Vines, &c., at six a.m.) and taking it off in the afternoon, so as to secure a short-jointed and consolidated growth, without which the best results need not be expected from the Vines.—*H. W. Ward, Longford Castle.*

Judging Melons.—At the last meeting of the Fruit Committee, in awarding the prizes offered by Messrs. Sutton & Sons "For the best brace of Melons, to include Sutton's Scarlet Invincible, Sutton's Masterpiece, or Sutton's Hero of Lockinge," the Judges first gave the premier prize to Mr. Fry, gardener, Haydon Hall, Eastcote, and subsequently placed him third only, because, in showing two fruits of one variety—Hero of Lockinge—it was assumed that he had not complied with the intentions of the prize-givers. This, I think, was very unjust treatment, and for the benefit of other Melon exhibitors, it is desirable that some notice should be taken of the case. I fancy that I am not the only one who considers that Mr. Fry was well within his right in showing only one variety if he thought proper, according to the wording of the schedule; and if the Judges thought otherwise, they should have disqualified him, clearly, for if he was not qualified to take one prize, he was equally not entitled to another. Besides, in showing only one variety, Mr. Fry did exactly the same as Mr. Herrin, at the same place, on May 26th, and yet the first prize was awarded to him without question. One or the other must be wrong, which is it?—*An Old Melon Grower.*

FLOWERS.

Work in the Plant-houses.—Pelargoniums: All the early-flowering varieties should now be dried off ready for cutting back, and the earlier this can be done the better, both for the plants themselves and for the sake of the cuttings, which should have the first consideration, as, although the old plants are very useful for some purposes, yet for general work young plants are more desirable. In commencing operations the first thing that should be done is to get all the plants of each sort put together; it will then be easy to see what stock is at hand, and any that do not appear to be true to name can either be discarded or corrected. After this has been done the cuttings may be taken; if plenty of stock is at hand, it is a good plan to put in about double the number that will be required; this will allow for losses in striking, and also for a few of the weakest plants being discarded when they are potted on. The cuttings will root freely in any light sandy soil; very little water should be used until the cuttings are callused. They may be placed in almost any position, but we prefer a cold frame where they can be kept close, as if too much exposed the cuttings will shrivel, especially if they are not well ripened.

Cutting Back the Plants.—It is essential that the plants should be quite dry in the pots when this is done, and we recommend cutting them in close, as nothing is gained by leaving too much wood; in fact, plants cut in hard, generally break best, as the joints are shorter at the base. After the plants have been cut back they should be kept quite dry for a few days, when they may have a slight sprinkle once or twice a day until they begin to break out into fresh growth again, when they will be ready for potting.

Re-potting.—As soon as the plants are ready, that is, just as they begin to break into fresh growth, they should have all the old soil shaken out from the roots, and the roots pruned back a little; the plants may then be potted into smaller pots, the size of which should be regulated according to the size of the plants; in almost all cases they may be put back to one size smaller pots, and in some cases two or three sizes smaller. After they have been re-potted it is best to put them in pits or frames, and water should be used very sparingly until they have made a fresh start, when they will require more moisture, and the plants should be as much exposed as possible.

Toxicophlæa Thunbergii.—This handsome stove plant is figured in the April number of *The Illustration Horticole*. The leaves are bright green, or purplish, when young; and the pure white Jasmine-like flowers are borne in large clusters towards the ends of the branches. It exhales a most delicious perfume. It came originally from the Cape of Good Hope, and requires a rather cool stove temperature.

The White Marguerite.—In replying again to the remarks of "Bellis" on this subject, I do not think it is necessary for me to add much to what I have already stated, as his arguments, with one or two exceptions, are met by those in my recent note (p. 645). But as "Bellis" seems to think he has made a great hit by eliciting what he terms the most important point, viz., my cultural details, I will just say a few words on that point. My former note, from which this discussion has sprung, was never intended to supply the whole of the cultural details, or it would have taken the dimensions of a lengthy article, instead of a short note. I simply gave the outline of the planting-out system because I had seen such beneficial results from it. I am of opinion that there are very few gardeners who would think of lifting such plants without having them previously prepared by cutting around the roots or at least giving them a good watering, and even then I think they would be rather neglectful if they did not take the precaution, after they were potted, to place them in some shady position out-of-doors or in a structure where they could be shaded and kept close for a few days. "Bellis" also very pointedly informs me how unnecessary it is for me to tell him what I did not recommend, but I consider I was perfectly justified in reminding him of it. If he had stated that when plants were wanted solely for winter flowering they were best grown in pots, I should not be so much inclined to dispute it, as what I have written from the first was intended to apply to plants grown for spring flowering at a time when thousands of them are used for furnishing during the London season. But when he asserts that to produce the best results they must be grown in pots, I entirely differ from him, nor shall I be convinced till I have seen better plants grown under the pot system than I have already seen under the planting-out one; and they must be better; if only equal, the labour saved by the planting-out system would be a strong argument in its favour. I was pleased to notice that the very plants I mentioned as having been planted out and lifted for several years, were, on June 9th, exhibited at the Royal Horticultural Society's meeting, and were awarded a Silver Medal. And I find, on referring to The Gardening World, p. 653, that these plants are described as being from 4 ft. to 5 ft. in diameter, and profusely bloomed. It was also added that they were much admired. I think I can fairly claim that if such plants were worthy of the high honour accorded to them, they are well worth cultivating for flowering at that season of the year, notwithstanding the remark of "Bellis" that Ox-eye Daisies are so common then.—*H. Dunkin.*

Double Cinerarias.—Double Cinerarias have not hitherto been usually considered a great success, but in the May number of *The Illustration Horticole* several very handsome varieties are figured, which, if they prove equal to the illustrations, will certainly be more extensively grown in the future. They comprise pure white, rosy-purple, bluish-purple, deep violet, and three other shades varying from deep rose to crimson. They are said to be of good floriferous habit. If they prove to be free seeders, they should soon become common. They are called *double*, but it should be borne in mind that it is not a case of true doubling—that is, the stamens, &c., being transformed into petals—but simply the central or regular florets being replaced by strap-shaped or ray florets—a change not uncommon in the order Compositæ. Our garden Cinerarias are descendants of Cineraria cruenta, a plant which inhabits the woods of the Island of Teneriffe.

A few Pretty Things in Flower.—When looking over the New Perennial Garden at Kew, a few days ago, a note was made of the following as desirable plants, viz., the old-fashioned Mouse-ear, as it is termed, Cerastium tomentosum, because so full of charming white flowers; of the varied usefulness of this plant there can be no doubt. Campanula rhomboidea is an elegant-growing plant, about 18 ins. in height; the deep blue flowers are produced on slender stems, and it is a charming object. C. persicifolia is so well known as not to need description; its charming blue flowers compel admiration; the single and double white varieties are strikingly fine also. C. pulla is one of the most lovely of the dwarf Harebells, forming in cool, shady situations, carpets of the loveliest verdure, that send up stems 2 ins. or so in height, terminating with drooping, deep purple flowers, very charming when seen in a mass. The new Phacelia campanularia is of the loveliest hue of blue, and it is one of the very best new annuals introduced in recent years; it has a somewhat bushy and spreading habit of growth, and the flowers, which are of the finest deep gentian-blue, are produced in terminal racemes of from twelve to twenty blossoms; it deserves to be in every garden. Dianthus hirtus is a charming species, with a beauty peculiarly its own. It is the hairy Dianthus of France, and bears pretty red flowers. Centaurea montana, the perennial Cornflower, is of strong growth, and produces large blue flowers in

great abundance, and it remains in bloom for a long time; there are white and red varieties also, and they are most useful for cutting from. Trillium grandiflorum is also an excellent object with its large, pure white flowers. Then there is the pretty Mimulus cupreus, with its dwarf growth and multitudes of flowers, admirably adapted for rock-work. Silene alpestris is a charming rock or border plant, ever green, and grows with the greatest freedom in almost any soil or situation, forming tufts of dark green foliage, completely covered with panicles of glossy white flowers, growing about 6 ins. in height. Lastly, there is the old Polemonium cœruleum, or Jacob's Ladder, so called from its leaflets being arranged in pairs; a grand old perennial that deserves a place in every garden. These are but a few of the gems to be found at Kew; they may be enough to incite some of your readers to go and search for themselves.—*Quo.*

Fuchsias.—At a meeting of the Floral Committee held recently at Chiswick, the Committee examined the collection of Fuchsias being grown on trial, when the following were selected as the best in their various classes:—Single Dark: Spitfire, Crimson Globe, Charming, President, Minerva, Dr. Sankey. Double Dark: Avalanche. Striped Dark: Lord Wolseley. Light Single: Lady Heytesbury, Prince Alfred, Miss Bright, Ellen Lye, Ericta, var. Novelty (very distinct), Alba coccinea. Double White Corolla: Artaban, Berliner Kind. Single White Corolla: Flocon de Neige.

Narcissi in the Scilly Islands.—It may be roughly stated that several millions of Narcissi are grown on the three islands of St. Mary's, Tresco, and St. Martyn's. Mr. Smith has planted on his farm more than 500,000 bulbs of this flower, including almost every known variety. Upwards of 100,000 are estimated to be grown on St. Martyn. On St. Mary's there are planted at Holy Vale about 400,000; at Rocky Hill, 400,000; and at Trenowath, over 300,000. About nine or ten other farmers grow the Narcissus more or less extensively. In the next few years these figures are quite as likely as not to be doubled, if not trebled, that is, of course, presuming the demand keeps steady.

The most interesting flower farm of any on St. Mary's is perhaps that of Rocky Hill, at present in the possession of Mr. Trevellick. Here the Narcissi are planted in beds generally the length of the enclosure, and about 4 ft. wide, in rows 6 ins. apart. They are not disturbed oftener than once in six or seven years. After the leaves have died down the beds are dressed with seaweed or stable manure, the surface soil being first lightly stirred and all weeds removed. In October following, the pale green shoots begin to break through the soil, and from this time forward they make rapid growth. By December they are all flowering, and a very beautiful sight it is to see thousands of these flowers with their waxy-like petals poised on the long slender stems, in bloom at the same time. Some of the flower spikes are nearly a yard in length. Several fields will be full of the lovely yellow variety, Grand Soleil d'Or; the favourite pheasant-eye Narcissus, N. poeticus, flowering by tens of thousands in another enclosure, makes a magnificent spectacle; and thousands of the sweet Paper white, the earliest of the Narcissus, command no less our admiration. Other varieties grown here are the Grand Monarque, Bazleman (major and minor), Jaune suprême, Albus plenus odoratus, Grootvorst, Von Sion, and States-General, all of which are strikingly beautiful.

And now the business of the farm begins in earnest, and what prettier industry could possibly be imagined. Bevies of women and girls clad in short petticoats and snow-white hoods descend on the fair fields, and are soon playing havoc in their midst. It is a delightful occupation, snapping the fresh crisp stalks and inhaling at the same time the rich fragrance that rises like incense to your nostrils, and which on the morrow will gratify the dainty olfactories of lords and ladies.

As they are gathered they are carefully placed in small round baskets, each of which is lined with clean paper, and are then carried to the farm house, where other hands deftly sort and tie them into bunches, each bunch containing a dozen stalks, and about sixty or seventy bunches making a basketful. In the busy season it is not unusual for as many as 1,000 bunches or 12,000 spikes to be picked, tied up, and dispatched from a single farm in the course of a day. They are sent directly to the boat, and are conveyed through to London, where they arrive on the second day, the through rate being £6 10*s.* per ton. As much as 1*s.* 6*d.* a bunch is sometimes made on the earliest gatherings; 1*s.* a bunch is always realized in the early part of the season, but this falls eventually to as low as 2*d.* and 1*d.* per bunch. When we find that it is possible for the Scillonians to send flowers to the market at such a figure as that last quoted, we do not need to be told that the margin of profit made by selling the flowers at 1*s.* 6*d.*, or even 1*s.* a bunch, is handsome, and well worth striving after. —*E. Whitfield Crofts, in The Gardeners' Magazine.*

Camellia Madame P. de Pannemaeker.—A new and pretty variety of Camellia is figured in the April number of the *Illustration Horticole*, under this name. The flowers are of good shape, the petals white flaked with bright rose. It is said to be a free-flowering variety.

VEGETABLES.

The Kitchen Gardener's Calendar.—Mulching and Watering: Where former directions in the way of putting on a good mulching of rotten manure on either side of rows of Peas, Broad Beans, and Scarlet Runner Beans have not been attended to, the work should not be deferred one day longer than is absolutely necessary, for under the influence of a spell of powerful sunshine the surface-soil about the roots of not only vegetables, but also fruit-trees, shrubs, &c., becomes so dry and heated, that unless there is a surface-dressing of a few inches thick of rotten manure or half-decayed leaves laid on as above indicated, growth becomes stunted, and the haulms come into bearing before they have attained to their proper dimensions, the produce being poor and of short duration, in consequence of the plants not having had a sufficiency of moisture at the roots.

From this cause crops growing in light shallow soils suffer much more than do those which are growing in heavy and consequently moister land. The mulching will not only prevent the surface-soil from being parched by the sun, but it will also keep the roots of the plants cool, and prevent rapid evaporation from taking place when water is applied to the roots. This should not be given in dribblets, but in sufficient quantity to thoroughly moisten the soil about the roots. Thus treated, rows of Peas, Beans, &c., will not only yield better produce, but continue it weeks after crops not so treated have ceased to supply gatherings of Peas and Beans fit for table.

Seed Sowing.—Make another sowing of James's Intermediate Carrot, and a couple of weeks hence a sowing of Nantes Horn Carrot should be made in a warm border, and afterwards, in the absence of rain, be watered when necessary, otherwise the crop will not come up well. Another sowing of Rosette Colewort should be made to supply plants for supplementing the cuttings which the plants from previous sowing will yield.

General Work.—This will consist in the watering of freshly-planted plants of Cauliflower, Cabbage, Broccoli, Borecole, and other winter greens, and, as already stated, Peas and Beans, also Celery, Vegetable Marrow, and Ridge Cucumber plants, and the cutting down forthwith of all seedling weeds as soon as they appear, with the Dutch hoe. The earthing-up, staking, and, as indicated above, the mulching of successional sowings of Peas, &c., should also be seen to in due time.—*H. W. Ward, Longford Castle.*

"Queen" Broccolis.—I am quite ready to accept the assurance of that able gardener, Mr. Miles, that Gilbert's Burghley Queen Broccoli is distinct from Sutton's Late Queen, but, judging by the samples shown of the former, and what I had seen of the latter growing, I cannot admit that any improvement was shown. It is specially awkward that the designation "Queen" should have been given to the one after the other had been put into commerce under the same appellation, and if Mr. Gilbert means to put his variety into commerce I trust he will first revise his nomenclature. "X. Y." assumes that because in a private competition last year Gilbert's kind was placed first and Sutton's Late Queen not at all, that undoubted evidence of the superior quality of the first named was afforded. That is really too absurd, because we all know that in a second competition the places of these kinds might have been reversed.

Certainly this I can aver, that the samples of Late Queen I saw at Heckfield and at Bearwood a few days previously were more solid and meritorious than were the samples of Burghley Queen shown at South Kensington on the 9th ult. But for that fact I should not have questioned what I thought to have been the strange award of the Fruit Committee. Again, what is difficult to understand, is that whilst some exhibitors of vegetables, however good and promising they may be, are politely requested to send their samples to Chiswick for growth and trial, others get a certificate at the first asking, without any such stipulation being made. Clearly, what is sauce for the goose should be sauce for the gander. With respect to the origin of Sutton's Late Queen, I am informed that it was selected from a batch of crossed seedlings at Maidenhead some years since, and has been grown and selected since then till now its form is perfect.—*A. D.*

Cauliflowers.—Now that the Broccoli question has been amicably settled, I hope to the satisfaction of "A. D.," suppose we proceed with the Cauliflowers. I am growing several varieties this season, and much regret that I did not send up some to the last meeting of the Fruit Committee, to be judged in company with those from dear old Chiswick. However, as this note will doubtless catch the eye of a good many Cauliflower lovers, I may express the hope that at the next meeting a good representative collection may be sent, so that we can all gain by such a favourable opportunity for comparing notes.—*R. Gilbert, Burghley Park, Stamford.*

CACTUSES.

The best way to treat Cactuses in winter is to put them away in some place where the temperature does not fall below 45 degs., and to give no water unless they are very much shrivelled up. Never mind a little shrivel, that does them good in most cases. Beware of cold damp places, or you will be sure to rot your plants. Those that flower late in the fall or spring I put outside, taking now and then a casual glance to see that they do not suffer too much, but there is little danger of that. In potting them special attention must be given to material and drainage. The material I use consists of good loam, old lime rubbish, with a fair share of coarse sand. The lime rubbish must be taken from some old ruin; fresh is not good. Arrange to insure drainage, and above all things do not overpot them. Keep them in as small pots as the roots will admit of. The time to pot is just before you start them to grow; but never change them unless you see they are very much bound in the pot, and when you do so be sure to cut away all dead roots, or they will destroy the soil. The lumps of lime rubbish are more for keeping the soil open and ensuring perfect drainage than for any other thing. When growing, a fair share of water may be given.

Cleanliness is always a material point to be observed, and a wash over now and then with tepid water will do much to invigorate them. This should be especially attended to when taking them from their resting-places into the house. The mealy bug is perhaps their worst enemy, and sometimes it is necessary to use some insecticide that will run in on them and destroy them. When growing let them have free sunlight, and from 60 degs. to 90 degs. in temperature will do them no harm; in fact, most of them enjoy a very high temperature. I keep mine on shelves close to the glass; and when they are coming into flower place them amongst other plants in the houses, and they make a gorgeous display. At this time as low a temperature as they will bear will lengthen the duration of the flower.—*American Gardeners' Monthly.*

THE

Orchid Growers' Calendar.

Summer Ventilation of Orchid-houses.—One of the best steps that can be taken in Orchid-culture is to unhesitatingly admit air from outside the houses at all seasons of the year, but in order that the proper amount of benefit may be obtained it is necessary to regulate the ventilators carefully according to the season. With a view to this at all times it is best to open every ventilator a little rather than open half of them wide, as we too often see done. If all the ventilators be opened a little a gentle inlet of pure air is provided for without causing a current, but if only a few be opened wide, the draught from the points at which the air enters to those where it passes out causes excessive evaporation, induces a harsh, dry atmosphere in the house, and a consequent injury to the plants.

In the hot weather in summer injury to the plants from this cause is very rife, the ventilators often being thoughtlessly thrown wide open from a notion that that is the best means of keeping the temperature down. Those who have studied the matter, however, know that such is not the case, and that Orchid-houses, carefully shaded and kept moist, are cooler and have a better growing atmosphere with each of the ventilators open but 2 ins. or 3 ins. than they would be if they were open a foot. It is the balancing of the top and bottom ventilation so that the air is renewed without currents being set up that is the important point to be observed. In houses so regulated the plants keep healthy and clean, whereas in ill-ventilated dry houses the insect pests thrive better than the plants.

In spring and early autumn, when the air outside is cool and moist, the ventilators may be more unguardedly thrown open, but in summer, when the air outside is very dry, the effect of its admission into the house necessitates careful watching and regulating accordingly, for in this respect, as in many others, there is a great difference in the effect produced in different houses. Whenever it is suspected that, by reason of the construction of the house or from any other cause, sufficient bottom ventilation has not been provided, I would advise others at once to do the same as I have frequently done myself, if no better means suggests itself:—take a hammer and chisel and knock out as many bricks as may be necessary about three courses above the ground-line.

A special class of Orchids should be noted as being very susceptible to damage from over ventilation in summer. This comprises Odontoglossum Roezlii, O. vexillarium, O. Warscewiczii, all the Bolleas, Pescatoreas, Batemannias, Paphinias, Coryanthes, and Phalænopsis. All these, while demanding a good supply of pure air, require a still, moist house, and are so easily affected by currents of dry air in summer that I have often seen a few days' careless ventilating utterly ruin them. By the same rule they are often destroyed by being placed in bad situations in houses in which they would grow very well if a moist, close corner had been selected for them. The Bolleas, Pescatoreas, and Batemannias are just now, perhaps, the worst done of any of our showy Orchids, and yet those who can grow Odontoglossum Roezlii well should be able to manage them, for they like a similarly moist, still, warm situation.

I always found them do well in pots or baskets with only a very thin layer of sphagnum about them, and placed in a shady situation and kept moist all the year round. In one place I know they are all grown well on blocks suspended beneath the shade of the other plants in the house, and here they are kept moist at all times. Rain-water is very essential for all Orchids, but more particularly for this class; the supply should therefore be husbanded, and not a drop used to waste. That required for moistening the walks and washing down should be got from some other source, and the rain-water used for watering the plants only.

The Temperatures for July should be:—

East India or Warm House.—75 degs. to 85 degs. by day; 70 degs. at night.

Cattleya or Intermediate House.—70 degs. to 80 degs. by day; 65 degs. at night.

Cool or Odontoglossum House.—60 degs. to 70 degs. by day; 55 degs. at night. Degrees Fahrenheit.—*James O'Brien.*

Galeandra nivalis. — This beautiful Orchid, which flowered for the first time in the collection of Sir Trevor Lawrence, is figured in the April number of *The Illustration Horticole*. The flowers are borne in racemes, the sepals and petals are of an ochreous-brown colour, and the large lip is white with a purple blotch near the apex. The leaves are grass-like, and about half an inch broad. It requires warm treatment and a copious supply of water during the growing season.

CUPRESSUS MACROCARPA.

An Irish Forester writing recently to *Forestry* says:—I had recently occasion to cut down a magnificent Cupressus macrocarpa, and the many remarkable qualities it exhibited leads me to believe that it is a species worthy of a much more extensive cultivation than it has hitherto received. The tree was planted about twenty-eight years ago, and considering the quality of the soil in which it grew, and the bleak, exposed character of this part of the country, it attained to wonderful dimensions in this limited time. At 2 ft. from the ground it girthed exactly 7 ft., and was as near as possible 50 ft. in height. Its timber, too, is exceedingly close-grained, and is particularly rich in resinous matter, which is well known to be an indispensable requisite to Fir and other timber of this class where durability, exemption from insect attacks, fungi, &c., are deemed important. I have not the slightest doubt, had this tree been allowed to stand until it reached maturity, its timber could not have been surpassed. This tree, however, does not succeed so well when planted in close proximity to the sea as some imagine. On an adjoining property, which is distant about 1½ miles from the sea, and where it has been extensively planted during the last thirty years, comparatively few good specimens exist; which are generally in positions from which they have derived considerable shelter from trees surrounding them. Those that are fully exposed to the sea-blast present that weather-beaten, one-sided appearance which characterizes most of our forest trees in that region.

LAWNS, WALKS, AND ROADS.

A lawn is, and will always continue to be, the most attractive and fasciuating feature in landscape gardening, and to harmonize its trim, clean, and velvety appearance with the more rugged and unbroken foliage of the Evergreens which border it, is the most gratifying success of the garden architect. To some people any bit of Grass is a lawn, and one kind of Grass looks as well as any other, only it would seem as if the coarser the Grass and the rougher the surface the more natural it appears to them. The principle which should guide people in the treatment of the lawn is very different from that which directs all other attempts to beautify and adorn grounds, for this reason, that when the ornamentation sought is by the introduction of trees, we select the most perfect types of their species, so that the copse or plantation will assume a truly natural appearance. A weeping tree seems to me to be as much out of place in a conspicuous position on a lawn as would a Fir tree beside a fountain; but some people have a passon for weeping trees. On the other hand, a lawn in its perfection is purely artificial in everything that marks its distinguishing characteristics. The surface must be made as smooth as it can possibly be; in the most brilliant rays of a midsummer sun it must not sear or blanch; it must be simply a velvety carpet of living green from early springtime until the coming of frost and snow. Besides, the designer must have the art to conceal its truly artificial character and make it appear that this elegant, emerald surface, which should be soft and delicate enough for a fairy dance, is the most natural thing to expect to find set right in the midst of fringing plantations of Evergreens. The first thing to do after having determined to make a lawn is to consider its size. There are lawns, and there are simply Grass plots which their owners fondly dignify by that name. Men strive to magnify the importance of everything now-a-days. They buy a country house, with a couple of acres of land, and at once it becomes an "estate." Every little pond is a lake. Now when we attempt the decoration of nature we must leave false-heartedness alone. A lawn must necessarily be of such a size that the proper treatment in harmonizing its surroundings will not dwarf its appearance and cause it to look like an opening in some wood.

It is well to border a lawn with a plantation of trees. The manner of doing this is to be determined by the views to be obtained from the house, which control every other consideration; but if views of distant scenery or of water cannot be incorporated into the vistas of our lawn, then it is better to make bordering plantations of Evergreens, planting them with an irregular margin of smaller trees and shrubs, forming inviting nooks, which are delightful for their sunny warmth in the chilly days of spring and autumn. If the trees are well grown, so that they throw out their branches close to the ground, the surface of the lawn will seem to merge in the foliage of the trees with a delightful illusion. Some have a great fancy to plant irregular beds of flowers on the lawn. This of course is a matter of taste, but it destroys the beauty of an unbroken carpet of green.

Statuary, Vases, and Rockwork.—There is a great difference in taste as to the introduction of statuary upon the lawn; in fact, tastes are often a matter of fashion or of cultivation any way; just as one learns the use of unnatural things or becomes addicted to any habit, so taste may be educated, but, at the same time, not elevated or purified. The Greeks and Romans introduced statues into their gardens, and therefore some will always maintain that it is correct for us to do the same, making no account of the great difference and unsuitableness of our climate for the introduction of statuary into ornamental gardens. Downing has quoted very aptly in this connection some appropriate lines from Pope in sarcastic allusion to the same freaks of fancy in his day:—

> Statues growing that noble place in,
> All heathen goddesses most rare,
> Homer, Plutarch, and Nebuchadnezzar,
> Standing naked in the open air!

Works of art are very difficult things to harmonize in ornamental grounds. A well-designed fountain is a pleasing feature in the centre of a lawn, that is, if it is a fountain designed for water and not to show the skill of the artist, the stone-cutter, or the ironfounder; or an abject thing in a drizzle, like that in some public gardens. It requires a great deal of skill to handle water properly in the form of fountains for purposes of decoration.

The most famous jet in the world is the Emperor fountain, at Chatsworth, which plays 195 ft. in a solid stream. The volume of water required is so vast that it can be used only upon perfectly calm days, or the wind would blow the masses of spray over the surrounding lawn and do a great deal of damage; it gives one an idea of immense power, but not of beauty. There are many forms in which a much less volume of water would produce finer effects for decoration. If excessive quantities of water fill us with a sense of force and power, so a diminutive or inadequate supply seems to me altogether trifling and puerile. Choice vases, judiciously disposed about grounds in chosen spots, are not only ornamental, but useful when filled with tender or trailing plants that cannot well be set out in the border, and aid to heighten the effect sought to be produced. If you have a passion for rockwork, beware that you do not make an imitation of a rubbish heap. Use natural Moss-grown boulders, in irregular masses, with Ferns and trailing plants, and do not be too ambitious.

Avenues and Paths.—These are located and constructed either for utility or ornament. When for use entirely they should be as direct as possible, without unnecessary windings or detours. When either is made as an adjunct to ornamental grounds, some people fall into the error, that because a great artist once said "the line of beauty is a curve," consequently all things crooked must be pleasing and therefore ornamental; so they proceed to lay out their avenues upon this principle, and introduce their curves with

perfect abandon, the seeming excuse for a crook here being that there was a corresponding or a worse crook somewhere else. At all points where avenues deviate from a direct line there should be close plantations or a clump of trees, so that it may appear to be the most natural thing in the world that the detour was necessary, even though when understood the matter appears to be no plainer than the reason for the pond in some public garden—not that the water was especially attractive or that the pond itself is either very beautiful or essential, but it made the construction of a bridge necessary to cross it, and that is reason enough, for which we should always be sufficiently grateful. The location of our walks and avenues thus subsides into a matter purely of taste, and there we all differ; but their formation is as purely a matter of fact, and in that all must agree, for facts are stubborn things.

In wet ground the labour of making the road is increased; but it must commence with the exclusion of all vegetable material and the water; without this all attempts to construct a proper road will be in vain. Through swamps no rules can be laid down beforehand, but the thorough drainage of the ground is still the principal thing to be done. If water is entirely excluded and the most substantial material obtainable is used for the surfacing, there need be no trouble or complaint about a road anywhere, and it can be depended upon that undue economy, in the first instance, in preparing the foundation of roads is the dearest policy in the long run; it only entails continued expense for repairs.

Great care should be exercised, in the use of rockwork especially, not to undertake too much. A little plot of not more than 200 ft. square, by a cottage, denominated a lawn, with a pile of rocks, having a pipe at the top, with a little drizzle of water, shows a demoralized and not a cultivated taste. Drooping trees are often planted in the centre of a lawn; but nothing can be more out of place; they should be around the edge. Curved lines are very beautiful, but walks should be straight, and not curved, when there is no reason for departing from straight lines. Trees on lawns should be so planted as to be deemed an improvement, heightening by their natural beauty and at the same time concealing the hand of art. —*Transactions of the Massachusetts Horticultural Society.*

AGECROFT HALL, LANCASHIRE.

The quiet and picturesque hamlet of Agecroft has lately been prominently brought before the public in connection with the sad explosion at the Lumb pit, Clifton, where upwards of 180 lives were lost.

Agecroft is a very ancient village or hamlet, most romantically situated, and, if we are to believe the old writers, must have possessed exquisite beauties before the roads were raised for the convenience of traffic and trade. At what age the Hall was built, is uncertain, but in the reign of Edward III., one "Richard de Longley, paid fine to one William Longley, parson of Myddilton, for the Manor of Pennybury" (the Pendlebury of the present day), and early in the 16th century was born at Agecroft Hall the Thomas Langley who became famous as a scholar, diplomatist, judge, commissioner, cardinal, archbishop, a great writer, and an eloquent preacher. Leyland, writing during the reign of Henry VIII., says Agecroft Hall was the residence of Mr. Langford (Langley), "and there is a Bridge veri hy and great Tymbre on Irwel, and thereby is Pilketon Park, and thereon is a stone house of the Pylketons attaynted by King Henry VII. and given to the Lorde of Darby, and within a ii miles or morle on the left Hand, not far of a place of Master Worsly of the Bouthe."

It will thus be seen that the place has a most interesting history. It is situated in the hundred of Salford—or Salfordshire, according to the old deeds —and about three miles from Salford. After passing Irlams-o'-th'-Height, on the main road to Bolton, before climbing the hill to Pendlebury, a road dips down a hill on the right hand leading to Prestwich and Bury. On the other side of this hill we come to an old-fashioned lodge within a high stone wall, overhung with Elms, in which is a large colony of rooks. On the right-hand side is Agecroft Colliery, and within the wall is the fine old hall, the residence of a kind-hearted English gentleman, beloved by all who know him, Robert Dauntery, Esq., a lineal descendant of the ancient Langleys and Longleys. The house is of the "magpie" type, black beams and plaster, and on a lower level is a fine valley, with a sheet of water. In the centre of the edifice is a grand specimen of the old courtyard, entered by a covered archway; the windows are numerous, and ornamented with stained-glass, exhibiting the arms and crest of the Langley family, an armorial bearing of John of Gaunt, and the emblems of Henry II. The wainscoating and partitions are of carved oak, &c. The furniture is antique carved oak, and the present library was formerly a domestic chapel. There is also a fine collection of pictures here.

In the pleasure grounds, notwithstanding the smoke-charged atmosphere, many things grow and flower freely. There is a nice lawn and a small ornamental piece of water. Unfortunately, the series of severe frosts experienced during the last few years have killed some grand old Oaks of two or three centuries' growth. The gardens have been for some years in charge of Mr. John Ramsbottom, who kindly took us through the houses, some of which are in the pleasure grounds. The first we entered was the conservatory, in which were some good Camellias, and overhead a pleasing sight in the form of a plant of the Gloire de Dijon Rose, allowed to grow at its own sweet will, and hanging in long festoons were such glorious blooms, of the true colour, and large, bold, well-shaped cups. My companion, a nurseryman, was considerably surprised at the sight, for he belonged to the pessimist class, and did not think it was right for such flowers to be seen so near the smoke. There is also here a nice collection of stove plants, Ferns and Orchids, including a specimen of Angræcum sesquipedale just going out of flower, with thirty leaves. Every house was interesting and full of flowers. In the kitchen garden, which is walled in, are more glass houses, including a Pine stove. In one house, climbing the wall, and covering over 100 square feet, is a fine specimen of Cactus speciosa, and in some pi... we were delighted to note some fine Auriculas, not named kinds, but seedings raised on the place, and in the borders were many hundreds in bloom, having, with large masses of Gold-laced Polyanthus, a pretty effect. This is the way to enjoy spring gardening, when they are in masses.

The wall trees are bearing good crops of Plums, Cherries, &c., for the garden being sheltered escaped the punishing May frosts.

Taking Agecroft as a whole, it is a most interesting place, though little known; and we shall not soon forget the Roses, Auriculas, and Polyanthuses which we saw there. We believe the latter flowers are a hobby of Mr. Ramsbottom's son, a youth who bids fair to become a genuine florist.—*N. J. D.*

MAGNOLIAS.

Mr. S. Parsons, in *The American Garden*, classifies hardy Magnolias suited for lawn planting into those which bloom before the leaves are formed, and those that bloom in June when the foliage is in full panoply. Of the latter, two Japanese varieties, M. hypoleuca and M. parviflora, are the finest for both leaf and flower. The foliage of hypoleuca is large, silvery underneath, and red-veined; that of its companion, parviflora, is less striking, though rich and effective in texture and hue, but in odour it surpasses all other hardy Magnolias, being strongly and delightfully spicy. The flower of parviflora is also remarkably beautiful, consisting of a milk-white cup-shaped form, suggesting remotely the bloom of M. glauca, and a magnificent crimson centre of curiously-arranged pistil and stamens. The odour of hypoleuca is also strong and pleasant. These late Magnolias do not bloom as abundantly as the early-flowering species and varieties, but their general effect on the lawn as large trees, whether in bloom or out of bloom, is always fine. Unfortunately they are, as yet, comparatively rare.

Magnolia acuminata, tripetela, and cordata, all native species, are excellent late-blooming fine-foliaged trees for the lawn; but of all American kinds, Magnolia macrophylla is the most effective, with its green leaves, 18 ins. to 2 ft. long, giving it the effect of some great tropical Palm astray in the north. It is strange that this large-growing splendid tree is not planted more, for it is quite as hardy as other Magnolias.

ACÆNAS.

These plants are, for the most part, of little use in the decoration of our gardens, but there are one or two of them which possess a certain quaint beauty which invests them with considerable charms when seen in a position calculated to display them to the best advantage, viz, a cool and slightly moist situation on a rockwork, where they can run at will amongst the stones, and droop over the ledges in association with Polygonum vaccinifolium, Mentha Requieni, Arenaria valearica, and similar plants. Their culture is of the simplest, as they only require to be divided, planted in the position chosen, and occasionally watered until they commence growing, when they may be safely left to take care of themselves.

A. nova zealandica.—This is probably the most generally cultivated species, and, like all the others, it is a native of the Southern Hemisphere, the specific name indicating the locality. It is one of the dwarfest o plants, with small pinnate leaves of a yellowish-green colour, occasionally shading to dark green, giving its foliage a curious appearance. The flowers are inconspicuous, borne in close heads, which are furnished with prickles, giving it the appearance of a globe of rich crimson-coloured spines.

A. myriophylla.—A native of Chili, introduced into this country in 1828, much stronger in growth under cultitivation than the preceding, and hardly worth cultivating except on some of the perpendicular parts of a large rock garden, where the long shoots, when moved by the wind, produce a very pretty effect by the greyish under-surface of the leaves mingling with the dark green of the upper.

A. adscendens.—A native of the country adjoining the Straits of Magellan, very similar to the last-named plant, but more upright in habit and occasionally useful for insertion between two blocks of stone to break the monotony of a rocky surface.—*Cymro.*

THE BEST TEA ROSES.

At the last spring exhibition at Bath, Tea Roses, both in pots and in a cut state, were shown in good numbers and in remarkably fine condition. As might be expected in a district where Roses of all kinds are extremely popular, Teas were greatly admired, and not a few visitors were to be seen taking notes of the best represented sorts. I also, says a correspondent of *The Field*, jotted down the names of the majority of the prize-winning blooms, and, as I happen to be fairly well acquainted with the different varieties, will supplement the list with a few remarks upon the qualities of each. Certainly the premier blooms were of Catherine Mermet, and this grand sort is invaluable alike for exhibition and ordinary purposes. It grows and blooms freely, either in pots or when planted out; the majority of the flowers are perfect in shape, of a pleasing flesh colour; the scent is strong, and the blooms keep well. It is best on its own roots, and should be encouraged to throw up strong suckers, as it is these that will produce the very best blooms. Souvenir d'un Ami is equally robust, blooms freely either under glass or in the open, and the full, cup-shaped flowers are good in substance and sweetly scented; colour, salmon and rose. Niphetos is scarcely so vigorous as I should like to see it, but is the most perfect white Rose with which I am acquainted.

Madame Lambard is a very distinct sort, very free growing and floriferous. The blooms, which are of a bright coppery-red, are good in size and form, but must be cut early, as they quickly become loose and useless. It is a very serviceable sort, either for house or open-air culture, and ought to be more generally grown than it is. Souvenir d'Elise I consider a charming variety, and fairly robust; blooms medium in size; colour, white, tinted with rose. Etoile de Lyon is a strong grower under glass, but when tried in the open air it has proved a failure. With us it produces fairly large, good-shaped, pale yellow blooms, but not so freely as was expected. Perle de Lyon is also a vigorous grower, and the blooms are of a richer yellow than those of the last named. Madame Guinoisseau and Amazone, both good growers, are worthy of cultivation where rich yellow buds are in demand. Perle des Jardins was well represented at Bath, but I have not yet grown it. It produces a medium-sized bloom, colour pale yellow, and scent

good. Of Comtesse de Nadaillac I can speak very highly, and it is particularly good for pot culture. The blooms are freely produced, and good in size and perfume; colour, a deep orange and yellow. Isabella Sprunt is a general favourite, and easily grown; it is very robust and free-flowering, the blooms being of medium size; colour, rich yellow. Madame Pauline Labonté proves to be particularly good, either in pots or planted out; the blooms are of fair size; colour, pale salmon. Madame Berard much resembles Gloire de Dijon, and succeeds equally well under similar treatment. Reine Marie Henriette, a "red Gloire de Dijon," is scarcely so free-flowering as that good old variety, nor is it scented.

Pot plants struck last spring, and encouraged to ramble, have yielded a good supply of blooms, which, in the bud state especially, are serviceable. Adam is a vigorous flesh-coloured variety, easily grown, and does well planted out; and Rubens, white tinted with rose, is another deservedly popular sort. Céline Forestier, pale-yellow, is useful alike for pots and for planting against sunny walls; indeed, for the latter purpose, I consider it next in value to Gloire de Dijon. Jean Ducher, salmon-yellow, is a favourite variety with exhibitors, and is altogether an attractive and serviceable sort, thriving well either under glass or in the open. Sofrano, apricot-yellow, is one of the best I know amongst Teas, and in the bud state is very beautiful. Anna Olivier, buff or flush rose, is a neat variety, good in form and size, and may be classed as a useful sort. Devoniensis, creamy-white, has long been a favourite; it does well in pots on its own roots. William Allen Richardson, a strong-climbing variety, produces some of the most charming buds imaginable; their colour is a deep orange-yellow, or a lovely terra-cotta shade, which contrasts beautifully with nearly any other sort grown. Ina Capucine may be said to be a dwarf-growing form of the latter, and the bunches of this variety, as shown at Bath, were unanimously voted "lovely." Maréchal Niel—which, in common with a few of the above-named sorts, are classed as Noisettes, but shown as Teas—is too well known to need any commendation; but I ought not to omit a word of praise in favour of Marie Van Houtte, white tinted with yellow, and good alike for pots and in the open air.

CARNATIONS AND PICOTEES.

Anyone intending to cultivate these plants should obtain their plants in the autumn, in the form of nicely rooted layers. These should be potted singly in small pots, or two plants in a large pot, one on either side. And now comes in the matter of compost, which is one of great importance. That most recommended by growers is one made as follows:—Good and rather adhesive loam, four parts; one part rotten stable manure, and one of leaf-mould, with enough of coarse sand to keep it open; and of late years cultivators have added a little broken charcoal. This is a good soil for use in all stages of the plant's growth.

During the winter the plants in pots should be kept in a cold frame on an ash bottom, and carefully looked after, and air given on all suitable occasions. Potting into the blooming pots is done about the middle or end of February. The Carnation and Picotee are potted into large pots for flowering. A single plant is put into a pot 7 ins. in diameter; two in a 9-in., and three in a 10-in. pot, the latter being the most generally-followed method. The pots must be well drained, and broken oyster-shell is the best drainage that can be used, and some coarse siftings of the soil should be placed over the drainage before any soil is put in. The pots should then be filled within 2 ins. of the top, the plant or plants should be placed in position, and the soil pressed about them, making it fairly firm; then, by gently knocking the bottom of the pot on the ground, the whole settles down, and the work of potting is complete. This done, the pots need to be placed in a cold frame, and kept a little close until they become established, and then placed in the open air, standing them on pots or slates to prevent worms passing up into them. The plants need close attention in the matter of watering and keeping them clear of insects.

As the flower-stems are thrown up they should be securely but not too tightly fastened to stakes. The stoutest osiers used by basket makers make excellent stakes for the purpose; and they can be had made of deal and painted green, and they should not be less than 3 ft. long. In order to have fine full flowers it is necessary to thin out the buds. Not a few Carnations and Picotees have a tendency to burst the calyx, *i.e.*, the green sheath which encloses the bud, and it is a common practice to bind a piece of bast round it, taking care not to tie it too tightly so as to prevent the flower from expanding. Those who grow flowers for exhibition purposes are obliged to shade them, and this is done by means of zinc shades fastened to the sticks, by a canvas covering, or by taking the plants into a house. When shaded, the blooms remain in perfection for many days.

During the time that the plants are getting into flower, all weeds and dead leaves should be removed, and the surface soil stirred, and top-dressed once or twice, with a compost made up of half loam and half leaf-mould. This is a matter of great importance in insuring a healthy development of the plants. Earwigs prove very destructive to the flowers, and they should be looked for and destroyed. If the plants are grown solely for decorative purposes, disbudding need be done only very sparingly.

Propagation.—This is done by layering, a process of importance, and requiring skill and experience to do it effectually. The more the plants are exposed to the sun previous to layering, the more robust and hardened is the wood, which is a matter of great importance. And as some sorts are shy in producing roots—a knowledge to be gained only by experience—these should be layered first of all, to give a greater duration of time to root properly. First of all the operator should make up a compost composed of equal parts of sweet turfy loam, leaf-mould, and sand passed through a fine sieve. Then all the leaves up to the third joint from the tip should be cut away with a pair of scissors, and the spent soil removed from the pot to the depth of 3 ins., and some of the fresh soil placed in the pots. Then by means of a sharp penknife an even slit is made from one joint to the other, taking care not to cut right through the wood. This tongue so formed eventually puts forth roots. It must be inserted in the fresh soil, placing a peg (those made from the common Fern of the woods are best) to keep it secure in the soil, and after the whole of the layers are operated on and made secure, they must be slightly covered with fresh soil, and then watered through a rose watering-pot. The plants can then be placed in the open air, well attended to in the matter of watering, and in a month or six weeks the layers will be rooted, and eventually these can be potted off as recommended at the outset of this article. One of the best layerers of Carnations and Picotees we ever knew, used to insert his knife in the stem, and then cut outwards, doing this with great certainty and dexterity, and so forming a tongue. But it requires great practice and care to layer rapidly and safely.

ANCIENT FLORAL ADVERTISEMENTS.

The following are copies of some quaint advertisements which appeared in Lancashire in 1826. The first one runs:—"Going out on the 10th of August, seedling Grey Auriculas, at the house of Mr. John Banks, Star Inn, Little Moor, Stockport." The second announces that "James Cook seedling Polyanthus goes out at Mr. Blackburn's, King Sowdon [Manchester]. Mr. Dickenson's green-edged goes out at same time and place. Also his grey-edged seedling to be sold in pans." In the autumn was announced the publication of "an account of different flower shows held in Lancashire, Yorkshire, Cheshire, of Auriculas, Tulips, Ranunculus, Star Pinks and Carnations exhibited, with the number of prizes won by each sort of flower.—12mo., price 3*s.* 6*d.*, by John Winstanley and Joseph Clegg, Innkeeper, Manchester." From some old papers in my possession, I learn that some of the old first-rate Polyanthuses cultivated round Eccles, and shown in Manchester, were "let out" at prices ranging from one guinea to 5*s.*, to wit: Bang All Europe at 21*s.*; Princess Royal, 10*s.*; East Ollerton, 10*s.*; and Black Stranger, 5*s.*—*N. J. D.*

HORTICULTURAL SOCIETIES.

Royal Botanic Society's Evening Fête, *July 1st.*—On no previous occasion have the Society's gardens been seen to greater advantage. The night was exceedingly favourable, and the scheme of illumination was most successfully carried out upon even a more extensive scale than in previous years. The exhibition in the large tent, Mr. Anthony Waterer's Rhododendrons in the American tent, the conservatory, broad walk, and tower, were lighted by gas, while the extensive covered walks, the lake, with its kiosk and bridges, and the numerous flower-beds, were outlined with coloured lamps in artistic and most effective fashion. Many of the trees were also encircled with lamps of French design, which were peculiarly attractive. The exhibition in the large tent, as on previous occasions, was of a most interesting character, consisting largely of specimens of table decoration, many of the designs being remarkably chaste and pleasing. Hanging baskets, bouquets, and other arrangements of flowers for personal adornment, with designs for windows and fireplaces, also contributed largely to the general display, and a liberal award of prizes was made for the best exhibits. The principal attraction, however, was the grand bank of Orchids lent by J. T. Peacock, Esq., Sudbury House, Hammersmith, which included hundreds of specimens of Odontoglossum Alexandræ and O. vexillarium, dominated by an unusually fine plant of Sobralia macrantha, under which nestled a well-coloured group of Cattleya Sanderiana. Next in attractiveness was undoubtedly Messrs. Rivers's collection of orchard-house plants in full fruit, among which were included tempting Peaches and Nectarines, Cherries, Pears, and other fruits. A collection of hardy flowers, contributed by Messrs. Barr & Son, also added to the general interest of the exhibition. Silver Medals were awarded to both these exhibitors. In the museum a novel feature was supplied in the form of mirror pictures, a series of flower subjects carefully and correctly painted on glass by Mr. T. J. Gullick. In the new corridor Messrs. Balfour exhibited some novel designs for horticultural purposes in terra cotta. Instrumental music was provided in various parts of the gardens by the bands of the 1st Life Guards, Royal Horse Guards, and the Coldstream Guards, while at intervals a novel effect was introduced for the first time by the London Male Voice Choir, conducted by Dr. Stainer, who were stationed in the kiosk on the lake, and sang a charming selection of part-songs, which were heartily applauded by the audience. It was estimated that nearly 10,000 persons visited the gardens during the evening.

ANSWERS TO CORRESPONDENTS.

Names of Plants.—*R. M.*—1. Pimelia decussata; 2. French Lavender, Lavandula Stœchas; 3. Santolina incana, Lavender Cotton; 4. Sibthorpia europæa; 5. Geum urbanum.

Utricularia.—*Sphagnum.*—Certainly not an Orchid, though generally cultivated with them because the conditions for so doing are favourable.

Books.—*James Williams.*—You should try and get Thompson's *Gardener's Assistant*, published by Blackie & Son. If you cannot afford to buy the volume complete, ask your bookseller to get it for you in parts, a few at a time.

Heaths.—*James Brown.*—Keep them in a light airy house, until the end of the month, and then stand them outside exposed to the sun, for about six weeks, on a good bed of ashes. They will want very careful attention as to watering, and should, if possible, have the sides of the pots protected from bright sunshine.

Carnations and Picotees.—*Ignoramus.*—The difference is this: the flaked flowers are all classed as Carnations, and the white-ground flowers with coloured edges are Picotees. Carnations are divided into six sections, viz.:—Scarlet, crimson, and pink and purple bizarres, and purple, scarlet, and rose flakes. Of Picotees there are three classes, described as heavy, medium, and light edges.

Grapes.—*Foreman.*—The berries are badly scalded, the result of the action of the sun upon them while covered with moisture. To prevent it in future, give air earlier in the day, to dry up the condensed moisture on the berries before the sun gains much power.

Hours of Labour.—*Under Gardener.*—The usual rule is from six a. m. to six p. m., but it is entirely a matter of arrangement between you and the gardener.

Communications Received.—R. O.—S. B.—N. J. D.—H. B.—E. W. R.—J. S.—R. S. O.—J. C. B.—Scipio.

Trade Catalogue Received.

W. & J. Birkenhead, Sale, Manchester.—Hardy North American Ferns.

LONDON SEED TRADE.

July 1st, 1885.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report an entire absence of demand for seeds usually sold at this season. Mustard is firmly held, as stocks are light. Holders of Rape, owing to slow trade, are in a few instances reducing price to induce buyers to operate. Red Clover and White are held for an advance. Trefoil promises well. Canary dearer. Hemp cheaper. Linseed firm.

COVENT GARDEN MARKET.

July 2nd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	2 6– 6 0	Peaches, per doz.	3 0–10 0
— Nova Scotian, per barrel	–	Pine-apples, Eng., lb.	2 0– 4 0
Grapes, per lb.	2 0– 4 0	—St. Michaels, each	3 0– 7 0
Melons, each	2 0– 3 6	Strawberries, per lb.	0 6– 1 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0– 4 0	Horse Radish, bundle	3 0– 5 0
Asparagus, English, per bundle	6 0– 8 0	Lettuces, Cabbage, per dozen	2 0–
Beans, French, per lb.	– 2 0	— Cos, each	0 6–
Beet, per dozen	2 0– 3 0	Mushrooms, p. basket	1 0– 2 0
Cabbages, Spring, doz.	1 6– 2 0	Onions, per bushel	5 0– 7 6
Carrots, per bunch	0 6–	Parsley, per bunch	0 6–
Cauliflowers, English, per dozen	4 0– 6 0	Radishes, per dozen	1 6–
Celery, per bundle	1 6– 2 6	Small salading, per punnet	0 4–
Cucumbers, each	0 6– 1 0	Spinach, per strike	2 0–
Endive, French, per dozen	2 6– 3 6	Tomatos, per lb.	1 6–
Garlic, per lb.	0 6–	Turnips, per bunch	0 6–
Herbs, per bunch	0 2– 0 4	Young Carrots	1 6–
		Young Turnips	1 6–

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0– 4 0	Lily of the Valley, 12 bunches	–
Anemone, 12 bun.	–	Marguerites, 12 bun.	2 0– 6 0
Arum Lilies, 12 blms.	2 0– 6 0	Moss Roses, 12 bun.	2 0– 5 0
Azalea, 12 sprays	–	Narcissus, various, doz. bun.	–
Bourvardias, per bun.	0 9– 1 0	Pæony, 12 bunches	–
Camellias, 12 blooms	–	Pelargoniums, per 12 sprays	0 6– 1 0
Carnations, 12 blooms	1 0– 3 0	—scarlet, per 12 sprays	0 4– 0 6
Carnations, 12 bun.	2 0– 4 0	Pinks, various, 12 bunches	1 0– 4 0
Chrysanthemums, 12 bunches	–	Primula, double bun.	0 6– 1 0
— large, 12 blooms	–	Primulas, Chinese, bun.	–
Cornflower, 12 bun.	2 0– 4 0	Pyrethrum, 12 bun.	2 0– 4 0
Cyclamen, doz. blooms	–	Rhodanthe, 12 bun.	6 0– 9 0
Cineraria, per bunch	–	Roses (coloured)	2 0– 4 0
Day Lily, 12 bunches	–	Roses, indoors, p. doz.	1 0– 3 0
Epiphyllums, 12 blms.	–	Roses, per dozen bunches	2 0– 6 0
Eucharis, per dozen	3 0– 6 0	Spiræa, 12 bun.	6 0– 9 0
Gardenias, 12 blms.	2 0– 5 0	Stephanotis, 12 spr.	2 6– 4 0
Heliotropes, 12 sprays	0 6– 1 0	Stocks, 12 bunches	2 0– 4 0
Hyacinths, Roman, doz. sprays	–	Sweet Sultan, 12 bun.	4 0– 6 0
Iris, 12 bunches	4 0– 9 0	Tuberoses, per dozen	0 6– 1 0
Lapageria, white, 12 blooms	2 0– 3 0	Tulips, per doz.	–
Lapageria, red, 12 blms.	1 0– 2 0	Violets, doz. bun.	–
Lilium candidum, 12 blooms	1 6– 2 0	— French, per. bun.	–
— Longiflorum, 12 blooms	3 0– 6 0	— Parma, per. bun.	–
Lily of the Valley, doz. sprays	–	White Jasmine, bun.	–
		Woodroffe, 12 bunches	–

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, doz.	6 0–24 0	Heaths or Erica, var., per doz.	12 0–42
Arum Lilies, per doz.	6 0–18 0	Hyacinths, doz.	–
Azalea, per doz.	–	Hydrangea, per doz.	9 0–18
Balsams, per doz.	3 0– 6 0	Ivy Geraniums, per dozen	3 0– 6 0
Begonias, per dozen	4 0–12 0	Lilium longiflorum, per doz.	18 0–36 0
Bouvardias, dozen	9 0–18 0	Lilium lancifolium, per doz.	18 0–24 0
Calceolarias, per doz.	6 0– 9 0	Lobelias, per doz.	3 0– 6 0
Cineraria, per dozen	–	Marguerites, per doz.	9 0–18 0
Cockscombs, dozen	3 0– 6 0	Mignonette, per doz.	4 0– 6 0
Cyclamens, doz.	–	Palms in variety, each	2 6–21 0
Cyperus, per dozen	4 0–12 0	Pelargonium, per doz.	6 0–18 0
Dentzia, per dozen	–	Pelargoniums, scarlet per dozen	3 0– 9 0
Dracæna term., doz.	30 0–60 0	Petunias, per dozen	6 0– 9 0
— viridis, per dozen	12 0–24 0	Poinsettia, doz.	–
Epiphyllums, doz.	–	Rhodanthe, per doz.	6 0– 9 0
Evergreens, in var., per dozen	6 0–24 0	Spiræa, per dozen	9 0–12 0
Ferns, in var., dozen	4 0–18 0	Stocks, per dozen	3 0– 5 0
Ficus elastica, each	1 6– 7 0	Tropæolums, per doz.	2 0– 4 0
Fuchsias, per doz.	4 0– 9 0		
Foliage Plants, various, each	2 0–10 0		
Genista, per dozen	–		

Bedding Plants, in variety, 8*s.* to 16*s.* per hundred.

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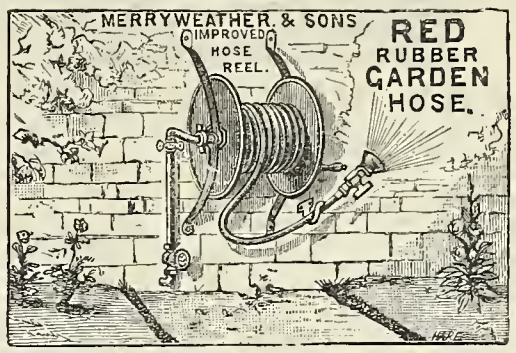

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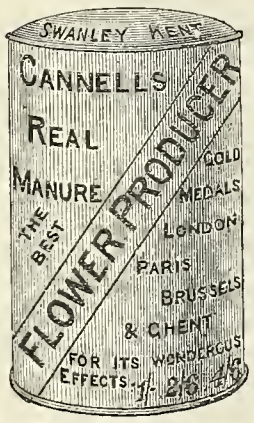

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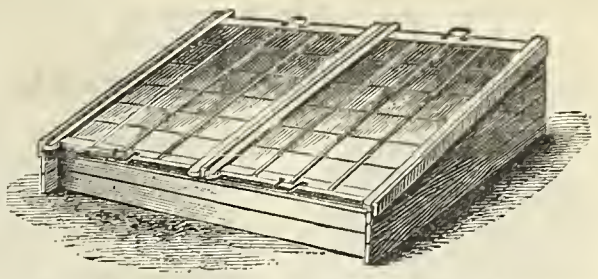

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"September 11th, 1884.

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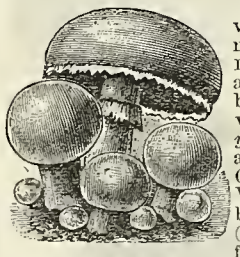

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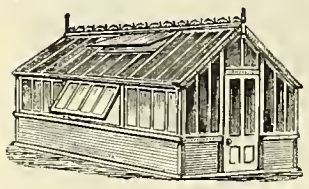

Span-Roof Greenhouses, fitted complete, glazed with 21-oz. glass, and painted three coats.

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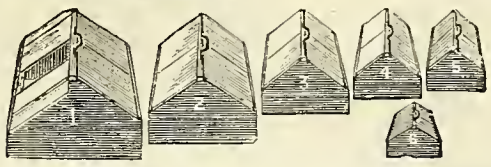
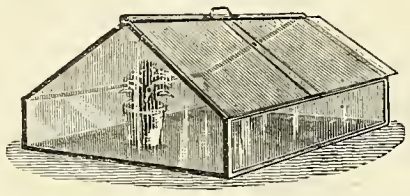


Set of Six Handlights to cover 15 square feet, diminishing sizes, painted three coats, glazed with 21-oz. glass, per set £1 15*s*.



The illustration shows the largest of the set of six

NEW "IMPROVED" HANDLIGHTS.

Made diminishing sizes, covers 17 square feet; painted three coats, and glazed with 21-oz. glass; per set, £2 7*s*. 6*d*.

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4 ft. by 6 ft.,	1	18	0
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12 ft. by 6 ft.,	4	12	6

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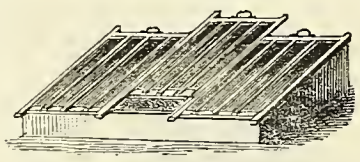

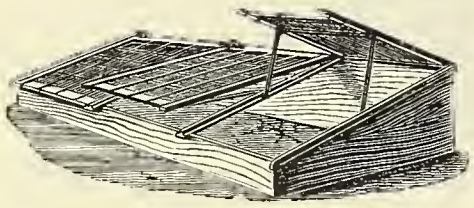

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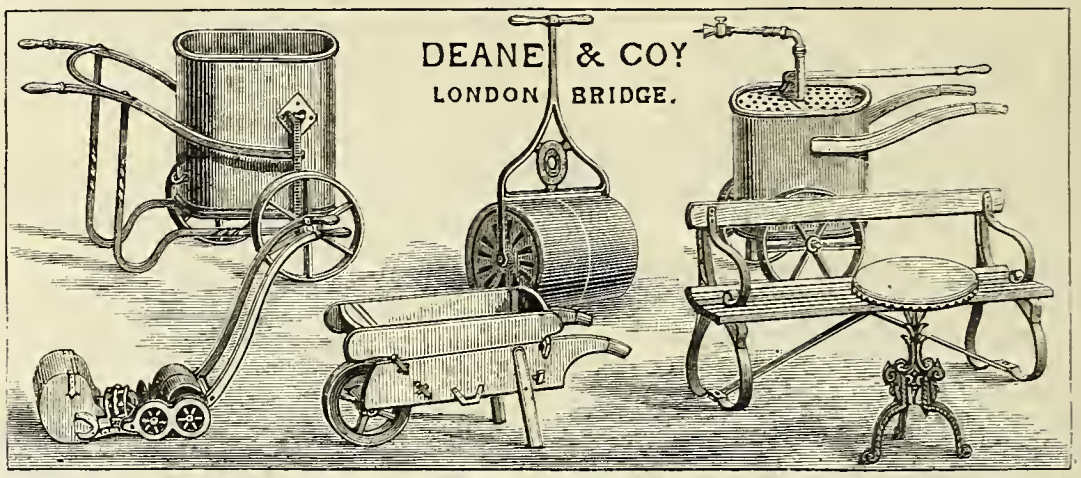

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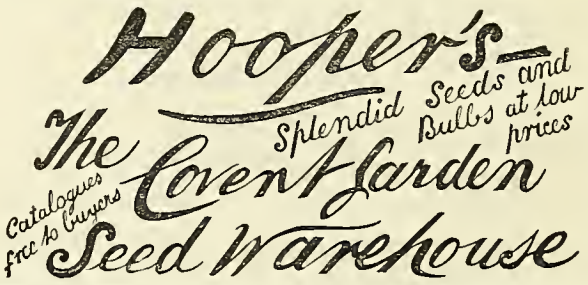

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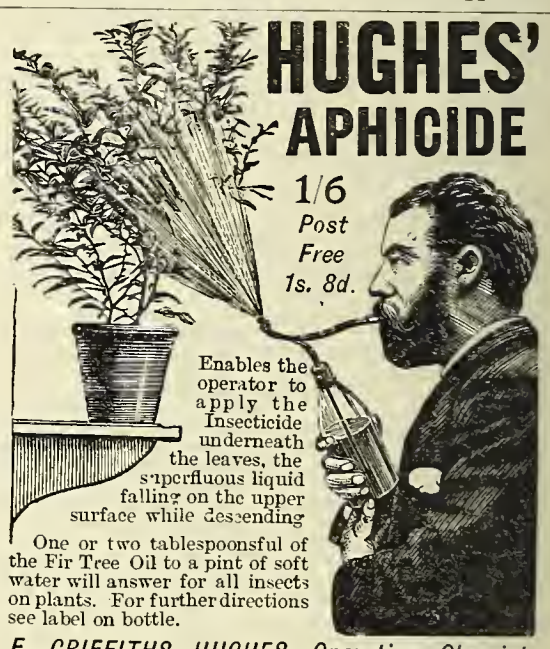

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Royal Horticultural Society.

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On view morning of Sale, and Catalogues had.

Orchid Sales Next Week.

MESSRS. PROTHEROE & MORRIS beg to announce their SALES of ORCHIDS for next week, which will take place as under, at half-past twelve o'clock precisely each day:—

TUESDAY, July 14th.—Sale of IMPORTED and ESTABLISHED ORCHIDS.

FRIDAY, July 17th.—Sale of a valuable lot of new ANGRÆCUMS, and other Orchids, from Mr. F. SANDER.

On view mornings of Sale, and Catalogues had.

THURSDAY NEXT.

Eltham Park, Eltham, Kent.

Important unreserved Sale of a valuable Collection of Plants.

MESSRS. PROTHEROE & MORRIS are favoured with instructions to SELL by AUCTION, on the premises, Eltham Park, fifteen minutes' walk from Eltham Railway Station, on THURSDAY next, July 16th, at twelve o'clock precisely, by order of the Executors of the late THOS. JACKSON, Esq., without reserve, the valuable collection of STOVE and GREENHOUSE PLANTS, including many fine specimens and splendid samples, PALMS, FERNS, ESTABLISHED ORCHIDS, &c.

May be viewed the day prior to sale. Catalogues may be had of Mr. WAKELIN, the head-gardener, on the premises, and of the Auctioneers and Estate Agents, 67 & 68, Cheapside, E.C.

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CHEAP ORCHIDS.—In consequence of having received large importations, I am able to dispose of my stock of plants received last year, now nice established plants, at very low prices; all are healthy, and those who prefer it can have this season's imported pieces. Growers of Orchids would do well to order at once, as many fine gems are contained in the numerous importations received, which are mostly unflowered. Established plants which have flowered and are flowering can also be had if required, but many growers prefer unflowered plants, because there are frequently valuable varieties which well repay the purchaser, shillings well invested being quickly converted into pounds.—Apply to W. GORDON, The Nurseries, Twickenham, Middlesex.

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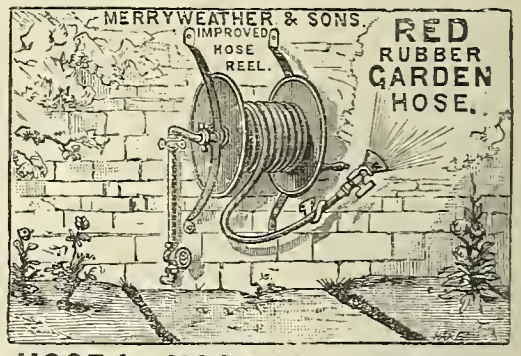

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, JULY 11TH, 1885.

The Fruit Crops.—Ere now stock has generally been taken of the country's fruit crops of the year, and the reports will doubtless be somewhat conflicting, though, on the whole, fairly good. We are by no means assured that a heavy fruit crop is an unmitigated good, for it is certain that when such is the case, very much is taken out of the trees without an adequate return. Still farther, a heavy crop of necessity means a poor one the following year, and consequent loss, whilst the superabundance which is always the case when heavy crops prevail invariably leads to low prices and much waste. That there should have been almost universal anticipations of a big crop this season was natural enough, having regard to the ripening nature of the previous season, the consequent wondrous production of fruit buds on all kinds of trees and bushes, and finally and not least, the marvellous display of bloom seen in the spring—a show of fruit-tree flower which has seldom been equalled.

But all this promise was during the month of April very much discounted by the long spell of low temperature which then prevailed, and which always acts disastrously upon fertility, hence it was felt impossible for all trees and gardens to entirely escape its effect, and many did not. Still there can be little doubt that the comparatively moderate set now seen on many fruit trees is very largely due to the strain induced by an excessive bloom. It is a recognized axiom with many old fruit growers that a gay spring is seldom followed by a prolific summer, by which is meant that an excessive bloom seldom becomes the progenitor of a heavy fruit crop. No doubt at the first there was promise of a big set on almost all kinds of fruit, but the lack of fertility in much of the bloom, induced both by the cause just referred to and to the long term of low temperature, presently told on the crop, and imperfect fruits have fallen thickly; hence, it is hardly correct to say that we find this season a heavy fruit crop, although, without doubt, we have an abundant one.

We find, for instance, wall-fruits are abundant, because under no circumstances are these trees permitted to overstrain themselves, let the setting crop be ever so great. But wall-fruits play a very unimportant part in the economy of the nation, and, therefore, they do not now require at our hands further reference. Our most popular national fruit, the Apple, is an abundant crop, though not generally a heavy one. The fruits have thinned materially during the past few weeks, and it is not at all probable that we shall see the abundance of Apples which marked the season of 1882. On the other hand, should the trees receive the assistance of some showers during the next few weeks, there can be little doubt but that the samples in the autumn will be large and good, so that thinness in number will be somewhat compensated for in extra size.

Altogether, we are very pleased indeed with the Apple crop, which should prove just large enough to be profitable. Pears have thinned even more than Apples, and happily so, for the first set was heavy. Still, there is what may be well termed a large sprinkling of good sorts, and an abundance of commoner kinds. We shall see fine clean samples presently, and should the project of a Pear congress at Chiswick this year be realized, the samples shown ought to be unusually representative and good. Plums, especially Victorias, are very abundant, although stoning time proved to be a veritable *pons asinorum* for many imperfect fruits. Still, trees already have to be supported with props, and that fact speaks volumes. Generally, we shall see a capital Plum year, and it is earnestly hoped that no false choleraic alarm may be raised to check the consumption of this useful fruit, and that growers may for once again obtain some little set off for many past bad seasons.

Cherries have widely proved deceptive, as fruit has thinned immensely since stoning set in, and we must regard the crop, except on walls, as a very moderate one. Even Morellos on standard trees are thin, so that the one Cherry crop of ten years is not for the present season. Gooseberries have generally been abundant, though in some gardens the April frosts and winds did much execution. Still there so far has been enough to make the fruit too cheap. Black Currants have thin bunches, but what fruit is hanging will be fine. The crop will be very good, though not heavy. Red Currants are very fair, and fine, and the Raspberry crop will probably prove to be one of the best of the season, as, indeed, it usually is. Strawberries are fair, but recent drought and heat have told somewhat upon the later fruit, and it is small, and ripening indifferently. Walnuts will not be very abundant, but small nuts should be an unusually heavy crop.

Bedding Plants.—No sooner are beds full, and borders gay with their summer occupants, than it is time to think of beginning to propagate in order to make provision for another year; but before doing this, it is advisable to make note of the effect produced the present season, to see if any improvement can be made, as now everything is under the eye, faults or weak points are soon detected, and may be easily remedied in any future arrangement. Where the beds are many in number, it is best to have a plan of them, and to mark out the rows on each, and make a list of the number of plants necessary to fill them, by doing which there is no confusion when the bedding-out season arrives, as all can be got ready beforehand, and no more of any one kind struck than is absolutely wanted for planting. This limiting of the stock not only saves valuable room, but it gives a chance of growing the plants bigger and better, which is a great gain, as by using such for beds and borders, they furnish at once, and quickly come into bloom.

The first things that ought to be started on are the Pelargoniums, which take the most time to root, and not only that, but if deferred till late, they are apt to damp off, as when growth becomes more rapid they are full of sap, and soft, in which state they seldom strike freely. This being so, choice should be made of the firm shoots as they become available; and though it may appear to rob the beds of much of their bloom to take these, the loss is only temporary, for in the end the thinning-out to which the plants are subjected really does good, as by letting in the light and air more flowering wood is made, and instead of a lot of weak, attenuated shoots, they all push up short-jointed and strong.

It is the practice with some to lay their Pelargonium cuttings out for a little time before putting them in, but that is quite unnecessary, and rather detrimental than otherwise, as during hot, dry weather it is a difficult matter to prevent them drying up, and to have them shrivelled before they go into the soil gives them but a very poor chance.

Gardening Miscellany.

Flower Shows for Next Week. — *Tuesday:* Meeting of the Fruit and Floral Committees at South Kensington, and Exhibition of Plants and Flowers. —Christleton Rose Show. *Wednesday:* Exhibitions at Bedford and Moreton-in-the-Marsh. *Thursday:* Flower Shows at Chiswick, Helensburgh, and Winchester. *Friday:* Show in the Botanical Gardens, Sheffield. *Saturday:* Wirral Rose Show at Birkenhead.

Mr. Sherwood, of the firm of Messrs. Hurst & Son, 152, Houndsditch, and one of the trustees of the Gardeners' Royal Benevolent Institution, has consented to preside at the next anniversary festival. The last representative of the seed trade who occupied the chair was the late Right Hon. Charles Lawson, Lord Provost of Edinburgh, twenty-one years ago, so that it is anticipated, and not unreasonably, we think, that "the trade" will next year make a special effort to ensure the success of the gathering.

A handsome gold watch of the value of fifty guineas, and a cheque for £450, was presented to the indefatigable secretary of the Institution at the late celebration of the annual festival, a report of which will be found in another column.

The annual picnic of the members of the Manchester Horticultural Improvement Society will take place on the 30th inst., when "The Dukeries" will be visited.

The Challenge Cup, valued sixty guineas, and £5, offered by the National Rose Society for seventy-two single trusses, was won on Tuesday by Mr. B. R. Cant, Colchester.

Mr. Reece, gardener to R. Whyte, Esq., Pentland House, Lee, on Wednesday won the Silver Memorial Cup presented to the Lee & Blackheath Horticultural Society by John Penn, Esq., in memory of the late President, Dr. Carr, he having at the annual show won the largest amount of prize money.

Mr. H. Bennett, of Shepperton, was successful on Tuesday in gaining another of the National Rose Society's Gold Medals for one of his seedling Roses—Mrs. John Laing—a very fine seedling from Francois Michelon, raised several years ago at Stapleford.

Mr. J. Clark, gardener at Manor House, Congleton, has been engaged as gardener to Mrs. Birchell, Ribbleton Hall, Preston.

Mr. T. Blair, son of Mr. Blair, gardener at Shrubland Park, has been engaged by the Duke of Sutherland to take charge of the gardens at Trentham, in the absence of Mr. Stevens through illness.

The annual Strawberry Fête at Chiswick took place on Thursday, and, favoured by fine weather, was well attended.

The last number of *The Gardeners' Magazine* contains the first portion of a complete catalogue of garden Roses, arranged alphabetically, and carried down to Louise Peyronny. Some of our readers will doubtless be glad to know of such a useful compilation.

On Friday next, Messrs. Protheroe & Morris will sell the new Angræcums, Leoni, Scottianum, and others, at their rooms in Cheapside. On Wednesday, there will be a special sale of Orchids in flower at Stevens's Rooms.

A copy of the portrait of the late Mr. G. Bentham, in the Linnean Society's Rooms, has been made for the Royal Gardens, Kew, by Miss Merrick.

Mr. James Lee, from Dalkeith Gardens, has been engaged as gardener to Captain Grant, Glen Grant, Morayshire.

The annual exhibition of the Finchley Horticultural Society will be held on Tuesday next in the grounds of Mr. Alderman Cotton, M.P., Woodside, Whetstone.

On Wednesday and Thursday next a Rose show will be held in the Botanical Gardens, Birmingham.

Lady Burdett Coutts lately made an offer to the holders of gardens on the allotment grounds at Highgate New Town of a bee-hive. The offer was accepted by six of those to whom it was made, and the bee-hives, with appliances, have been delivered to them by Mr. Abbott, of Southall.

A FLOWER SHOW AT BOCKING PLACE.

Lovely weather favoured the summer show of the Braintree and Bocking Horticultural Society, which was held on July 2nd in the extensive grounds belonging to Sydney Courtauld, Esq., at Bocking Place, and the fine day was all the more appreciated by the large company assembled, inasmuch as in the two previous years the shows had been held on pouring wet days. The four large tents devoted to the exhibits (nearly 600 entries) were well arranged throughout, reflecting great credit on the committee of management. Of the quality of the things staged in the different classes, it may be said that it was good throughout, and some of the collections contained specimens which would be fit to appear anywhere with credit. All the plants in Mr. Dance's group, which took Mrs. Harrison's cup of three guineas, were in splendid condition; the Cycas media and Cocos Weddelliana in Mr. Courtald's group, which was second, and the Cyathea Burkei in Miss Cawston's (third) were superb.

Mr. Sydney Courtauld's cup (three guineas), for a group of plants, went to Messrs. Saltmarsh & Son, but those of Mr. W. Dance and Miss Cawston, which took second and third prizes, ran them very close, all being at the first glance equally good. Mrs. Lowe's cup (three guineas) for eight Zonal Pelargoniums, also went to Messrs. Saltmarsh, as well as high honours in other classes. The prizes given by Mr. Sydney Courtauld for cottagers' window plants were well competed for, and so also were all the other cottagers' prizes, showing the usefulness of this healthy stimulus to labour and pleasure.

For six specimen exotic Ferns, Mr. Sydney Courtauld took the first prize with a grand and even lot, among which were a large and perfect Adiantum Farleyense, and a charming great specimen of the feathery Pteris scaberula. The specimen Coleus of Mr. F. Smoothy (first prize) were very fine, and the Gloxinias shown by the same exhibitor were equally good. Mr. W. Dance and Mr. Vaisey, who took the first and second prizes respectively for Fuchsias and Achimenes, contributed as well other good things, and Miss Cawston, Mr. Bishop, Mr. Sodor, Mr. J. W. Rolfe, appeared as victors in several important classes.

In the cut-flower tent some very excellent devices for table decoration and dress ornament were arranged, the judges seemingly having exercised great discretion and taste in making the awards. That given the first prize in the open class, belonging to Mr. W. Soder, gardener to W. V. Felton, Esq., Holfield Grange, was very neat and pretty; it was made principally of Roses, Rhodanthes, Forget-me-nots, and light foliage, with Water Lilies at the base. The first-prize stand in the amateurs' class was novel, beautiful, and all that could be desired, if its surroundings had been suitable; it was arranged by Miss Tufnell, and composed wholly of the bright golden Chrysanthemum segetum, and different varieties of Maiden-hair. The second prize arrangement of Miss M. E. Parmenter, composed of white Iris and scarlet Pelargoniums, was bright and tastefully set up, and altogether beyond reproach. Mrs. Holmes also made a very showy display in yellow with yellow Lilies, Eschscholtzias, &c.

Among the entries not for competition, a magnificent specimen of Cycas revoluta, nearly 12 ft. across, and heading up for fruit, and a fine Banana plant, were sent by George Courtauld, Esq., M.P. Fruit, vegetables, cottagers' produce, honey, and wild flowers, were well represented, and a numerous company attended to feast their eyes on the lovely flowers, their ears being well provided for by the really good music of the Braintree and Bocking Band, under Bandmaster Brown. It should also be stated that by the kindness of Sydney Courtauld, Esq., throwing open his garden and fine ranges of Orchid-houses to the visitors, the interest of the show must have been doubled, for it must have been a rare treat to all to inspect the fine collection of Pitcher plants, which are not easily to be matched, the grandly-flowered Cattleyas, Odontoglossums, Oncidiums, Masdevallias, &c., and the great number of curious insect-like flowers at present open in the interesting and valuable collection of Orchids at Bocking Place.

THE GOOSEBERRY CATERPILLAR.

Circumstances over which I had no control compelled me, four years ago, to abandon the practice of digging amongst our bush fruit-trees, which till then had been performed more for appearance sake than from any belief we entertained that it benefited the trees. Fruit-growers attach much importance to the roots of fruit-trees being kept near the surface, and much labour has been and is annually spent in raising them to that position; and it may be truthfully stated that more labour still is incurred in ruthlessly destroying annually the surface roots of our bush fruits, and so keep them as far down, in many instances, as the depth the spade will go. I have occasionally asked why this should be, but have not hitherto got a satisfactory reply, and I doubt very much if a reasonable one can be given.

It is noteworthy that since we have discontinued the practice we have not been troubled with the caterpillar on our Gooseberry trees, which confirms the evidence given by Mr. T. Swann, in The Gardening World of June 27th, p. 677, and the deduction therefrom, that to dig amongst the trees is to encourage the presence of these destructive creatures, by preparing suitable lodgings for them in the winter. Before reading Mr. Swann's remarks I had shared the credit of our immunity from this annual plague between ducklings that are turned into the garden early in the season and our practice of scraping the surface of the soil about 1 in. deep after the leaves have fallen, which we either burn or deeply bury. Even this operation was really not conducted in a hostile spirit against insect life, but as a ready means of clearing the surface of weeds and any seeds that may have been deposited.

Ducks are great scavengers, and I have long discovered that they will greedily devour these caterpillars as well as the larger ones that visit our Cabbages and Cauliflowers towards autumn, and they will pick them off the plants as far as they can reach when their attention has once been drawn to them. The Gooseberry trees should be well shaken when the ducks are enticed under them. I have been highly amused at the sideway toss of the head and the inquiring upward look if after shaking a few I have left off and the last one is picked up. It is then that the ducks become aware of the source of their feast, and without ceremony they will begin to help themselves. It is customary with us to wheel the remains of old hotbeds, which are chiefly made of leaves, amongst our bush fruit trees. This we do when the weather is favourable, advantage being usually taken of the first frost, and the material is placed in heaps at convenient distances, and after pruning and the necessary cleaning up, it is spread from 2 ins. to 3 ins. thick over the whole surface of the ground.

In this material the ducklings as they get older are always foraging, and as the ground under it is quite hard, there is no lodgment beyond the ducks' reach for the insect to go through its transformations.

The year previous to my adopting this plan, three parts of the leaves on our trees were devoured, so that nothing remained but the petiole. Should we not experience any further inroads, we shall conclude that we have hit upon an inexpensive and effectual preventitive for this destructive pest.—*W. P. R.*

GARDENS ROUND ECCLES.

Claremont, Eccles Old Road.—This is one of the finest mansions on the south-west side of Manchester, and is situated most pleasantly in park-like grounds. It is the seat of that well-known philanthrophist, Oliver Heywood, Esq., J.P., whose large-hearted generosity and kindness it is not our intention here to dilate upon. Mr. Heywood is a descendant of an old Lancashire family which can be traced back to one John Heywood, who lived in the reign of Edward VI. The mansion is of the Georgian style of architecture, with the main front facing the south, while on the west side are obtained good views of Worsley and across Chat Moss. On the west end of the mansion, but facing south, is a grand mass of the Golden Ivy—quite an exceptional example in size and colour.

The chief entrance is by a lodge in character with the age in which the mansion was built, off the Eccles Old Road, overshadowed by some fine young Beeches. The coach-drive is more in harmony with the surroundings than any I have seen in the county, and were I to make a guess as to who designed it, I should say that, taking into consideration the graceful undulatious of the park, with the haw-haw which separates the garden from the park, and the disposition of the trees, it would be the work of either Repton, or one of the early efforts of Loudon. As a whole, it is most harmonious, and Mr. Heywood is to be congratulated on possessing such a delightful bit of landscape so near town. The main portion of the lawn is on the south side, but there is also a fine stretch on the west, and some grand masses of choice Rhododendrons and Hollies are seen in various directions. Here, also, is a handsome young specimen of the Moss-cupped Oak, perhaps 50 ft. or more high, and having a spread of branches of many yards. nearly reaching the ground, and growing out of a bed of Ivy. At the extreme end of the lawn is a pretty miniature rockery with bubbling fountain.

The kitchen-garden and plant-houses are on the north-east side of the mansion, well sheltered with trees and shrubs. The belting of choice Rhododendrons round it has been a grand sight this season. The garden is well cropped, and a cross-walk with herbaceous borders on either side is very interesting at all times. As to the houses, well, they are just such as we should like to see more frequently. Cut-flowers are in great demand; and Mr. Bridden, the intelligent gardener, seems to have the happy knack of producing them in abundance, yet always keeping his houses gay. When we say that there are more flowers given away to hospitals, infirmaries, sick and invalid friends, and for church decoration, than many grow with more glass houses at command, we are not exaggerating, for such is the fact. It is a pleasure with this large-hearted gentleman to thus dispose of his flowers among those who are suffering, and who see only too few of Nature's lovely offerings; and right well does Mr. Bridden carry out his employer's wishes.

Among the many good things we saw at Claremont, there were few which pleased us more than a fine mass of the old Camellia Donkelaari, covering the wall of the Camellia-house; the flowers were grandly coloured. There are a few good kinds of Orchids here, and also some noble Azaleas, which are worth seeing when in bloom. Claremont is the best specimen of the landscape gardener's art to be seen on this side of Manchester, judged from the laws laid down from time to time by our best authorities; and, happily, it was laid out before the days of the so-called "landscape day gardener," that nondescript combination of labourer and jobbing gardener who has so much disfigured the suburbs of our large towns.—*N. J. D.*

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The forty-second anniversary festival of this flourishing institution was celebrated on the evening of July 3rd, at the Albion, Aldersgate Street, under the Presidency of the Treasurer, Mr. Edward Tidswell, whose portrait we had the pleasure to present to the readers of The Gardening World in our last number. The fact that while many other charitable institutions are feeling the effects of the depression in trade, the Gardeners' Benevolent Institution is in a more flourishing condition than it ever was, was abundantly demonstrated by the large and influential company assembled to do honour to the occasion, and the handsome sum collected for the charity—about £750. The decoration of the tables with flowers and fruits—always a strong feature at these gatherings—was in advance, for good taste and quality, of any previous displays, and not the least interesting floral feature of the evening was the presentation (by an anonymous donor) of two lovely bouquets to Miss Mary Belval and Miss Cockburn, who during the evening enlivened the proceedings with some appropriate songs, charmingly rendered.

The usual loyal and patriotic toasts having been duly honoured, the Chairman, in giving the toast of the evening, "Success to the Gardeners' Benevolent Institution," said the institution had now been in useful service since the year 1838. For two or three years it had a lingering existence, but about 1842 fresh

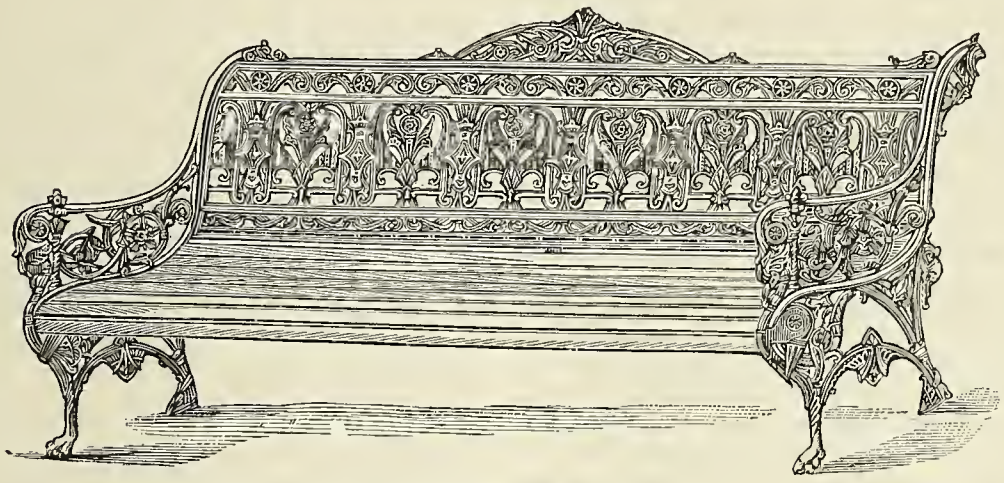
life and vigour were imparted to it. From that day forth it had been as flourishing as any of the lovely products they saw on the tables before them. They had had something like 500 annuitants receiving pensions of £16 and £12 per annum. It was gratifying to reflect that, as men engaged in commerce, they could yet feel they had contributed to smooth the last days of many a poor sufferer. Until last Christmas the pensions were only £16 for men, and £12 for women, but, owing to a legacy of £450, and a most generous donation of £500 from an anonymous donor, they had made a great effort to increase the pensions, which they felt to be somewhat inadequate. By the great liberality of their contributors, they had been enabled to fund such a sum as would allow the committee to raise the pensions from £16 to £20 for men, and from £12 to £16 for women. At the present time they had 104 annuitants—54 men and 50 women. The chief aim of this society had been to endeavour to make gardeners feel the value of thrift, because they honestly believed that it was right for everyone to assist those who had first tried to assist themselves; hence the fundamental rule of the society was that any gardener who subscribed his guinea a year for eighteen years, or who gave his ten guineas in one donation, should take precedence over any others who might be elected. Another fundamental principle was to make their expenditure for all efficient work as small as possible, and he was glad to say that nearly the whole of the contributions went to the annuitants. Referring to the lovely display of flowers before him, he said it was very difficult to dissociate the product from the producer. This bower of roses, this beautiful exhibition, if not a flow of soul was certainly a feast of reason, and on behalf of the company present he desired to thank the Duke of Westminster (a liberal contributor to their funds), Messrs. Veitch & Sons, Mr. J. Laing, Mr. Cutbush, Mr. Paul, Mr. Fraser, Mr. B. S. Williams, and others, for their lovely presents of fruits and flowers. They all knew the value of flowers. Even the ordinary households of the present day were not well furnished unless there were a few cut-flowers on the table, and the children went into the hedgerows to find some little flower to take home to their cottage or garret, where it exercised a humanizing influence. If they contributed liberally to the funds of this institution, when they went round their own garden they would see a greater delight, and smell a sweeter perfume in every flower. By their generous actions that night, everything would be intensified to their heartfelt satisfaction and lasting pleasure through life.

Presentation to Mr. Cutler.—In adding to their funded property the committee had been greatly assisted by the secretary, who, since the year 1842, had night and day, without stint and to some extent without tangible reward, worked for the institution, until it now stood in a very proud and prominent position. The committee believed that the benefits accruing to the institution were mainly due to his great efforts, wonderful assiduity, and marvellous gifts. Immediately after the realization of the hopes they had lately been working for, it was at once suggested that a testimonial should be presented to Mr. Cutler, and he now had very great pleasure in offering him a valuable gold watch and a cheque for £450. He was glad to say that 480 subscribers had contributed a sum of £505 up to that time, and if the amount should be swollen to £705 or £1,005, no one would be more gratified than himself. In making the presentation, the Chairman observed that it did not at all adequately represent the debt of gratitude which everyone connected with the institution owed to the secretary.

Mr. E. R. Cutler, who was received with great enthusiasm, said he must really be as hard as stone if he were untouched by the very kind remarks and flattering sentiments expressed that evening. He assured them he was deeply moved by this very handsome present which they had so generously and kindly given to him, and which the chairman had so graciously presented. Some forty-eight years ago he came to London without a friend—literally without shoe or jacket; he was a ne'er-do-well, looked upon askance by everybody. He thought he should never have got on, but Providence turned up a friend, one of the promoters of that institution, the late Mr. Noble, of Fleet Street. He behaved like a father to him, and procured him a situation. He gave him not only good advice, but also the run of his house, and almost of his purse. He owed to that Scotchman all the success he had since attained. Mr. Noble told him that if a thing was worth doing it was worth doing well, and he advised him to stick to his situation. He had done so. His friend gave the same advice to another gentleman present that evening—one holding her Majesty's commission, and occupying a place on the court of the Haberdashers' Company, and he also had followed Mr. Noble's advice. There was alway a little dark side to a bright question. Many gentlemen present had sons growing up, he had none. He had hardly any relations who cared for him, except his wife. She would look upon this present with great pleasure, and in years to come, if they should be spared, they would both look back upon this evening as "one bright spot in memory's place." He would conclude in the words of Shakespeare, "Beggar that I am, I am poor even in thanks."

Mr. Shirley Hibberd proposed "The Corporation and City Guilds," to which the Master of the Fruiterers' Company briefly responded.

Mr. G. Lambert, who occupied the chair at the last festival, proposed "The Health of the Chairman," who, he said, was a man, a gardener, and a gentleman in every sense of the word. The Chairman acknowledged the compliment in felicitous terms; and Mr. J. R. Bourne gave "The Seed and Nursery Trades the Parents of the Institution," to which Mr. N. Sherwood and Mr. B. S. Williams responded. "The Health of the Stewards and Committee of Management" was proposed by Mr. Lambert, and acknowledged by Mr. W. J. Nutting, the remaining toast being that of "The Ladies."

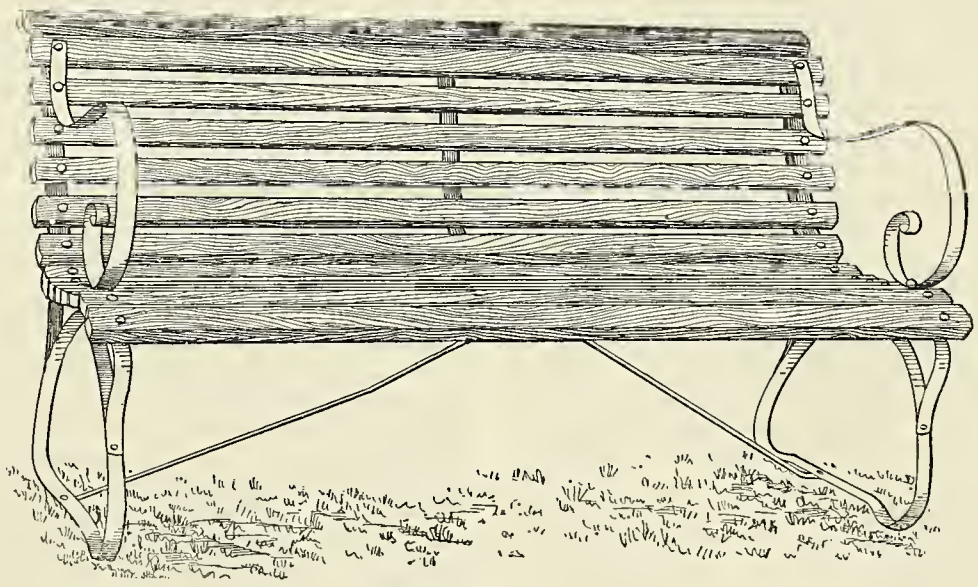


THE IMPERIAL GARDEN SEAT.

GARDEN SEATS.

In the dog days more than at any other season, no accessory contributes more to the enjoyment of a garden than a comfortable seat in a secluded spot sheltered alike from cold winds and glaring sunshine. We use the word comfortable advisedly, for there are seats and seats, the one well designed to afford rest and repose to the human frame, the other generally a rustic affair made by the average village carpenter, and generally unendurable. It must not be supposed that we despise rustic seats, on the contrary, there are many positions about a garden where they are most appropriate, as for instance, what for want of a more fitting designation is generally called the wild garden, and by the side of woodland walks, &c , where a highly finished article would be out of character, but even here the man who makes the seat should be given to understand that it is intended to be sat upon and not to be used as an instrument of torture.

In dressed grounds near the house, a better class of seat is more appropriate to the surroundings, and for such positions the home-made article cannot be expected to compare with the productions of the skilled manufacturer, which, as a rule, for comfort and elegance are all that can be desired, and which can be obtained nowadays at prices much below those which prevailed a few years ago. Many firms make the manufacture of such seats a speciality—such, for instance, as the Messrs. Deane, 46, King William Street, E.C., who make them of all sorts and sizes, from a simple folding wood chair to the beautifully-designed "Imperial" lounge, and the equally useful villa seat, of which we give illustrations.



THE VILLA SEAT.

Early Strawberries.—A Clackmannan correspondent of *The North British Agriculturist* writes:—On June 30th, Mr. Lamont, head gardener to Lord Balfour of Burleigh, pulled a small basket of ripe Strawberries, grown out-of-doors, and although about six weeks ago they were fully a fortnight behind, this is four days earlier than ever they have been for the last twelve years. There were in the basket two varieties, the first being the Great Unknown, which was supplied by Mr. Hamilton, of Preston Hall, and though it did no good in that district, it appears, by the industry and skill of Mr. Lamont and the natural capabilities of the place, to prosper at Kennet. The other variety was Keen's Seedling.

SCOTTISH GARDENING.

The Hardy Fruit Crops.—Now that we have entered on that period usually known as the "dog days," one may venture to make a fair estimate of what crops the fruit-trees in the orchard or hardy fruit garden will give us in return for the anxiety and labour, the hopes and fears, we have experienced since last autumn, which was (in many localities) very favourable for the maturation of fruit-bearing wood and the formation of natural spurs. The latter always afford us pleasure and give hopes of at least plenty of fruit buds, and in most cases the buds from such spurs are far more likely to set and not drop their fruit than the buds formed on long shoots. Certain kinds of fruits (Apples, Pears, and Plums especially) are much more apt to produce such spurs than other varieties, and the state of the roots has much to do with the formation of such spurs. Long thongs of roots reaching far into the soil, too rich or strong to be natural for the production of fruit, drawing up sap late in autumn, when the sun has lost its power for ripening growth, is at the bottom of many of our fruit failures. But when, on the contrary, trees have had skilful attention at the roots (which is the proper means of making the tops perform their functions), they will become like those of an old Box tree matted with fibre, and could be transplanted when in full growth, even at this season (as we have done some valuable standard Hollies lately). Under such conditions fruit-trees of any kind are better able to stand against severe weather, or any other untoward circumstances, and bear fruit more freely than those which are gross and without fibre.

We never had proof of this more abundantly than at present. The extra mild winter, which was not conducive to the resting of the young wood, seemed to lessen our hopes of plenty; but the late cold spring, with a minimum of sun, kept the buds from expanding. Danger from frost seemed to be past when Plums, Apricots, and small fruits opened their flower-buds; but frosts later than usual set in and weakened the crop of Apricots and Plums. We noticed a quantity of Gooseberries drop after being formed, and Currants also suffered, but nevertheless the crop is a heavy one. Gooseberries are far too heavy, and are hanging jammed together like unthinned Grapes, on old and young bushes alike. A large number of old worthless-looking bushes which were lifted two years past, trimmed rather severely and transplanted on fresh ground, and well mulched, are bearing in such a way as we never remember seeing Gooseberries do before. We sometimes read of the system of non-prunning of Gooseberries, but after seeing the results obtained by market men and others who grow bushes so largely for supplying green fruits, we are more in favour of properly pruned bushes than ever. The straightest shoots are retained, not shortened, if they are strong enough to carry a crop; a few old branches are removed yearly, and under such conditions trees should never fail. When bushes are lifted and replanted on good firm bottoms, and well cared for, the fruit is much improved, and the bushes, by being less "woody," are more manageable.

Of Cherries there are good crops on established trees; our own were only planted two years ago. Morellos and some others are bearing fair sprinklings. We believe strongly in fruiting all stone fruits as early as they will produce a crop. It helps to prevent a strong, unfruitful growth, and, being a non-believer in much "cutting back," which is an old practice rather too firmly established, the trees always making enough of growth, as we have indicated we prefer "regulating" by the roots. On a high wall lately in an old garden we noticed some Cheery-trees bearing heavy crops. The gardener in charge said they did not bear much at one time, being covered with "snags" and spurs, but getting rid of these and introducing healthy young shoots, the habit of the tree changed from barrenness to fruit bearing. I, however, observed that these shoots laid in were all matted with spurs, short, fruitful, and close to the walls; the old stunted spurs being long and spreading did not allow the abundant show of blossoms to expand and set.

Pears and Apples of most kinds suitable to the district are a heavy crop on old and young trees alike. In an old orchard here they are very heavy, but many of the kinds found in these old orchards are dying out and becoming fruits of the past. It is supposed, and not without due consideration, that such orchards of hardy fruits do not return true value for the outlay on them. We are strongly inclined to dispute this argument, and in districts like this (Stirling), which is thickly populated, large quantities could be disposed of. We observe the amount of vegetables and fruit from Belgium and other parts shipped to our neighbouring ports and sold at such prices, even second and third hand from the shops, which would pay. We are lead to believe that orchards planted with Apples and Pears which bear abundantly every year (we know kinds which are loaded every season) would pay, and we would plant them as in Worcestershire and some other parts, as tall standards under which sheep could graze, or even cattle. The heaviest crops of grass, and by no means the least valuable, can be grown in such orchards. A few yards from where we write the grass is as high as a man's waist, and is readily eaten by a herd of bullocks and draught horses when cut and carted to them fresh.

In establishing such an orchard we would follow the example illustrated in the orchard referred to, which is probably more than a century old. The trees are in rows planted on semicircular ridges, so that the water runs to the sides when superfluous. The depth of surface soil is increased, and the roots under such conditions are likely to keep nearer the sun and suffer less by going down into the subsoil. These old trees have done so, but many of them are being cleared away to make room for ornamental pleasure gardening. For an orchard at the present time a selection and not a collection of kinds should be chosen. The selection of Apples and Pears would be few. Among the Apples would be, for first cooking supply, Lord Suffield and Keswick Codling, then Stirling Castle, Seaton House, Northern Greening, and King of the Pippins. These have never been known to fail here; every season, favourable or unfavourable, these Apples load the trees, which are mostly dwarf standards in the vegetable garden; they never had much favour shown them, Gooseberries and vegetables being always crowded up to their stems; this was done while the ground was let for market purposes. The last three kinds of Apples named give a supply from October to May; there are others worthy of cultivation, but these always have done well and will do, from the North to the Land's End.—*M. T.*

SELECT HARDY PERENNIALS.

(*Continued from p.* 695.)

Cypripedium spectabile (The Showy Lady's Slipper).—This is without doubt the finest of all known terrestrial Orchids, and certainly a gem among select hardy plants; indeed, it will vie with any tropical species with which I am acquainted, and when so much as this can be truthfully said of it, this alone should render it as popular as its merits entitle it to be. There is no garden probably wherein some quiet shady spot may not be found, and as it delights in such a position, let it be placed there. Spongy peat and leaf-soil in equal parts is the compost for it, and water must be given freely during the growing season. The flowers are produced on leafy stems about 1 ft. 6 ins. or 2 ft. high, and are of a delicate rose colour, the sepals and petals being white, and it is readily distinguished from all others by the large, much inflated labellum or lip. When well established it frequently produces two flowers on a single stem, so that large clumps are most effective; it is hardy in the extreme, and all who have a desire to embrace hardy plants should not be without it. It comes from North America in quantity annually, so that it may easily be obtained.

C. calceolus (The English Lady's Slipper) is by far the handsomest of our native Orchids, though now very rarely found wild. In this case the lip is yellow and marked with purple, the sepals and petals are much longer than in spectabile, and are of a brownish-purple. This species delights in a deep rich loam, or in peat and loam in equal parts, and well drained. It is abundantly distributed throughout Continental Europe, and easily obtained; these and the several other species flower during the last and the present month, and are therefore good and choice ornaments for the garden at this time.

Delphiniums or Larkspurs.—For a midsummer display among hardy plants, we have no more effective plants than these, and as though they were destined to meet the requirements of all gardens, large or small, they vary in height from 1 ft. 6 ins. to 6 ft. and upwards. The tallest invariably have densely pyramidal spikes, and as these are on the wane the lateral spikelets are produced in quantity on many varieties; towering above all other flowering plants just now, they are indeed glorious, and no garden is complete without its complement of them. They need no special culture, nor any special soil; that found in most gardens meeting their simple requirements, if enriched with manure as for a Potato crop.

These, in common with most groups of florists' flowers of the present day, are represented in great numbers, and it is difficult to know which are the best and most distinct, but, with a view of assisting those who may require a few very good and distinct sorts, I will mention twelve each of single and double flowering varieties, taking the single ones first:—Coronet, 2 ft.; Hendersoni, 2 ft. 6 ins.; Bella Donna, 2 ft.; Cantab, 4 ft.; Cœlestinum, 5 ft.; Grandiflorum, 2 ft. 6 ins.; Admiration, 4 ft.; Formosum, 3 ft.; Formosum lilacinum, 3 ft. 6 ins.; Magnificum, 4 ft.; Wheeleri, 4 ft.; Splendidissimum, 4 ft. Double kinds:—Alopecuroides, 5 ft. to 6 ft.; Argus, 3 ft.; Barlowi versicolor, 4 ft.; Keteleri, 4 ft.; Grandiflorum plenum, 2 ft. 6 ins.; Jules Bourgeoise, 3 ft. 6 ins.; Prince of Wales, 4 ft.; Mons. Barrall, 3 ft.; Pompon Brilliant, 2 ft.; Madame Henri Jacotot, 4 ft.; Madame E. Geny, 4 ft.; and Ranunculæflorum, 3 ft. 6 ins. These include the very best. I should say, however, that they do not always attain the height given the same season as planted, and probably the second year will be somewhat higher, since so much depends on the season itself; the height given, however, will be a good guide for planting.

Probably the most interesting operation in connection with these plants is the raising of them from seeds, as from a shilling packet a number of plants may be obtained, and which may be almost as varied in colour. Seed sown now, or even later on, will make small plants, which, if liberally treated, will flower at about ten months old, when the inferior kinds may be marked for the shrubbery, and the best for the mixed border or for beds. If the old spikes are removed directly the flowering is complete a second lot will soon be springing up, which materially lengthens the season of flowering.

Delphinium nudicaule.—This is quite a departure from the predominant colour in the Larkspur, as in this case it is of a bright orange-red; it grows from 1 ft. to 1 ft. 6 ins. high, and when several are planted in a group, the effect is most pleasing. It comes true and freely from seed.

D. chinense.—This and its numerous forms make up a very pleasing and distinct group in many shades of colour—blue, white, and purple prevailing. This is also freely reproduced from seed.

Dianthus.—In referring to these, I will confine my remarks to that section known as Mule Pinks, and which form an extremely showy and highly decorative group of hardy perennials. Very free-flowering, perfectly hardy, deliciously scented, and useful in a cut state are some of the many good qualities which these possess, while as decorative border plants they are among the finest; some of the forms are very large, and when seen in masses are productive of the most brilliant effect. D. hybridus Atkinsoni, which is the only single-flowered kind I shall name, is probably the brightest of all in colour—a vivid carmine-crimson, and the individual blooms 1½ ins. across. It is one of the most striking of summer-flowering plants, certainly a gem. D. hybridus Marie Parc is the pure white and double Mule Pink, an old-fashioned plant, and still one deserving to be better known; it is a free-grower and of dwarf habit. D. hybridus Miss Patterson has flowers of a rich crimson colour, freely produced, habit good and vigorous. D. hybridus Napoleon III., a grand plant long lost (or at least, if not lost very rare), but now making good progress; it grows 15 ins. high, and produces in great profusion large double flowers of a dazzling crimson; this is without doubt one of the most effective of dwarf plants for summer flowering, and everyone should possess it.

Propagation of Dianthus.—Cut away the spikes after flowering, and as the young growths from the base attain a length of 3 ins. or thereabouts, strip them off with a heel attached and insert in sandy soil under handlights; in a shady spot they root readily, and this is the only sure method of keeping up a stock of good vigorous plants.—*J.*

LINNEAN SOCIETY'S ANNUAL SOIREE.

The Linnean Society's Annual Soirée, which was held on Wednesday evening, July 1st, at the Society's rooms, was a decided success, some very interesting and handsome plants being exhibited. Amongst the principal contributors were Messrs. B. S. Williams, Veitch & Sons, T. S. Ware, the Royal Horticultural Society, the Royal Gardens, Kew, and the Edinburgh and Cambridge Botanic Gardens. Of plants worthy of special mention are the following:—A fine healthy specimen of the remarkable Myrmecodia armata, a plant rarely if ever exhibited alive before in this country. The stem is swollen to the size of a large Turnip and covered with spines, the interior being tenanted by a colony of ants. It is interesting to note that the plant thrives equally well without the presence of its enterprising tenants. Pelargonium schizopetalum is a highly curious Cape species, the petals being deeply cut into narrow segments, as the name indicates. A healthy young plant of the remarkable Welwitschia mirabilis, with its two persistent and perennial leaves. The foregoing, with a number of others, which included the rare Phylloglossum, were sent from Kew. Some very handsome fine-foliage plants were in the nurserymen's collections; also a number of Pitcher-plants, including fine specimens of the beautiful hybrid Nepenthes Mastersiana, some fine Saccolabiums, and the Australian Cephalotus follicularis in superb condition. Several fine Cattleyas were conspicuous objects, including C. grandis and Mendeli; also a fine Galeandra Devoniana. A large and graceful branch of the true Dioscorea retusa was sent from Cambridge, showing it to be very distinct from the recently-described and equally graceful D. crinita. A large specimen of the old Spiræa palmata was very attractive, the crimson flowers with the rich green background showing up with great effect in the gaslight. Many of the most effective herbaceous plants were well represented, also numerous others not included under this head. A number of Orchid paintings, and some excellent photographs of medicinal plants were also on view. Other classes of Natural History objects were also well represented, but as these do not come within our special province, we pass them over. Suffice it to say that the Society's rooms on this occasion presented a most brilliant spectacle in more ways than one.

THE TREES IN EPPING FOREST.

In these 5,928 acres of ancient waste and woodland we have trees of comparatively few varieties. Noble Willows grow on its western boundary, rising from a stiff clay soil, and attaining handsome proportions. In the northern and more picturesque parts between Queen Elizabeth's Lodge and Epping are Oak, Hornbeam, Blackthorn, Beech, and Hawthorn, with, in much fewer numbers, Crab, Elm, Ash, an occasional Maple, a steadily increasing number of Birch trees, and some few others, with a luxuriant undergrowth of Hollies, Brambles, Ferns, and struggling, straggling shoots and seedlings. The vigorous policy of clearing out the close forest undergrowth adopted by the authorities, especially noticeable last autumn and winter in the thousands of bundles of cut bough and bramble lying over the Forest stacked for carting, is probably regarded with something like horror by the butterfly, insect, and wild-flower hunters of Epping.

Mr. Buxton, one of the verderers, with a lifelong acquaintance of the Forest, anticipates objections to the thinning of the pollard trees—some thousands of which have been cut down—in his recent valuable and sympathetic book. He does not refer to the wholesale clearing and trimming of the undergrowth, which in the course of time, objectors to the system are never tired of declaring, will convert the Forest into a park. There is, however, something explanatory to be said. So much good has gone hand in hand with this "clearing" in the way of opening up the once bog-like bottoms by ditch and draining, and of making the pedestrian's paths straight by the cool cleared green "Rides," that the average visitor would be churlish indeed who demurred at the general "excellent way" of the Forest authorities. But one may hope that for every pollard cut down in the thickets a sapling will be planted in the open Forest tracts.

The Oaks are of the species which the botanist calls Quercus sessiliflora. Its fruit is produced close to the stalk, and the leaves are smaller than most other varieties. Generations of amateur woodcutters have pollarded them out of all semblance to the grandeur and majesty with which ancient Oaks are usually associated; but some fine ones have been preserved. Of these the largest stands by Fairmead Lodge, with a bole 22 ft. in circumference. Another fine tree is that known as Bedford's Oak. In April its amber-and-golden buds stud the branches with jewel-like beauty, and with leisurely slowness blossom just as the young leaflets are beginning to expand. In October its acorus appear in richly embossed cups, to be carried away, and planted where some will have a chance to grow, by strong winds and active squirrels. On some of the old Oaks tufts of Fern prettily spangled with gold will be seen growing. It is said that the ordinary duration of the Oak is 900 years, and many in the Forest are at least as old. Insects abound in the Oak. "Those lovely creatures, the butterflies of various kinds, beetles, and a multitude of little creeping things," of which only the botanist knows how many, flock to it, abide in, or lodge upon it.

The finest specimens of that stately tree, the Beech, must be sought on the highest ground, where the soil is lightest and driest. There are some noble groves near High Beach, in the Monk Woods, and in the Green Ride of Epping Thicks. Under the Beech boughs the walks are dry, and in summer-time pleasantly cool. Its branches, sweeping upward to great heights, form stately arches, and the smooth grey bark and divisions of its bole often make it look very like a cluster of stone pillars such as we see in Gothic architecture. In autumn its foliage assumes the rich hues of amber, gold, and copper, and is strikingly beautiful, especially at sunset; and then, too, begins the formation of those spike-like buds which the spring merely develops into more visible forms, and so death and vitality go hand in hand. The Beech is not in favour with the insects, nor will the Grass spring up in its shade; but Mosses and Fungi love to overspread its roots and climb its mighty boles. One of the most beautiful aspects of the tree is seen when the sun shines through its leaves just after a shower.

Hornbeams, which are sufficiently like Beeches to be mistaken for them, abound in Epping. No matter what the soil, wet or dry, light or heavy, these hardy members of the sylvan fraternity flourish under the most unpromising circumstances, and defy the roughest ill-treatment to weaken their vigour or check their obstinately persevering growth. The deer are particularly fond of their early springing leaves, and this may account for such an abundance of these trees in a royal forest wherein all things once played a subordinate and ministering part to the lordly beasts. The branches of Hornbeams have a singular tendency to rejoin and blend with the parent stem, and this will be often noticed in the course of one's Forest rambles.

The graceful sway and delicate curves of the Lady Birch (Betula alba) afford striking contrasts of form and character, and the rich abundance of its winged and wind-borne seeds give promise that in the future this pretty tree, with its silvery Moss-ringed stem, will, wherever the soil is dry enough and open for their reception, make many a pleasant grove, with flickering sun and shade. It is here a comparatively new-comer, but has propagated of late years with singular rapidity.

The Hawthorn, which delights the eye in the "merry month of May," with its rich luxuriance of white blossoms, has many an ancient and rugged-looking specimen in all parts of the Forest. Blackthorns, which blossom earlier, are also plentiful, and make the dense thickets impenetrable with their picturesque stems. The Alder and the Wild Cherry are also amongst the Forest denizens.

In the future we shall doubtless have trees in much richer and more varied abundance; for great spaces of stolen land newly recovered (thanks and many thanks to the Corporation of the City) are to be planted with all possible speed. These young woods will, of course, give fresh variety to the scenery; but it is worth the consideration of those who have the planting and management whether they would not do well to introduce trees of foreign origin which are known to take root and flourish in such soil as the Forest possesses. As to the merely sentimental and fanciful objection urged against them because they are not now English—as many grand old trees now common in England once were not—is it worth the serious attention of either artistic or practical men? Imagine what a charm there would be in contrasting Oak and Beech with the neighbouring and more richly ornamental forms and colours of a wild American forest, with their rich undergrowth of flowers and blossoming plants. Mr. Alfred Wallace once pointed out that, "Nearly all these American trees (such as Sugar-Maple, Hickory, Tulip, Red-wood, and the Locust) could be raised from seed almost as cheaply as the very commonest kinds;" adding, as to the time of growth in such trees, "The Wellingtonia will reach 20 ft. in ten years; the Douglas Fir grows even more rapidly when young;" and pointing out how, at Dropmore, "the beautiful grass-green Pinus insignis reached the height of 68 ft. in thirty-four years." The coniferous trees of Western America might elsewhere be "planted in masses, groups, or belts, and with winding paths, broad glades, and occasional shrub-planted openings admitting free access to every part of it, would probably be even more attractive than a forest of Eastern America," which also, according to Mr. Wallace, should have its place in the new portions of Epping woodland. Eastern Europe and Western Asia also contain a large variety of trees which might be naturalized here in Epping, and there is no reason why we should not have a Japanese forest side by side with the ancient woods of Essex. As an artist and a lover of forest rambles at home and abroad, the writer heartily commends the idea to those who are set in authority over London's Romance, the wilds of ancient Epping. —*Lindley's "Walks in Epping Forest."*

NEW GARDENING PATENTS.

[*Compiled by Messrs. Lulman & Co., Patent Agents, 8, Essex Street, Strand, London, W.C.*]

4649. Opening and Closing Windows (for Greenhouses, &c.) (G. Paine, Worthing).—A rod is jointed to the sash door or shutter and to a curved lever. The lever is pivoted at its top end where it hangs and has a weight connected with it to counterbalance the sash. There may be a separate weight for every sash, but when a series of sashes are to be actuated, each lever may be secured to a shaft and one large counterweight used. In this case the shaft may be rotated by worm and wheel, all the windows opening together.

15,038. Manure Distributor (J. H. Johnson, London).—The manure box or hopper has outside the outlet a distributing rake which receives a side to side motion from an eccentric as it travels. The manure is brought forward to the front of the machine by an endless band, and is regulated in its distribution by a slide.

2292. Corners for Garden Frames (C. J. Price, West Molesey, Surrey).—The corner pieces are of cast iron, and are made as long as the required height of the frame. Channels are formed on two sides to admit the ends of the boards forming the sides of the frame. The boards are fixed by pegs or screws passing through holes in the iron.

7363. Daisy Rake (S. Rowland, Cranleigh, Surrey). —A receptacle with teeth formed on its front edge has a raised guard fitted to the back and sides. On the back of the guard is a socket to receive a suitable handle.

8173. Grass Marker for Lawn Tennis (A. Gowans, Edinburgh).—A wheel with an india-rubber tyre is fixed to a long handle. On the top of the handle and near the wheel is fixed a box to contain the mixture of whitening and water or other marking material. This box has a spout so arranged that when the handle is lifted up, the liquid passes out through the spout on to the wheel, which as it passes round leaves a white mark on the grass. The handle is dovetailed into the frame and fixed by a thumb screw so as to be detachable.

The Amateurs' Garden.

THE GREENHOUSE.

Fuchsias.—To have a continuous succession of flowers, and keep the greenhouse gay, a great variety of plants must be grown, but none come in more useful at this season than Fuchsias, which ought to be at their best now, and to keep them in this condition as long as possible they should be supplied with weak liquid manure, which may be given daily, or as often as the plants are dry, when, by affording them this assistance, they will go on blooming for months to come. Although Fuchsias do not like the full sun, they require plenty of light, which keeps the shoots short-jointed and strong, and makes them firm and hard, as does also exposure to the open-air, and therefore any plants desired to come in late may be stood out-of-doors to advantage.

Pelargoniums of the Zonal class are all very showy and fine for summer decoration, but to have them at their best they must not be subjected to a particle of shade till they get well advanced, and the nearer they can be stood to the glass, the more compact will they be. Those required to come in late should be out on some sunny border, either plunged or placed on a board, but not potted in large pots, as they flower most freely when pinched at the roots, the growth they make then being solid, and later on, when the plants need assistance, it may be afforded by giving them liquid manure. The show and fancy kinds will now be as well laid on their sides, or if not placed in that position, they should be kept dry to hasten the ripening of the wood, and as soon as this is of a nutty brown colour and firm, the shoots may at once be shortened back to within two or three eyes of their base, after which they will soon break, and the plants be ready for shaking out and re-potting.

Calceolarias of the shrubby varieties make a grand show at and after this season, and should be largely grown, the best way of managing them being to plunge them in some half-shady spot out-of-doors, when, if kept sprinkled overhead and properly watered, they will flower profusely, and be very telling after they are arranged on the stage in the greenhouse. The herbaceous sorts are even more desirable, as they come in at a time when there is not much else, but although this is so, many do not cultivate them owing to the difficulty they have in getting them up, which after all is a very simple matter, if only a little care is taken in sowing the seed. The way to do this is to prepare a pot by well draining it and then filling it with finely sifted soil, which should be pressed down slightly and made smooth on the surface, when after being watered, the seed may be sown, the next thing being to cover the pot it is in with a pane of glass, to keep the air close and moist, without which the seed will not germinate. The most suitable place to induce it to do this, is in a cool, shady damp spot under a hand-light stood behind a north wall, and to keep slugs away, it is a good plan to have the pot on a brick in a pan of water, which will not only prevent these greedy insects reaching the plants, but be of great use in improving the atmosphere and insuring a healthy, free growth.

THE FLOWER GARDEN.

Mulching and Watering.—Those who have taken the advice given, and have mulched their flower-beds, will long ere this have found out what a benefit it is to the plants, and the vast amount of labour it saves in watering, which in most gardens has been a heavy work of late, for the weather has been very dry and parching, and as yet there appears no sign of rain to give the thirsty earth a soaking. This being so, it will be necessary to do it artificially, and fortunate are they who have water laid on, and can use it unstintingly, as with a plentiful supply, and hot weather, much may be done, and a green lawn kept, for if the turf gets a sprinkling by night, it will be sufficient to maintain the grass fresh, but to have it in this desirable condition, it must not be cut too close, or the sun will injure the roots. To prevent this, and afford a little shade, it is a good plan at the present season to take off the box from the machine and let the grass fall, as when not long enough to make it unsightly, it soon withers up and becomes lost to view.

Weeds.—If bents are standing they should either be mown off with a scythe or pulled up, and any weeds extirpated, especially such as Daisies, Dandelions, and Plantains, which spread quickly, and soon spoil or disfigure the turf. The readiest way perhaps of getting rid of these, is to touch their crowns with a stick dipped in vitriol, which will burn out the hearts and dry them all up, or they may be cut or dug up with a knife. Those of an annual kind on gravel, or in the Box edging, should be pulled out before they have time to seed, which they soon do if left to get large, but to stop their coming and growing there is nothing so effectual as giving a sprinkling of strong salt and water when the weather is dry and hot, as then the seed will not germinate.

Roses.—The first flush of beauty with these is now over, but if expected to bloom freely again in the autumn, they must not be neglected, but have the faded flowers removed, and the strongest shoots shortened back, when they will break again if they are well soaked at the roots.

Budding.—Although budding may be done for weeks yet to come, it is best carried out early, as not only does the bark of the stocks run more freely now, but the buds are in finer condition, and so much depends on the state they are in, the proper stage being when they show up prominent and the rind is getting quite firm, at which period there is little fear of any going blind after being put in, or of bruising if they are carefully and dexterously handled.

Carnations, Picotees, and Pinks.—The readiest way of supporting the flowers of these is to stick in a few twiggy pieces of Birch around them, or the main stems may be held up by pieces of spirally twisted galvanized wire, which look neat and save the trouble of ties. As the blooming is a great tax on the plants, they should be kept watered, and it is time now to begin to propagate, which may be done in two ways, the one by layering and the other by putting in cuttings or pipings. These can be made from the grass or shoots that are high up, which should be taken off and trimmed by removing the lower leaves, and after being cut across with a sharp edged knife, just below a joint, inserted in sandy soil on a shady border under a handglass, where if kept close and sprinkled occasionally, they will soon strike and be ready for planting out in the open.

The way to layer them is to make an incision in the shoot, carrying it about half-way through the stem, and along up for about half an inch, after which the shoot so operated on should be pegged down and have the part surrounded or buried with sharp gritty soil, when all that is necessary is to keep this moist to encourage the formation of roots.

THE FRUIT GARDEN.

Birds and the Fruit.—What with the mild winters and the Birds' Protection Act, blackbirds and thrushes have increased and multiplied at such a rate that they swarm in gardens, and it is most difficult to prevent them devouring everything up, especially during such weather as we have experienced of late, for the earth is so dry that there is little or no insect food, and to appease their cravings these feathered depredators make onslaughts on green Strawberries, half-ripe Gooseberries and Currants, or anything in the fruit way they can get. To prevent this, and stop them having more than their share, measures must be taken at once, and as no one likes shooting these songsters, the only way is to net, and thus cover the bushes or trees, which must be done very securely, for so cute and persevering are they, that otherwise they are sure to find their way in. The best protection I have ever found for Gooseberries and Currants is fine-meshed wire netting, cut into lengths of 3 yds. or so, which pieces are handy for running round single bushes, but where many are grown, it is better to have them together and net over the whole. This should be done by first fencing round with the wire, tied and supported to stout stakes, when by running rods across or over the plantation or bed, 4 ft. or 5 ft. from the ground, the fish nets may be rested on and all made safe at the sides.

Cherries and Plums.—To keep these clean and free from aphis, they require close watching, and to have all shoots that are left for laying-in dipped in strong tobacco-water or other insecticide, after which the trees should be heavily syringed or well washed by the aid of the garden engine, which, if used frequently, will maintain the foliage in health, and be a great help in assisting the fruit to swell if the weather remains dry and hot. Peaches and Nectarines, as well as Apricots, will also be benefited by the same treatment, but as trees of these are on borders where the sun has full play, they should be mulched and heavily watered, or have a good soaking with liquid manure.

Pears.—What makes these crack, and refuse to swell, is dryness at the root, from which they soon suffer when grafted on the Quince, as that is a plant that does not ramify very deep, and therefore, where trees are growing on this stock, they must have help, which is best afforded by frequent applications of sewage. The readiest way of giving them this, is to draw the earth away for a yard or so round the stem to make a saucer-like receptacle, into which the sewage can be poured, when, instead of running away on the surface, the whole will soak in where it is wanted, but to prevent escape by evaporation after, the ground should be shaded by a dressing of manure.

As all shoots beyond those needed are a waste of force, no time ought to be lost in going over the trees and stopping them back to the last three leaves, which may be done by giving them a bend against the edge of a knife, and breaking them off. If there is more fruit on than can be fairly carried, all that is small and mis-shapen should be taken off at once, which will give those left a chance to swell and reach their proper size and finish up well.

THE VEGETABLE GARDEN.

Watering. — The dry weather is telling sorely against Peas and Scarlet Runners, the latter of which if not kept watered will shed their blooms, and Peas cease to pod and swell, but what generally affects these at this season is thrip, which gets into the points of the shoots and the expanding blossoms and cripples them both. To prevent this, we have found nothing equal to soot water, syringed on at night, the bitter of which these insects do not like, and if it does not kill them they take themselves off.

Lettuces.—Those who sow in beds and transplant in the ordinary way will have found how difficult it is under such treatment to grow Lettuces fine and keep up a supply, as with the check of removal and the tap root broken, they are almost sure to bolt, but when sown where they are to stand, they turn in with good solid hearts, and remain crisp and juicy to eat. As it is difficult to get seed up while the earth is so dry, the best way to manage is to draw a shallow drill, and water it, soon after which the seed may be sown, and then covered with fine soil, which will conserve the moisture and enable the young plants to get through. As soon as these are large enough, they should be thinned by pulling up the small ones and leaving those that are strong, allowing them to stand about a foot apart, which will give plenty of room. The best sorts to sow now are the Bath Cos and Hick's Hardy Cos, both of which come in well in the autumn.

Cabbages and Cauliflowers.—It is time now to make a first and last sowing of these for the season, the best and earliest Cabbage being Ellam's Early, which is a small, close, compact-hearted kind, and among Cauliflowers, it has been proved that the Dwarf Erfurt comes in first, and some of this with the Early London should therefore be sown. To get the seed to germinate, the same means as that adopted for Lettuce is necessary, and it is a good plan to have the drills side-by-side in a small bed, that the whole may be covered with a mat to shade the ground for the first few days, which will bring the plants through.

Potatos.—Land from which these have been dug may be utilized for Turnips, which if sown now will turn in fine for use during the autumn. Vegetable Marrows and Cucumbers will need thinning out to give the young shoots room, and to get the plants to fruit freely they must have plenty of water, which should be given in a tepid state, or the roots will be chilled. To have some always warm and ready to hand, it is a good plan to have a tub or other vessel

kept filled and standing in the sun, when the water will not only have the temperature raised, but be softened by the action of the air, and thus made more fit for use.

Tomatos ought now to be fruiting freely, and should have the shoots kept thin by cutting away all superfluous growth that breaks from the sides of the main stems or comes from their base, and the same with some of the leaves if they over-shadow or cover the trusses of bloom, which require full light and sun to get them to set. What causes the flowers of Tomatos to fall before setting, is dryness at the root, to prevent which the best way is to mulch, as then when water or liquid manure is given it tells, and can soak in and do good to the plants.

OLEARIA GUNNIANA: FLOWERS WHITE.

OLEARIA GUNNIANA.

Though this beautiful white-flowering Tasmanian shrub has been known to connoisseurs of choice plants for some years under the name of Eurybia Gunniana, it is so seldom seen in other than select collections, that we hope by giving its portrait and directing attention to its undoubted merits, to be the means, to some extent at all events, of making it more widely known. Messrs. James Veitch & Sons, with whom the plant has proved to be hardy in their Combe Wood Nursery, have frequently exhibited specimens at South Kensington, but it was not until May last that the Floral Committee awarded it a First-Class Certificate. It grows in the form of a bush from 3 ft. to 5 ft. high, with small oblanceolate, coarsely toothed leaves, silvery-white on the under side; and in late spring produces myriads of its white, starry, composite blossoms on the ends of the branches as shown in the accompanying illustration taken from the example which obtained the certificate, and which was a perfect sheet of white—a sight that commanded the admiration of all who saw it. In the south of England, and especially in climatically favoured localities, Olearia Gunniana should become a favourite, and even where it will not endure the rigours of winter in the open air, it is well worthy of cultivation in the cool greenhouse. A New Zealand member of the genus, O. Haastii, has proved to be not only quite hardy, but one of the finest of all autumn-flowering shrubs—and this too bears white Aster-like blossoms in the greatest profusion. Mr. T. S. Ware has Olearia Gunniana planted out upon his rockery at Tottenham, and there too, as at Coombe Wood, in the well-drained position afforded, it has proved its claim to be considered hardy, and in May and June flowers with wondrous freedom. The Messrs. Veitch, who have brought so many good plants of this character to the front, especially deserve our thanks for their attempt to popularize this excellent subject.

Fruit Prospects in the Middle Rhine District.—The prospects of the fruit crop are on the whole very good. Apricots, Peaches, Plums, Pears, and Walnuts are plentiful, but not so Apples and Cherries, the latter of which have suffered much from caterpillars, while the cold of last month and the intense heat of this have done great harm. Apple trees were in blossom in the cold weather of May, and they have on that account abnormally decreased. There is in this district a small increase of fruit this year. Corn and other cereals look very well, and promise a heavy yield. The Vine, so far as it is not frozen, is also coming on satisfactorily, and in protected places Grapes are here and there to be seen in blossom.

TREES AND FLOWERS.

Among the chief silent friends, comforters, and cheerers of man are trees and flowers. I have sometimes asked myself which gave me the more pleasure? Perhaps a reader will answer readily, "flowers." But think a moment! Time and continuity are great tests of friendship, and these tests trees will bear; for although flowers soon wither, die down, perish, trees are more constant; they abide by us always; they are neighbours, I might almost say, for ever. Not only are trees with us in leafy June, one of the most enjoyable months of all the year, in their bright green splendour, but when autumn comes there they still are, clad in another garb of beauty more gorgeous, though not so gladsome; and even in winter who would wish to be without their tree neighbours? The perfect symmetry of a tree is never better seen than in winter, and the dullest eye and heart recognize their vernal beauty.

There are trees, too, which openly show no change in their leaves, and so gladden us all along the dreary season by their greenness. Moreover, in those that shed their leafy garb, see the fantastic forms of beauty which they become when decked by a hoar frost or a snow-storm, especially by the former. I would say nothing takes off the dreary feeling of winter so much as the presence around us of finely-grown trees. When all that out-of-doors formerly cheered us is gone, when flowers, Corn-fields, and green Grass, are no more, when hedges have become mere dark lines or intersected branchlets, yet the trees are there around us still, and present with us to comfort us. Perhaps no one can so thoroughly appreciate the value of fruit-trees as one born, or having lived many years among them. The treeless

plains, like prairies, are akin to the ocean's calm, and on them companionship seems lost.

We read of one, when the architect wished to cut away a noble old tree, who said, "No! move the house, but you cannot grow such a tree in my lifetime. Oh! the hours of pleasure I have taken under its shade, and the sweet memories of youth and its associates they bring are beyond all of art's splendours." Trees vary, indeed, according to season, but each variation is a separate beauty; bud-leaf, lighter at first, then darker; then come the rich autumnal tints, and then the grand visible branches stretching far and wide during the winter months—long, low-hanging limbs; and when the heavy frosts come the whole tree is standing jewel-decked.—*T. R. Elliot, in The Prairie Farmer.*

FRUITS.

Fruit Culture under Glass.—Melons: Thus far the weather this season has been most favourable for the production of Melons of first-rate quality, and during the continuance of such weather as we have been favoured with for some time, and are still having, fire-heat may very well be dispensed with. But in the event of a change from bright sunshine to dull weather ensuing, the fires should be lighted so as to get the water in the pipes sufficiently heated to raise the day temperature to 75 degs., and to prevent that of the night from falling below 70 degs. or 65 degs. Especially is it advisable that this should be done during dull weather in houses in which the plants are either in flower or their fruits are approaching maturity, because in consequence of a more buoyant atmosphere than could otherwise be maintained being commanded, a quicker and better "set," as well as more highly flavoured fruit, are secured. However, when the character of the weather is such as to render fire-heat unnecessary, the distribution of atmospheric moisture in the houses in the afternoon should be somewhat reduced in quantity. Under the same circumstances this remark is also applicable to vineries in which the Vines are swelling their crops, otherwise mildew would be likely to put in an appearance.

Melons swelling their fruit should (prior to being watered) have a surface-dressing of manure, which will, with proper treatment, bring about the best possible results. Late plantings in pits and frames will now be coming into flower; therefore, with a view to securing a good set, the sashes should be drawn off for a few hours—say from 11 a.m. to 2 p.m.—on sunny days, and the blossoms be impregnated when the pollen is dry until a good "set" is obtained. Three or four fruits—according to the condition as regards strength of the individual plants and the size to which the varieties grown attain to—will be a sufficient crop for each plant to ripen. Remove all superfluous fruit as soon as it can be seen which are going to swell, and those left to form the crop should, of course, be the most even as regards size, and be distributed as regularly as possible over the respective plants, and after they have attained to the size of a hen's egg be elevated above the foliage on flower-pots.

The thinning and stopping of the shoots should be attended to two or three times a week, and not be left, as is not unfrequently the case, until barrow loads of shoots are removed at one time to the detriment of the crop. About the end of next week a sufficient number of seeds of that excellent variety, Blenheim Orange, should be sown to furnish plants for supplying Melons in November and December in suitable, well-heated houses.—*H. W. Ward, Longford Castle.*

Judging Melons at South Kensington.—As I took some interest in the competition for the Messrs. Sutton & Son's prizes for Melons at the South Kensington Show on June 23rd last, I can perhaps make clear to "An Old Melon Grower" that which at present puzzles him. In originally making the award, the judges were under the impression that Mr. Douglas, who was eventually awarded first prize, was disqualified by reason of the fact that he exhibited one kind out of his brace of fruits, viz., scarlet Premier, that was not named in the Messrs. Sutton's list of three kinds. Later on, however, being uncertain whether their reading of the schedule was correct, they obtained the opinion of one of Messrs. Sutton & Son's managers, who stated that so long as any brace exhibited included *one* of the kinds named in the schedule, it was strictly within the requirements. Therefore the previous decision was reviewed, and Mr. James Douglas was placed first with scarlet Premier and Hero of Lockinge; Mr. Eldridge, Chesterford Park, Saffron Walden, second, with Masterpiece and Hero of Bath (this exhibitor having also been in the same boat as Mr. Douglas with the latter kind), and Mr. Fry, Eastcote, third, with a brace of Hero of Lockinge. The ultimate awards were made not on the ground that two exhibitors had two varieties in the brace, and one had but one variety, but that those kinds placed first and second were, after tasting, found to be of superior flavour. It was upon this latter ground that Mr. Herrin won with a brace of the same kind at a previous show.—*A. D.*

"An Old Melon Grower" assumes rather too much at p. 698, especially when he writes of any of the exhibitors receiving unjust treatment. On two separate occasions the Messrs. Sutton of Reading offered prizes for a brace of Melons, to include certain varieties, and on each occasion the question of disqualifying certain exhibits was discussed; but on carefully reading the schedule, the judges found that the exhibitors had complied with the terms of the schedule, and awarded the prizes in the order of their merit. On the second occasion the judges placed a first-prize card on the brace staged by Mr. Fry. That exhibitor was ultimately placed third, not because he exhibited two fruits of one variety, but because they were inferior in quality to the others. Mr. Fry was certainly well within his right in showing two fruits of one variety; they were named Hero of Lockinge, but they were certainly not the true form of that variety. The question might arise of the sportive character of Melons, but if a Carnation of the bizarre type sports to a flake, it cannot be shown as a bizarre; and if a Melon sports from its original type, it cannot be admissible as the true variety; at least, such is the opinion of *An Old Melon Judge.*

Whinham's Industry Gooseberry.—Among the many varieties of Gooseberries, none have more deservedly or so rapidly gained the favour of the public as Whinham's Industry. It is not a very new variety, but none the less well merits a much more extensive cultivation. Where grown it is highly appreciated for its many excellent qualities; it is of very vigorous growth, is a heavy cropper, and bears a large berry. For gathering green few varieties are superior to it, and when ripe it is a splendid red fruit. This is one of the few sorts that do well in America, not being troubled by mildew, and some excellent authorities in the States have expressed an opinion that it will revolutionize Gooseberry culture in that country. A correspondent states that "Whinham's Industry surpasses any of the older varieties for growth, bearing, and, what is of great importance to market gardeners, its earliness, weight, and size of berry. From a plantation of two and a half years, say three summers' growth at the time of gathering, my average crop was from ten trees one pot, local measure, or 84 lbs. of berries. The growth is so good that trees planted 6 ft. by 5 ft. are nearly, and in some cases quite, touching each other." We send you by same post a few branches taken at random from a quantity of trees in full crop, and we think you will agree with us that, bearing in mind the number of berries on the branches, that it is capable of yielding an immense crop of large and excellent fruit.—*Richard Smith & Co., St. John's Nurseries, Worcester.* [The samples received fully bear out the Messrs. Smith's remarks as to the prolific bearing qualities of this variety, which we can besides, from our own knowledge, strongly recommend to the notice of growers.—*Ed.*]

Indestructible Fence Posts.—A farmer writes that twenty-five years ago he set split white Oak posts for his garden fence, putting about a peck of air-slaked lime about each, and they are all good yet. He attributes their good condition to the effect of the lime, in which he is doubtless correct. A board that has been used in a mortar bed, and thoroughly saturated with lime, is almost indestructible from decay.—*Florida Dispatch.*

FLOWERS.

Work in the Plant-houses.—Herbaceous Calceolarias.—It is somewhat surprising that this beautiful class of plants are not more generally grown than they are. If a good strain is secured, and the plants well managed, there are few things that excel them in beauty and usefulness. Although, as compared with many other florists' flowers, no very great improvement has been made in them of late years, yet those who make a speciality of them have shown us some improvements, especially in the habit of the plants, which is much more dwarf and compact; the colours, too, are more brilliant, though perhaps the flowers are not quite so regularly marked as in some of the older strains.

It will now be time to sow the seed, although good plants may be obtained by sowing the seed any time from now to the end of August; yet it is not advisable to delay sowing much later than the end of the present month. In preparing the pots or pans, plenty of drainage should be used, and the most suitable compost is light loam and leaf-mould, with a little sand added. In filling the pots the compost should only be shaken down, and not pressed. After the seed is sown, they should be placed in a cool, shady position, and on no account should the seed be placed where there is any artificial heat. The pots may be covered with sheets of glass, which should be taken off for a short time every morning until the seed has germinated, when it may be dispensed with altogether. The seedlings should be pricked off as soon as they can be handled; and after they have made a little more growth they should be potted off singly. If good sturdy plants are to be secured, they must on no account be allowed to stand too long in the store-pots. From the time of sowing the seeds until the plants are in flower, they should have a position where there is a free circulation of air, but the plants should not be exposed to a drying wind. Although the plants will stand a few degrees of frost without being damaged, yet it is best to keep the temperature just above freezing, if possible, but no artificial heat should be used, except in frosty weather. Green-fly is their greatest enemy, and thrips are also troublesome sometimes. On the first appearance of either, the plants must be well fumigated. Green-fly is almost sure to make its appearance, though if thrips are to be found, it may be taken as an indication that the plants have been kept too dry, or too much heat has been given.

Acæna pulchella and A. sanguisorba.—Your correspondent "Cymro," p. 701, in his note on Acænas, does not mention two good species, A. pulchella and A. sanguisorba. There is one drawback to all the family—they are great encroachers. They smothered many good plants in our borders, till we hit upon a plan which shows them at their best, and yet keeps them harmless. It is this: to have a series of low mounds, of about 6 ft. diameter at their bases, leaving 3 ft. or 4 ft. between the mounds. Acænas, and other free growers, planted on the top of these, soon clothe the mound. When they reach their neighbour they may be either left to fight it out or mix, or a spade cut is applied.—*George F. Wilson, Heatherbank, Weybridge, July 7th.*

Old-fashioned Flowers.—General Mills, in his pretty garden at The Briars, Harrow-on-the-Hill, has succeeded in producing a praiseworthy example of the perfectly satisfactory results to be obtained by using the old hardy border and herbaceous plants, with flowering and other shrubs alone, in the garden. The garden at The Briars, which is on the side of a hill, has been skilfully arranged so that the trees and shrubs form many nooks and separate gardens, each complete in itself, yet forming parts in harmony when viewed throughout. One great advantage which these dear old flowers give us over the bedding plants is, that they cannot be planted in any pattern of which we may get tired, and they carry their floral beauty in many instances to a great height, and thus pleasantly break the flat outline which is so monotonous in many bedding-plant displays. At The Briars, each month sees the garden, as it were, put

on a new garment as each set of expected favourites in turn comes into flower. The Rhododendrons are over, and at present the tall Foxgloves, white, plush, rose, purple, and spotted in all shades, and the Roses, are the chief features; and these are aided by a lovely display of Delphinium, Honeysuckle, Campanulas, Pyrethrums, Sweet Williams, and such like things. Fuchsia Riccartonii here grows 7 ft. high, and as much through. Many of our indigenous plants, too, are in great beauty, Lysimachia nummularia, L. nemorum, L. thyrsoides, Sedum dasyphyllum, and other British plants, proving themselves well worthy of garden culture. At The Briars, arches covered with Roses, rustic clumps suitably planted, and a profusion of climbers and trailers, give the whole place a very tranquil appearance, and conclusively point to the fact that the garden is the garden of the home, and not merely one kept up because it is usual for something in that way to be done.—*J.*

Eremurus aurantiacus.—With reference to the fine plant certificated under this name at the last meeting of the Floral Committee, and noticed in our columns at p. 686, Dr. Wallace has kindly forwarded us the following note received by him from Mr. Max Leichtlin, of Baden-Baden:—"In the last revision of the genus Eremurus, the name of the plant of which you exhibited a spike at the last meeting of the Royal Horticultural Society, has been changed from aurantiacus into E. Bungei. The true aurantiacus is here in cultivation, but is not yet in the trade."

Fortune's Yellow Rose.—Some fine blooms of this lovely old garden Rose have reached us from Mrs. Meiklam's garden at Gladswood, Melrose, where it is flowering freely at an elevation of 450 ft. above the sea level, and 218 ft. above the river Tweed, sufficient proof at all events of its hardiness in that quarter. Why this yellow or salmon-coloured Rose, which was introduced from China by Robert Fortune, nearly forty years ago, is not more often seen in gardens, is one of those things which it is difficult to understand, for with little or no cultivation it flowers with wondrous freedom, and few Roses are more beautiful. It certainly likes a rich soil and plenty of room to grow, but if planted near an old wall or ruin it will grow with the freedom of the Ayrshire, Rosa arvensis hybrida. Those who remember the old plants which for so many years grew in the old ridge and furrow Paxton house at Chiswick, and from which blooms were annually cut by the bushel, will not need to be told that it is worth a position under the roof of any large greenhouse.

Carnation Souvenir de la Malmaison.—We have on several occasions alluded to the remarkably successful cultivation of this plant at Ascott, the seat of Leopold de Rothschild, Esq., and in our issue for Nov. 29th, 1884, gave an illustration of a group of the plants in their summer quarters. At the National Rose Society's show at South Kensington, on Tuesday, Mr. Jennings, the able gardener at Ascott, exhibited a collection of 187 plants, the like of which has never been seen there before. Clean, healthy, and vigorously grown, evenly matched and superbly bloomed, it is difficult to say which was admired most by many of the visitors, the Roses or the Carnations, but certain it is that, with the practical growers present, "the Malmaisons" undoubtedly carried the palm. The plants were arranged in a single line down the centre of the two long stages erected in the middle of the conservatory, and a splendid show they made. It is to be regretted that Mr. Jennings received no reward for his trouble, it not being a regular meeting-day of the Royal Horticultural Society; at any other time he would certainly have received a medal of value.

Celsia cretica.—This may fairly claim high rank amongst the half-hardy biennials; indeed it is sufficiently hardy to take its chance out-of-doors in the warmer parts of the kingdom, more especially if a little protection can be given, or a warm nook afforded it. However, it will amply repay anyone to give it room in a cool house or frame during the winter months (where the climate is not sufficiently genial to admit of its standing out-of-doors) and plant it out in April, in a suitable position in the herbaceous border, where it will form a very conspicuous object; more especially as it will flower at the latter part of May, or beginning of June, if the plants are thoroughly strong at the time of their being planted out. I saw this Celsia remarkably well grown the other day in the gardens of the Hon. Lionel Massey, of Lota, from whence I received a spike of bloom more than a month since. Its clear yellow flowers, with maroon blotch on two petals, makes it a striking and beautiful object, the individual flowers measuring over 2½ ins. across. Although the plants were considerably past their best at the time of my visit, there was still sufficient material left to show what they had been when in their prime. At Lota it is grown on several aspects; the position, however, which gave the best results was at the foot of the kitchen-garden wall, and facing west; thus situated I measured one of them fully 7 ft. in height, and the whole of the plants would average 6 ft. high, and having side shoots from 3 ft. to 4 ft. in length. It may be well to add that the flowers on the spikes do not open altogether, which is, perhaps, a disadvantage, as the flower-stems are too short to admit of the blooms being utilized except for dotting about the dinner-table on sprays of Fern laid on the cloth. Some would doubtless consider the length of time it lasts in flower to counteract the disadvantage referred to, and for beautifying the garden I would readily agree with them. The plants at Lota stood out-of-doors throughout last winter, the lowest temperature registered being 20 degs. Fahrenheit.—*E. Dumper.*

New Selaginellas.—Cultivators of Selaginellas for exhibition purposes do not pay so much attention to novelties as they should do, for on all sides they are to be seen devoting time and skill to old species that, however well grown, do not form really good specimens. The favourite kinds are S. cæsia, S. denticulata, and its golden form, and S. Martensi, and its variegated variety, but, as compared with many others in cultivation, they are very inferior. To me their chief recommendation consists in their rapidity of growth, a quality which does not tell much with experienced judges. There are two or three forms of recent introduction which are not more difficult to grow than those mentioned, but, when finished in first-class style, are remarkably effective. One of the most important of the newer kinds is S. grandis, which has broad, dark green fronds, and attains a height of 12 ins. when in a fairly vigorous condition. Grown in a deep pan, 12 ins. in diameter, it has but few equals in point of effectiveness, and all who aspire to honours in the exhibition tent should grow it. S. Victoriæ is perfectly distinct in character from the first-mentioned, but it has a bold habit, and under good management forms exceedingly effective specimens. The fronds are of great breadth, very finely divided, and of a dark green hue. S. perelegans, which attains when fully developed a height ranging from 15 ins. to 18 ins. is the most distinct of the three, and requires rather more skill to have it in perfection, but it is exceedingly beautiful, and a well-grown specimen will not fail to afford substantial assistance in a close competition. There are others much superior to those in general cultivation, but the three mentioned are so exceptionally good that they should in all cases have first attention.—*W. B., in Gardeners' Magazine.*

The Common Garden Weevil.—Inquiries, says Miss Omerod, are often sent in regarding the Otiorhynchi, a family of weevils which do great harm, especially in fruit grounds, and have also lately been attacking Mangolds. These beetles are something like the well-known nut weevil in shape, but longer and narrower in their proportions, also they have only a short proboscis, and are wingless. The O. sulcatus, which has lately been doing harm in Mangolds, is one of the largest common kinds, and is sometimes over half-an-inch in length. This is of a dullish black with pale hairy tufts on the wing cases. The beetles live on various kinds of leafage, and the legless maggots feed on roots below ground. Where this attack is present in fields, very thorough stirring of the surface of the soil in autumn and dressing the empty land with gas lime would be desirable. The attack would probably be cleared out in this way. If allowed to gain possession, much harm would ensue, for both beetles and maggots are exceedingly destructive. In fruit grounds the beetles are best got rid of by beating them down at night on to tarred boards. They feed after dark, and drop when light is flashed on them, and by sending men two and two with tarred boards and a lantern the beetles may be cleared in enormous numbers, and the plan is found to answer well practically.

VEGETABLES.

The Kitchen Gardener's Calendar.—Celery Planting, &c.: The principal plantings should be made now as soon as the ground is available for the trenches to be got out in the way indicated in a former calendar, and before the plants become too large in the nursery bed, as in that case they would be subject to a severe check in the process of transplanting, and subsequently to "piping." The earlier plantings will now require to be earthed up, by having a little of the soil from the ridges on either side of the plants cut down with the spade, and then with the hand placed around the plants, taking care in doing so that the soil does not get into the hearts of the plants. But before this operation is proceeded with, the plants should have a few of the outside leaves, with any suckers that may happen to have sprung from the base, removed. Celery being a moisture-loving vegetable, the plants during dry weather, such as that which we have been having for some weeks past, should have liberty and frequent supplies of water at the roots. Beans, Peas, Cauliflowers, Lettuces, and freshly planted plants of winter greens, &c., will also need attention in this direction. Shallots and Garlic bulbs having completed their growth, should now be taken up and stored away in an airy loft when dry.

Parsley Sowing.—This will be a good time to make a sowing of Curled Parsley in a warm border, and where part of it can be afforded a little protection during the presence of frost or snow, so as to be able to obtain a daily supply of fresh Parsley for garnishing, &c., irrespective of the weather. For this purpose we use part of a long fixed frame under a south wall, to which shutters can be fixed when necessary. If the ground destined for this crop is not vacant at the time the seed should be sown, there need be no embarrassment experienced on that account, as a small patch of it (a square yard or two) sown at the proper time, and the necessary number of seedling plants subsequently transplanted in rows, 12 ins. to 15 ins. apart, and 6 ins. or 7 ins. from plant to plant in the rows, as soon as they are large enough to handle, and the ground is ready, will answer the purpose just as well as if the seed had been sown in drills in the ordinary way, and the plants afterwards thinned out to the distance above indicated in the rows.—*H. W. Ward, Longford Castle Gardens, Salisbury.*

Gilbert's New Late White Broccoli.—I am asked, in order to avoid confusion, to state in your columns that henceforth my new Broccoli will be called "Gilbert's Late White." I may be allowed at the same time to tell "A. D." that I look upon my novelty as being perhaps no later in season, no whiter, nor larger than Veitch's Model or other late Broccolis, but I do claim for it that its flavour is superior to that of any other Broccoli I am acquainted with. I may also observe that, judged as an ordinary Broccoli, it beat a dozen other samples and seven dishes of Cauliflower at "The Royal" in May 1884. —*R. Gilbert, Burghley.*

The Extra Early Milan Turnip.—I find this early Turnip invaluable for the first crop, particularly for frame culture and first early outside, as it makes so very little top before it commences to form its bulbs, which are of first-rate quality. I made a sowing of this variety and Snowball on a piece of ground outside the garden on May 2nd, which had no attention afterwards except thinning, and to-day there is a beautiful lot of bulbs of extra early Milan 9 ins. round, while the Snowball has not yet commenced to make its bulbs. I would strongly recommend this as an early variety; of course like all early varieties of Turnips it soon runs to seed, and is valuable for its earliness only.—*Joshua Atkins, The Gardens, Tatton Park, Knutsford, July 6th.*

From 1851 to 1885 the official value of the Safflower imported into this country ranged from £71,000 to £134,000. Sixteen years ago we received over 32,000 cwt. Last year our imports fell below 1,400 cwt., valued at but £3,500.

THE

Orchid Growers' Calendar.

Odontoglossums at St. Albans.—Many hundreds of these are now in bloom in the immense collection of them at Messrs. F. Sander & Co.'s at St. Albans, where the massive and handsomely-blotched, tinged, and spotted forms of O. Alexandræ are wonderful in the extreme. Their strain is superb in the form, size, and substance of their flowers, and endless in their variation; some of the O. crispums running into luteo-purpureum, some into gloriosum, and some approaching triumphans, while many exhibit peculiarities of marking to which it is difficult to assign a parentage. The heavily-blotched O. c. Johnsoni and O. c. Sanderiana are certainly two of the very best. O. elegans, O. velleum, O. polyxanthum, and many handsome forms of O. Pescatorei, are also in bloom. Mr. Sander certainly grows his Odontoglossums to perfection, for out of the several large houses of them (each from 200 ft. to 250 ft. long) not a single unhealthy or dirty plant is to be seen. The plants are grown very cold, moist, airy, and tolerably shady.

Cattleya Lawrenceana.—There is no doubt that this grand new plant is a valuable addition to our Orchid-houses, and by what can be seen of it up to the present time it is likely to be a very free grower and bloomer. I have seen a great many in different collections, and I have reason to believe that those which have been kept tolerably cool and moist from the first have done best. Everywhere the specimens seem pushing into growth, and let their previous treatment have been whatever it might, there is no doubt that from henceforth they will do best in light situations near the glass in the intermediate-house, and with a liberal supply of rain-water. Cattleya Lawrenceana seems particularly adapted for basket-culture, and wherever it is doing badly in pots it should at once be basketed and kept moist. It is a very distinct and handsome plant, and when it flowers there will be a greater run upon it than there is now.—*James O'Brien.*

New Orchids.—Thunia Veitchiana, a fresh "English Orchid," of much elegance, lending the charms of both its cross parents, Thunia Marshalliana, Rchb. f., and T. Bensonæ, Hook. f., and standing quite between both. The flower is not so broad nor so short as in the first-named, nor so long as in Sir Joseph Hooker's plant. The spur is rather that of the first. The white sepals and petals have a very light mauve wash at their tops, which looks remarkably elegant—at least "t. m. t." The lips' median keels are broken up in the anterior disc into numerous fringed processes of a certain colour between orange and mauve-purple. The whole anterior broad border of the lip is of the finest mauve-purple, and the superior part of the lip is white, with some mauve-purple veins. There are some very small mauve spots on the top of the column. The plant is a fresh proof of Mr. Seden's perseverance, zeal, and skill, and it is destined at once to be, in its chaste elegance, one of those numerous memorials both science and horticulture will ever keep in honour of that illustrious Veitchian firm.—Epidendrum polyanthum asperum.—Messrs. J. Veitch & Sons have kindly forwarded me a plant I had known before in English gardens, as I had had it from the late Mr. Wilson Saunders. It would be fully the well-known Epidendrum polyanthum, Lindl., were it not that the ovaries, and even the rhachis, are covered with numerous dense small warts. I remember well I saw such a case before, forty years ago, in an Epidendrum patens. It is a very interesting fact, that I have specimens of Epidendrum polyanthum, doubtless coming from the same source, some with even and some with rough ovaries. My specimens of Galeotti, 5,125, purchased in 1847, have smooth ovaries, while the same number of Galeotti's private herbarium, purchased in 1856, had them with warts. —*H. G. Reichenbach in The Gardeners' Chronicle.*

FLORICULTURE IN INDIA.

Rose Edouard.—Soon after joining my appointment in Northern India, in October 1864, my predecessor in honorary charge pointed out this Rose, of which there were several plants in various parts of the garden, and inquired if I knew its name, stating that it was known only as the Bombay Rose in that part of India; and asked also if I could explain the cause of its flower-buds dropping off without opening. My reply was that I recognized it as the Rose "Edouard," and the dropping its buds to be characteristic of it in England. The cause generally assigned was the climate being too cold and the soil too wet for it there; but this, I remarked, could not be the reason here, and that I was now inclined to believe that it was owing to the plant being too free in growth, that is by producing more flower-buds than it could carry out or bring to perfection, a freak of nature not altogether unusual in other instances, and amongst fruits especially. He expressed his pleasure in hearing its proper name, and requested me to take some of the plants in hand and see if I could ascertain the cause and rectify it. I did so as follows.

Some of the healthiest and best plants were taken up, divided (for there were several stems or ground shoots to each plant forming a clump), and pruned; all suckers and growing buds below the surface of the ground were cut out, so that no more suckers could form, also the buds above the ground for 3 ins. or 4 ins. up the stem were removed, to secure clean single-stemmed plants, by which the plants should be handled when potting operations are being performed. It also becomes the only medium or passage for the ascending sap or life blood of the plant, from the roots to the head, and thus secures an equality of distribution to all the branches and parts alike, and that uniformity of growth and flowering so essential, so that a plant of any kind may be induced to give its flush of bloom or crop uniformly and simultaneously.

If a plant is allowed to have more stems than one, or a multiplicity of suckers be allowed to predominate, they soon throw out and make roots and set up on their own account, and not being detached will rob rather than assist the parent plant, for the roots of suckers do not contribute thereto, but, on the contrary, detract therefrom, and primarily each supplies itself, hence the wretched condition the plant is soon reduced to, when unassisted by art. Moreover suckers beget suckers rapidly, and flowers as rapidly deteriorate and fall away to semi-double, then single, and ultimately into the natural wild condition, from which by cultivation and art it had taken generations to bring them to the perfection of a fine double Rose, and the climate has to bear the blame. Gardeners term these suckers "robbers."

The plants thus reduced were potted into the smallest size pots appropriate for the quantity of roots to each plant, then plunged rim deep in a bed prepared for them, watered moderately as required, shaded daily with canvas from eight in the morning, and syringed or sprinkled freely with water every evening. When the pots were filled with newly-formed roots, and the plants had broken into new growth, they were shifted (repotted) into a size larger pots, the number of shoots reduced by disbudding or thinning (as gardeners term it) to a given number of branches decided upon to form the future plant, and consistently with the quantity of flowers the plants individually were deemed of strength to bear. All were returned to their bed, replunged at greater distances apart than previously, and treated as before, until, as usual, a multiplicity of blooming buds appeared upon each and every branch; these were reduced by the aid of the Grape-thinning scissors to three or four of the finest on each shoot, and neat stakes and ties were now used in the adjustment and regulation of the branches symmetrically. When the buds began to expand into bloom, the sprinkling of water overhead was discontinued, as it injures the blossoms to some extent, but was somewhat copiously applied to the whole surface of the ground to insure the beneficial effects of evaporation in conjunction with the requirements of the roots.

A fine display of flowers was the result, each full and perfect in form and well developed. They became the admiration of all who saw them, and attracted attention from far and near. As soon as this flush was over, the old flower spikes were cut back to the first perfect leaf with growing bud at its base. This second pruning or shortening, which gardeners term trimming, is by some mistaken for a general pruning, and called summer-pruning.

A second growth soon appeared (to me it seemed somewhat rapidly, for I was not then so well versed or initiated in the excitable nature of this climate on the growth of plants generally in comparison with that of the British Isles as I have since become). A second flush of bloom also followed, the flower-buds were thinned, and the treatment was the same as before, except in the supply of liquid manure, which was increased in strength and number of applications. I may here state that liquid manure is applied, as a rule, after the flower-buds appear and have been thinned, the blooming principle is benefited thereby, and larger flowers are developed. This flush, though not equal in size of flowers to the former, was very creditable, indeed highly satisfactory to the many admirers who had watched what was to them an experiment, but to me a routine practised for many years at home in preparing Rose plants for forcing, and early and late blooming in pots. To me the difference lay in the short space of time in which this growth and development occurred, and the mass of flower-buds that were produced upon each shoot.

I was well acquainted with the system adopted by our Rose-cultivators at home for competition at the flower shows, of thinning or discarding the supernumerary buds, and reducing the number to three upon each shoot, and the use of manure water at this particular stage to assist and enhance the size of the flowers in development; I therefore only applied my former knowledge, as mentioned above. When the plants, and their roots especially, are in a good healthy growing condition, which can at all times be ascertained by turning a few of them out of the pots for examination, and carefully replacing, without disturbing the roots, they are found satisfactory, and the growth made is stout, firm in the wood, and short jointed, let well alone and reserve the stimulant for the benefit of the flowers or fruit, as the case may be. In other respects it is used to recoup exhaustion, and as the plants advance in age, it may be increased with effect; nor is it well to be covetous in the way of quantity when quality in flowers is the desideratum.

We have now arrived at the third stage, or rather our pet has entered upon presenting us with a third display of bloom. This was watched somewhat keenly, and our misgivings were realized; the result was exhaustion, which showed itself but too plainly in the weakened state of growth and deterioration of the flower-buds, some of which turned yellow and dropped off; the others were discarded, and water was then gradually withheld until the wood showed signs of ripening and the plants of going to rest. Either the climate was too exciting or the plants had been too good-natured and free, the treatment too liberal, the season over, as it was then late, or perhaps all combined to cause the failure of the third crop of flowers.

The whole were in due time removed to an open, somewhat airy, cool building, out of the sunshine which had been selected as quarters of rest. Water was almost wholly withheld, sufficient only being given to maintain life by keeping the wood from shrivelling; the leaves turned yellow and fell off. This last is a sure and satisfactory sign of the plants being at rest.

I will here mention that plants in a tropical climate can obtain rest by withholding water only. A dark, dry, airy building or shed where the sun's rays cannot penetrate will assist. We must follow nature. In temperate climates cold, frost, and snow will give vegetation rest. In the tropics excessive drought, with an arid atmosphere, has a similar effect, which may be seen when the deciduous trees are leafless and the natural indigenous grasses and herbs apparently burnt up; still there is life enough in them when the rains come, which is ample proof of their having been in a state of rest only.

During this state of dormancy the plants were pruned and re-potted. This pruning is the general annual pruning, which I will now describe. The

reader will remember that in the former part of this article the Rose plants taken up were reduced to a single stem each, consequently, the branches now to be pruned are side shoots from that stem. We will, therefore, commence with the lower ones, which were previously trained to a horizontal position, or nearly so. These were now cut back to about six to eight eyes (joints or buds), so termed by gardeners, the bud being dormant and in recess, not protruding. The next above them, four to six eyes, or 3 ins. to 4 ins. The remainder to three or four eyes, or 1 in. to 2 ins., except the top one or leader, which is maintained in an upright position and forms the main or centre stem in continuation of the single one to which the plant was at first reduced. This one is left about 8 ins. long.

The foundation and shape of the future bush is now formed. The plant is thus left in a conical shape, which is considered to be one of the best for this and bush Roses generally. The semi-circular form is also appreciated, and the pyramidal. In after years there is very little trouble in pruning and training any bush so started. It soon comes to cutting back the shoots all over to two or three eyes above the preceding year's pruning, the leader being left six to nine eyes long in its perpendicular position, and the bush increases in size annually in accordance. This is termed the short spur system of pruning. It will readily be understood that the two last-made growths, with a portion of the first, are entirely cut away. The buds or eyes left are dormant, not protuberant, and situated in the earliest made and best ripened wood of the past season's growth, and therefore the strongest and best adapted to produce the finest flowers in the coming season.

At the same time that this operation of pruning takes place the annual re-potting takes place also. A portion of the soil that comes away freely by shaking, without injury to the roots, is dispensed with. The roots must not be mutilated in any way or handled, as it injures them. As mentioned previously a stem has been prepared for this purpose. The pots selected were a size larger, ranging from 7 ins. to 10 ins. in diameter and depth internally. Two inches increase, or one all round between the ball of earth left and the side of the pot, is considered a fair annual shift for the season. Nor is it at all wise to overpot, as it engenders exuberant growth and less flowers, resulting in a ragged, loose appearance and flimsy branches. It must also be borne in mind that a size larger pot is required every season.

After four years, more or less, the plants will become too large for further pot culture, and, as a rule, are planted out and younger stock take their places. Moreover it will be found that the younger plants are better adapted in every way for pot culture, and flower much better than the older ones.

Gardeners adopt a routine whereby the older plants are dispensed with and younger ones are introduced annually. In potting, drainage is of primary consideration, and should be attended to. Soil is of equal importance. The compost for Roses, when selected, should consist of three parts loam, one of thoroughly decomposed manure, to which may be added a little charcoal and wood ashes and bone dust if at hand.

If loam is not at hand, any good garden soil will do. The best alluvial soil was used in this instance, no other being available. Potting should be done firmly, and 1 in. of space in depth on top left for water. A good watering was given to settle the soil about the roots thoroughly after potting and replacing them in their dormitory; the pots were enveloped in sand, but any dry material will do. Water was finally withheld after this. Still the roots were found to be active and growing slowly. After about two and a half to three months the season for activity had arrived, when they were taken out, arranged and replunged in the place prepared for them.

In this way the plants in question were managed, and I found no necessity to change the treatment or cause to regret the trouble I had bestowed upon them. Three flushes of bloom followed during the season, and the flowers were very fine. This was the first of my experience in Rose culture in India, and it will still be found valuable in application to this and the Hybrid perpetual and other hardy European varieties in most parts of India.—*The Indian Gardener.*

THE NATIONAL ROSE SHOW.

The annual exhibition of the National Rose Society, held in the large Conservatory at South Kensington on Tuesday, was a decided success, though we cannot say that the average quality was so good as we have seen on some previous occasions. At "the Palace" on the previous Saturday the general quality of the blooms was better, though even there the effects of the late spring and the cool nights were plainly visible in the pinched and under-sized appearance of some of the varieties. Admit that this is not a first-class Rose season, and that the great heat experienced on Monday caused the flowers to open too quickly, and we have at once an explanation of the reason why so many "eyes" were visible among the H. P.'s. But if the latter were not quite up to the mark, the deficiency was more than compensated for by the Teas and Noisettes, which both in numbers and quality made up such a display as we do not see every season; they were indeed grand.

In divisions A and B, which were confined to trade growers, there was a fair competition in most of the classes, and with seventy-two single trusses, Mr. B. R. Cant, of Colchester, again carried off the challenge trophy given by the amateurs, the other winners in this competition being Messrs. Paul & Son, Cheshunt; The Cranston Nursery Co., Hereford; and Mr. Turner, Slough. Mr. Cant put all his strength into this class, for with forty-eight trebles he could get no nearer than fourth, the first prize going to Messrs. Paul & Son, the second to Mr. Turner, and the third to Messrs. Keynes, Williams & Co., Salisbury. With eighteen Teas or Noisettes, Mr. G. Prince, of Oxford, was as usual invincible, beating Mr. Cant, Mr. Turner, and Messrs. Paul & Son, who secured the other prizes in the order named. The leading class in the B division, and which was confined to exhibitors not competing in the previous classes, was for forty-eight single trusses, and here the claims of Devonshire made themselves felt, Messrs. Curtis, Sandford & Co., of Torquay, securing the highest award, Mr. F. Cant, Colchester, coming in second, Messrs. J. Burrell & Co., Cambridge, third, and Mr. J. House, Peterborough, fourth. With twenty-four trebles Messrs. Curtis, Sandford & Co., were also first, Mr. House securing second honours, Messrs. G. Cooling & Son, Bath, the third, and the Cotswold Roses of Messrs. J. Jeffries & Son, Cirencester, the fourth. For twenty-four singles the awards went to Messrs. Kinmont & Kidd, Canterbury; Mr. J. Mattock, Oxford; Mr. J. Walker, Thame, and Mr. C. Mount, Canterbury, in the order named; while with a dozen Teas, Mr. G. W. Piper, of Uckfield, came to the front, followed by Messrs. G. Bunyard & Co., Maidstone, Mr. J. House, and Messrs. Burrell & Co.

Of the flowers staged in the leading collections we can say but little in detail, owing to the limits on our space, but of the varieties most numerously represented, and in the best condition, we may enumerate first and foremost the grand white Merveille de Lyon, which was in splendid form throughout, and the large carmine-rose Ulrich Brunner, which has seldom been seen in more perfect condition. The others whose names were jotted down by us, are Madame Ducher, Marie Baumann, Fisher Holmes, Beauty of Waltham, Queen of Queens, Reynolds Hole, Mons. E. Y. Teas, Horace Vernet, Dupuy Jamain, Francois Michelon, Annie Laxton, Abel Carriere, Alfred Colomb, Annie Wood, A. K. Williams, very bright, but hardly so perfect in form as usual this season; Captain Christy, Dr. Andry, Countess of Roseberry, Ferdinand Chaffolte, Baroness Rothschild, Madame Gabriel Luizet, Etienne Levet, and Exposition de Brie.

There was an excellent competition in all the amateurs' classes, though here also the blooms were not, as a rule, of a high order of merit. The Challenge Trophy given by nurserymen for forty-eight single blooms was won by the Rev. J. H. Pemberton, Havering, Romford, who was closely followed by Mr. W. J. Grant, of Ledbury, Hereford; T. W. Girdlestone, Esq., Sunningdale; and the Rev. C. Hales, Henfield, Sussex. With twenty-four singles there were only two competitors, and the highest award went to the Rev. F. Page Roberts, The Rectory, Scole, Norfolk, who also staged a splendid box of eighteen Teas, and secured the first prize in that class. The most popular class appeared to be that for twelve single Hybrid Perpetuals, in which there were eleven competitors, amongst whom the Rev. J. H. Pemberton again came in first with a superb lot, the other successful exhibitors being T. W. Girdlestone, Esq., R. N. G. Baker, Esq., Heavitree, Exeter, and S. P. Budd, Esq., Bath. In the division open only to competitors not showing in the four preceding classes, the first prizes were won as follows:—For twenty-four distinct single trusses, Mr. Brown, gardener to H. J. Waterlow, Esq., Great Doods, Reigate; for eight trebles, Mr. Brown; for eighteen singles, Miss Baker, Holmfels, Reigate; and for twelve Teas, Mr. Brown.

The extra classes brought out some of the finest blooms staged, and were good all through. A popular class with the ladies was that for a basket of Roses, the best of which came from E. Claxton, Esq., Allerton, Liverpool, a very fine lot of blooms effectively arranged with fronds of Maiden-hair Ferns. The Veitch Memorial Medal for twenty-four blooms was won by the Rev. W. H. Jackson; and Mr. McIntosh's prize for twelve Teas fell to the lot of Mr. G. Prince, who never showed a better lot of blooms. The collections of garden Roses were very interesting, and well represented. The first prize went to J. Sladden, Esq., Badsey, in whose stand were handsome bunches of such fine sorts as the White Hybrid China, Madame Plantier, Rosa multiflora, Bougere, Hybrid Provence, Princess Clementine, Madame Capucine, La Ville de Bruxelles, and Fellenberg. The best dozen Roses selected for their suitability for button-hole decoration came from Mr. J. Mattock, of Oxford—a pretty box of blooms containing such varieties as Catherine Mermet, Souvenir de Paul Neron, David Pradel, Homere, Marie Van Houtte, Rubens, Madame Falcot, Madame Lambard, and Anna Olivier.

The new Roses were not a particularly striking lot, and the first prize went to Messrs. Curtis, Sandford & Co., the second to Messrs. Paul & Son. With twelve blooms of any new Rose, however, there was a better competition. Mr. B. R. Cant took the first prize with Madame de Watteville, pale creamy-yellow, changing to white, and flushed with rose at the tips, a pretty flower in the bud state. Messrs. Curtis, Sandford & Co. were second, with Alphonse Soupert. The best box of yellow Roses was one of Comtesse de Nadaillac; and in the corresponding competition for white Roses no less than nine boxes of Merveille de Lyon were staged — a grand exhibition of a very fine Rose. The prize-winners here were Messrs. Curtis, Sandford & & Co., Mr. F. Cant, and Messrs. Paul & Son. A. K. Williams, shown by Messrs. Cooling & Son, was the best crimson, and Jean Lilievre, from Messrs. Curtis, Sandford & Co., the best dark crimson velvety flower. Mr. H. Bennett, Shepperton, staged some remarkably fine boxes of blooms of Her Majesty, Lady Mary Fitzwilliam, and his latest introduction—Mrs. John Laing, a very fine seedling from Francois Michelon, large, somewhat globular, a pretty shade of Rose pink, and very fragrant, and for which he was awarded the Gold Medal as the best seedling. The Silver Medals for the finest individual blooms were awarded to Mr. G. Prince and Mr. T. Brown for Teas Comtesse de Nadaillac and Jean Ducher; and to Mr. G. Mount and the Rev. J. H. Pemberton for H. P.'s Marie Baumann and Ulrich Brunner, all of which deserved the honours conferred on them.

HORTICULTURAL SOCIETIES.

Shepperton and District Flower Show.—The second annual show was held on the 2nd of July at Sunbury, in the grounds of Sunbury Court, kindly placed at the disposal of the committee by Colonel Harfield, the president. The judges, Messrs. J. Baines, J. Child, S. Hibberd, and J. Laing, had no easy task to perform, for thanks to the judicious management and unremitting exertions of Mr. A. Stearns, the honorary secretary, this show proved a real success and a great improvement on the last. The band of the Royal Horse Guards was in attendance, and favoured by perfect weather a numerous and fashionable assembly did honour to the show.

Mr. S. West, gardener to Major Lendy, was first for Orchids, beating Messrs. Jackson, who proved, however, a good second. Major Lendy's Cattleya gigas, a grand variety, with spikes carrying six blooms each,

and his Lælia purpurata with thirty-eight blooms, were sights not to be forgotten. The same competitor was also first for cut-flowers, with twenty-four Orchids of good sorts, including the rare Cattleya Schofieldiana, Cœlogyne Massangeana, &c. The show of Roses was grand; Mr. C. Warwick, gardener to Mr. Kitchen, of Hampton, was first with twenty-four and with twelve specimens; Mr. Davis, gardener to Mr. E. Rutter, of Halliford, being a good second; Mr. S. West was first for twelve Teas. For the amateur class, Mr. Richardson, Mr. Goddard, and Dr. Roper divided the prizes. The best Rose of the show, a General Jacqueminot, was in the stand of Mr. Warwick. Mr. Bennett, of Pedigree Rose celebrity, had a magnificent exhibit of his new seedling, Mrs. J. Laing, which received a certificate. There was an excellent exhibit of groups, Mr. Sutton, gardener to Mr. J. S. Sassoon, and Mr. S. West, carrying off the leading prizes. The competition for table decorations included sixteen exhibits; Miss Lendy, however, came out an easy first. For bouquets, Miss O'Donnell, of Shepperton, and for evening bouquets Miss Cuthbert, of Charlton, were adjudged first.

Plants, including stove, foliage, Begonias, Gloxinias, &c., &c., and cut blooms were well represented. Mr. G. Taylor, of Sunbury, received a certificate for double Begonia Lord Beaconsfield. The fruit, including Grapes, Peaches, Nectarines, Strawberries, &c., and the vegetables, were most creditable. The Grapes shown by Mr. Osman, gardener to Mr. L. J. Baker, of Ottershaw, would certainly have gained the prize at a London show; they were run very close by Mr. J. Bowden, gardener to Mr. E. Barnett, of Kenton Court. The trade was scarcely represented in this show, and most of the exhibitors were gardeners of the neighbouring gentry. Thus the majority of the prizes were carried off by Messrs. J. Reeves, gardener to Mr. Hewett, of Oatlands Park; Mr. S. West, gardener to Major Lendy, of Sunbury; Mr. J. Bowden, gardener to Mr. Barnett, of Sunbury; Mr. C. Waite, gardener to Colonel the Hon. W. Talbot, of Esher; Mr. J. Wakefield, gardener to Mr. E. Pettit, of Oatlands Park; and Mr. J. Child, gardener to Mrs. Slade, of Claygate.

Crystal Palace Rose Show, *July 4th.*—The Palace authorities, and their able Garden Superintendent, Mr. Head, are to be congratulated upon having fixed upon a day for their annual and ever-popular show which caught the Rose bloom just at its best, with the result that it is doubtful if a finer display will be seen this year than that which afforded so much pleasure to many thousands of visitors on Saturday last. There may indeed be said to have been two Rose shows, for while the Rose show proper occupied the western transept, the eastern one contained a perfect exhibition in itself of cut-blooms and flowering plants, most effectively grouped by Messrs. William Paul & Son, of Waltham Cross.

The competition in all the classes was remarkably good, and in that for twenty-four single blooms especially, the judges having to examine no less than seventeen boxes. The champion class for seventy-two blooms again brought out the merits of the Colchester Roses of Mr. B. R. Cant, who, though not quite in his usual form, well maintained his position. Messrs. Paul & Son, Cheshunt, came in second, and Mr. Turner, Slough, third. With forty-eight trebles, of which there were four good sets, the Messrs. Paul took the lead with a capital lot of flowers, Mr. Cant having to be content with second honours. Mr. John House, of Peterborough, secured the highest honours with twenty-four trebles, and also with the same number of single blooms; and Mr. G. Prince, Oxford, was an easy winner of the first prize for eighteen Teas. The amateurs also came out strong both as regards number and quality, indeed in the latter respect their flowers lost little by comparison with those of the trade growers. The leading winners here were Mr. Ridout, gardener to T. B. Haywood, Esq., Reigate, with forty-eight singles; Mr. R. Gray, gardener, Chevening, Sevenoaks, with twenty-four single Hybrid Perpetuals; T. W. Girdlestone, Esq., with two dozen trebles, and Mr. A. Slaughter with twenty-four Teas. A series of classes for collections of white, yellow, pink, crimson, and velvety-crimson Roses brought out a fine lot of blooms, and we commend the arrangement for the facilities which it affords of making comparisons. Mr. G. Prince, Messrs. Paul & Son, Mr. Cant, and the Cranston Nursery Company, were the chief winners in these classes.

In the miscellaneous class Mr. Bennett had superb stands of Her Majesty, and his last novelty, Mrs. John Laing, and received a Certificate for the latter. Messrs. John Laing & Co. had a fine stand of Begonias, Messrs. Cannell a famous show of summer flowers, Messrs. Cheal & Sons some excellent herbaceous plants, and Messrs. Cooling, of Bath, some beautiful Tea Roses.

Lee, Blackheath, and Lewisham Horticultural, *July 8th and 9th.*—The annual exhibition of this flourishing society was held on the above dates in the grounds of Mrs. Penn, The Cedars, Lee, and proved more successful than any of its predecessors. The stands of cut Roses were especially noticeable, some well-known firms competing in the classes for forty-eight and twelve blooms respectively. Of the former Messrs. Bunyard & Co., of Maidstone, who took the first prize, had some very fine blooms in excellent variety, the most noticeable perhaps being:—Hippolyte Jamain, Mdme. Ferdinand Jamain, Merveille de Lyon, Marie Baumann, Maréchal Niel, Ulrich Brunner, Abel Carriere, Star of Waltham, and Comtesse de Nadaillac. Messrs. John Laing & Co., who took the second prize, had excellent blooms of Countess of Oxford, Ferdinand Jamain, A. K. Williams, Merveille de Lyon, and Marie Rady, &c. Gloxinias were hardly so well represented as in former years, the majority of the plants though well-flowered not having as fine blooms as have generally been seen here. There was also a scarcity of large specimens of Palms, Cycads, &c., which usually make so fine a display in the large tent. Zonal Pelargoniums on the whole were very good, the six shown by Mr. Reece (gardener to R. Whyte, Esq.), being remarkably fine, particularly a grand example of the salmon-coloured Lady Neva Campbell. Caladiums, as usual, were quite a feature, the six exhibited by F. Hatchett, Esq., who took premier honours, being a nice even set of well-grown and nicely marked plants. Messrs. John Laing & Co., of Forest Hill, put up a nice group of Palms and other fine foliage subjects in the nurserymen's tent, and in the same department was a showy group of Zonal Pelargoniums and Tuberous Begonias from Mr. B. C. Ravenscroft, Granville Nursery, Lewisham, amongst which were several fine seedling varieties.

The winner of the greatest number of prizes was Mr. Reece, gardener to R. Whyte, Esq., who was also the fortunate winner of the Challenge Cup given by John Penn, Esq., for the third year in succession. The winner of Mr. Laing's prize, a silver-plated teapot, was Mr. R. Sholdice. The prizes offered by Messrs. Maller & Sons, Mr. Keech, and Mr. Nettlefold, for a collection of vegetables and salad combined, were won by Mr. Jeffery, Mr. Nunn, and Mr. Garland, in the order named. For the prizes offered by the tradesmen of Lee for a collection of twenty-four miscellaneous plants in pots, not to exceed 9 ins., Mr. Reece was first, Mr. Mullins second, and Mr. Luff third; and the prizes offered by the tradesmen of Blackheath for a group of plants arranged for effect, went to J. G. Hemmerde, Esq., Mr. Shrubb, and Mr. Cole. Messrs. Laing & Co.'s prizes for six Begonias, tuberous-rooted, were won by Mr. Sholdice and Mr. Rhoden. In the fruit classes, Mr. Gregory's prizes for two bunches of Grapes, black or white, went to Mr. Jeffery, Mr. P. Wright, and Mr. Hudd; and Mr. Shrubb had the best collection of fruit, six dishes. For three bunches of black Grapes, Mr. Jeffery came in first, Mr. Wright second, Mr. Cole third, and Mr. Hudd fourth. For three bunches of white Grapes, the two first-named exhibitors were again first and second, and Mr. Sholdice third. For a collection of vegetables, not to exceed eight varieties, Mr. Jeffery was again first, Mr. Rhoden second, and Mr. Nunn third.

Royal Caledonian Horticultural, *July 8th and 9th.*—The annual summer show of this society was held, as usual, in the Waverley Market, but, according to a local contemporary, was not, as a whole, to be compared with the magnificent spring shows which of late years have been held under the auspices of the society. As a summer show, however, it was a marked advance on any previous exhibition. The entries numbered 604, as compared with 559 in 1884, 521 in 1883, 373 in 1881, and 459 in 1880. In 1882, owing to the International, there was no summer show. The quantity of non-competitive material was not large. Messrs. Ireland & Thomson showed a table of plants, of which Orchids, Liliums, and Pitcher-plants were the leading features; and Messrs. Thomas Methven & Sons also exhibited a large and well-appointed table, containing a good show of Pelargoniums and Roses, and some fine examples of hardy Hydrangeas. Messrs. Dicksons & Co. exhibited a new white Pink, named Mrs. Welsh, for which they have obtained a First-Class Certificate.

The only competitors for the prizes for nurserymen's table of plants was the firm of Messrs. R. B. Laird & Sons, whose effective grouping of the excellent materials at their command was much admired. An attractive table in the amateurs' and gardeners' section was that of Mr. Grossart, gardener to Mr. Buchanan, Oswald Road, who easily took the first prize. As usual the feature of his collection was the show of Orchids. The exhibition of Fuchsias was not large, but it contained a good example of the Lord Beaconsfield variety, with its long bright-coloured blossoms, hanging candelabra-like in masses round the plant. The show of Cape Heaths was larger than usual, but Ferns were not quite so good. The show was indebted to the Pelargoniums for the large masses of colour, but the feature of the exhibition was the display of Roses, and in fact cut-flowers generally. In the Rose section, Mr. Dickson, Belfast, as usual, carried all before him. The gardeners' and amateurs' tables were little inferior in point of general effect to that of the nurserymen in this class. A few tastefully-arranged bouquets were shown, and, considering the season, there was a good exhibition of fruit, while vegetables were well represented.

At the western end of the market, three greenhouses filled with plants were exhibited. One of these by Messrs. Reith & Hardie, Caledonian Crescent, was somewhat octagonal in shape, and being constructed in sections, it can easily be removed from place to place. The house was filled with plants grown by Mr. Hardie, florist, Morningside Park.

The leading winners of prizes in the plant classes were Mr. John Paterson, Millbank, and Mr. A. Scott, Carberry Tower, for stove and greenhouse plants; Mr. John Curror, Eskbank, and Mr. R. Grossart for Orchids; Mr. Paterson, and Mr. G. McKinnon, Melville Castle, for Cape Heaths; Mr. R. Grieve, Falconhall, Mr. S. Graham, and Mr. John Cumming for Ferns. In the fruit department first prizes were won by Mr. Morrison, Archerfield, for a Pine Apple, Mr. J. W. Machattie, for four bunches of Grapes, Mr. T. Boyd for Black Hamburghs, Mr. Machattie for Peaches, Mr. W. Smith, Oxenford Castle, for Nectarines; Mr. McIntyre, The Glen, for Figs; Mr. McKelvie, Broxmouth Park, for Melons, and Mr. G. Sinclair, East Linton, for Strawberries.

In the nurserymen's section, Messrs. R. B. Laird & Sons secured the highest awards for a table of plants, four Palms, six Dracænas, and twelve table plants, and Messrs. Ireland & Thomson were first in classes for table plants, Tree Ferns, Carnations, and cut flowers of stove or greenhouse plants, &c. Mr. Hugh Dickson, of Belfast, was first all round for Roses, and Messrs. Dickson & Co. for Pansies.

ANSWERS TO CORRESPONDENTS.

Odontoglossums.—*R. Buller.*—All the Odontoglossums are very good. The small, much-spotted variety is a good form of O. crispum guttatum, and that with three large blotches is very close to O. crispum Trianæ. The other has magnificent broad petals.

Double Spathed Arum.—*R. B.*—We have frequently seen similar specimens. Indeed, during the last few years, it has become not at all an uncommon occurrence, but no one has been able to fix the sport.

Names of Plants.—*J. I. B.*—1. Adiantum cuneatum; 2. A. colpodes; 3. Selaginella Wildenovi of gardens; 4. Polystichum angulare; 5. Adiantum formosum; 6. Lomaria Gibba; 7. Nephrolepis tuberosa; 8. Selaginella cæsia; 9. Pteris cretica albo-lineata; 10. Adiantum hispidulum.

Early Cabbage.—*Bessie.*—The two earliest are Ellam's Dwarf Early and Early Etampes, and both are of fine quality. In your district they should be sown not much later than next week. See a note on this subject at p. 712.

Communications Received.—J. W.—G. G.—J. D.—J. A.—R. S. & Co.—W. T. F.—C. H. D.—M. T.—E. D.—X. Y. (Next week.)—O. M. (Many thanks, but the cutting you send is from our own columns.)—N. J. D.—R. P. G.

LONDON SEED TRADE.

July 8th, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a very small attendance on Market, and the business transacted has been of a trivial character. There is no speculation in Clovers, and the only articles in demand for sowing are Rape and Mustard, which, however, only meet with moderate inquiry. New French Trifolium is now quoted at lower rates, but buyers do not operate, preferring to wait for the home crop, which is reported large, and prices will probably be under the average, particularly as only a small demand is anticipated. Canary firm at last week's advance, other Bird Seeds unchanged.

COVENT GARDEN MARKET.

July 9th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Grapes, per lb.	1 0- 3 0	Pine-apples, Eng., lb.	2 0- 4 0
Melons, each	2 0- 3 6	—St. Michaels, each	3 0- 5 0
Peaches, per doz.	2 0- 8 0	Strawberries, per lb.	0 3- 0 9

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Asparagus, English, per bundle	-	Horse Radish, bundle	3 0- 5 0
Beans, French, per lb.	- 2 0	Lettuces, Cabbage, per dozen	2 0-
Beet, per dozen	2 0- 3 0	— Cos, each	0 1-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	1 0-
		Turnips, per bunch	0 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lily of the Valley, 12 bunches	-
Anemone, 12 bun.	-	Marguerites, 12 bun.	2 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Moss Roses, 12 bun.	2 0- 5 0
Azalea, 12 sprays	-	Narcissus, various, doz. bun.	-
Bouvardias, per bun.	0 9- 1 0	Pæony, 12 bunches	-
Camellias, 12 blooms	-	Pelargoniums, per 12 sprays	0 6- 1 0
Carnations, 12 blooms	1 0- 3 0	—scarlet, per 12 sprays	0 4- 0 6
Carnations, 12 bun.	2 0- 4 0	Pinks, various, 12 bunches	1 0- 4 0
Chrysanthemums, 12 bunches	-	Primula, double bun.	0 6- 1 0
— large, 12 blooms	-	Primulas, Chinese, bun.	-
Cornflower, 12 bun.	2 0- 4 0	Pyrethrum, 12 bun.	2 0- 4 0
Cyclamen, doz. blooms	-	Rhodanthe, 12 bun.	6 0- 9 0
Cineraria, per bunch	-	Roses (coloured)	2 0- 4 0
Day Lily, 12 bunches	-	Roses, indoors, p. doz.	1 0- 3 0
Epiphyllums, 12 blms.	-	Roses, per dozen bunches	2 0- 6 0
Eschscholtzia, 12 bun.	2 0- 4 0	Spiræa, 12 bun.	6 0- 9 0
Eucharis, per dozen	3 0- 6 0	Stephanotis, 12 spr.	2 6- 4 0
Gardenias, 12 blms.	2 0- 5 0	Stocks, 12 bunches	2 0- 4 0
Heliotropes, 12 sprays	0 6- 1 0	Sweet Peas, 12 bun.	2 0- 4 0
Hyacinths, Roman, doz. sprays	-	Sweet Sultan, 12 bun.	4 0- 6 0
Iris, 12 bunches	4 0- 9 0	Tuberoses, per dozen	0 4- 0 6
Lapageria, white, 12 blooms	2 0- 3 0	Tulips, per doz.	-
Lapageria, red, 12 blms.	1 0- 2 0	Violets, doz. bun.	-
Lilium candidum, 12 blooms	1 0- 1 6	— French, per. bun.	-
— 12 bunches	12 0-18 0	— Parma, per. bun.	-
— Longiflorum, 12 blooms	3 0- 6 0	White Jasmine, bun.	0 6- 0 9
Lily of the Valley, doz. sprays	-	Woodroffe, 12 bunches	-

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, doz.	6 0-24 0	Heaths or Erica, var., per doz.	12 0-42
Arum Lilies, per doz.	6 0-18 0	Hyacinths, doz.	-
Azalea, per doz.	-	Hydrangea, per doz.	9 0-18
Balsams, per doz.	3 0- 6 0	Ivy Geraniums, per dozen	3 0- 6 0
Begonias, per dozen	4 0-12 0	Lilium longiflorum, per doz.	18 0-36 0
Bouvardias, dozen	9 0-18 0	Lilium lancifolium, per doz.	18 0-24 0
Calceolarias, per doz.	6 0- 9 0	Lobelias, per doz.	3 0- 6 0
Cineraria, per dozen	-	Margnerites, per doz.	9 0-18 0
Cockscombs, dozen	3 0- 6 0	Mignonette, per doz.	4 0- 6 0
Cyclamens, doz.	-	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargonium, per doz.	6 0-18 0
Deutzia, per dozen	-	Pelargoniums, scarlet per dozen	3 0- 9 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	6 0- 9 0
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	-	Rhodanthe, per doz.	6 0- 9 0
Evergreens, in var., per dozen	6 0-24 0	Spiræa, per dozen	9 0-12 0
Ferns, in var., dozen	4 0-18 0	Stocks, per dozen	3 0- 5 0
Ficus elastica, each	1 6- 7 0	Tropæolums, per doz.	2 0- 4 0
Fuchsias, per doz.	4 0- 9 0		
Foliage Plants, various, each	2 0-10 0		
Genista, per dozen	-		

Bedding Plants, in variety, 8*s.* to 16*s.* per hundred.

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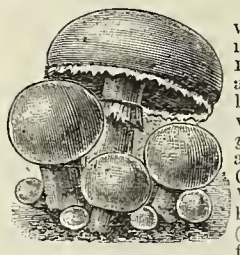

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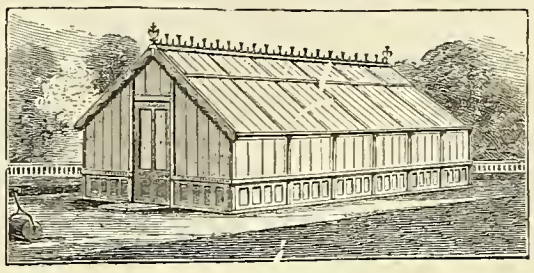

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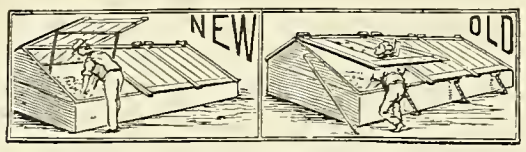

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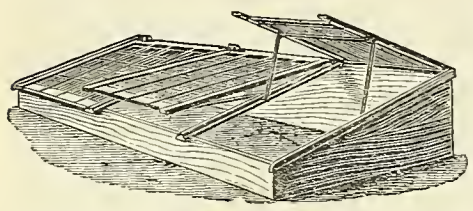

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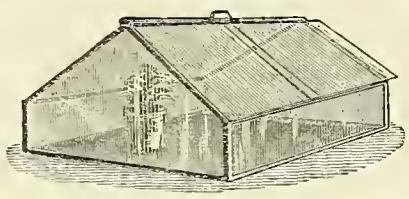

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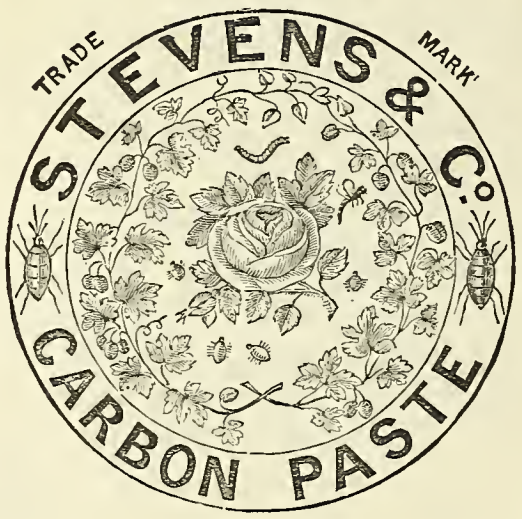

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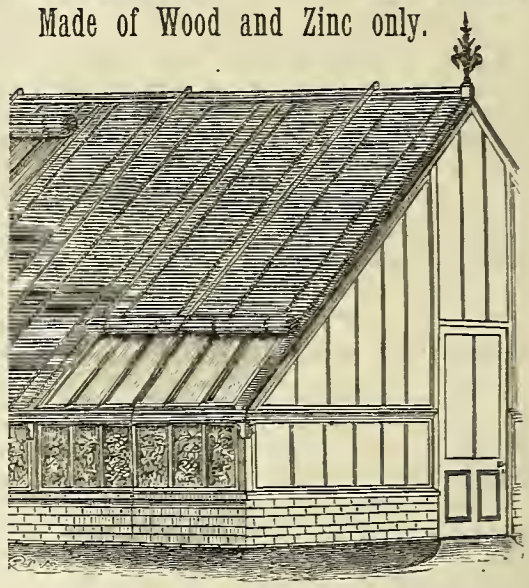

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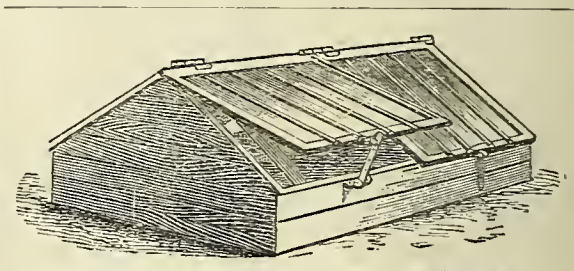

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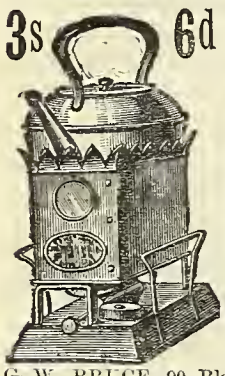

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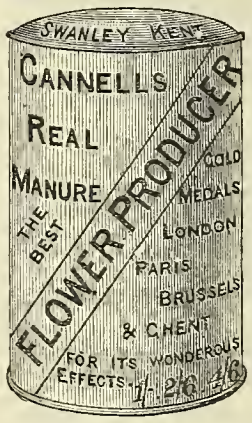

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Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 18TH, 1885.

DECORATIVE EXHIBITION GROUPS.—We have grown so sick of the iteration and reiteration seen in decorative plant groups at shows, that some change in the way of variety would be hailed with delight. Flower shows are so much the reproduction from year to year of each other, that visitors walk through them with languid listlessness, and stop only to gaze upon some novelty, or, indeed, any feature that is out of the beaten track, such, for instance, as Mr. George Hardy's magnificent group of Odontoglossum vexillarium, staged at South Kensington on Tuesday. Why, ten times as many persons will stop to gaze upon a stand of hardy flowers, as will look upon the highest effort of decorative art in plant grouping to be seen at ordinary shows. To make these latter we need one tall centre Palm, three or four smaller ones, in variety, two or three fair-sized Ferns, and a score or two of small ones in pots for a base; also a few Crotons, Dracænas, and Aralias, or similar fine foliage plants; then throw in a few Liliums, Begonias, and Gloxinias, and the thing is complete.

That sort of recipe is repeated *ad nauseum* all over the kingdom at summer flower shows, and it displays the highest effort of plant decorative art of which the British gardener seems capable. If this sort of thing must be, why not offer prizes for groups of hardy foliage and flowering plants, which would include shrubs, conifera, and common garden hardy flowers? Such groups would at least have this merit, that they might represent real garden effects in miniature, whilst groups which include greenhouse and stove plants almost equally are utterly unreal. There is an intense love pervading the public for flowers, but the fancy for so much sub-tropical leafage, as seen in Palms, Ferns, &c., is entirely lacking. A Gooseberry bush or two are often as graceful, and usually far more interesting objects. If promoters of flower shows do not soon strike out some new path, they will see the public satiated and disgusted, and the usefulness of their exhibitions decrease in proportion.

SPECIMEN FLOWERING PLANTS.—Upon the backs of the decorative plant groups, the introduction of which into horticultural exhibitions we owe to the Royal Botanic Society, must largely be laid the blame that so very few respectable flowering-plants are now seen at flower shows. The decadence seen in the cultivation of these things is universally lamented, but no one attempts to arrest the downward progress of this form of plant culture. Some two or three growers yet exhibit these things, but we can but view with contempt the specimens which are hawked round the country on a month's tour, and do duty at some three or four shows every week, until the presence of these faded, jaded hacks becomes unbearable. That is a system of "promoting the interests of horticulture and cultivating in the public mind a taste for floral beauty" which rather provokes disgust than serves any useful purpose.

What is needed is some real stimulus to local gardeners in the direction of high-class plant culture. There can be no more attractive or beautiful element in a flower show than good stove and greenhouse plants in bloom. The introduction of the easily-grown Palms, Ferns, Dracænas, Crotons, and Coleus's has been the bane of plant culture. They are but the Rhubarbs of the kitchen garden, and yet have taken the place of the Peas and Potatos. What has become of the beautiful Heaths, the glorious Dipladenias, the lovely Pimeleas, the sky-blue Plumbagos, and the Clerodendrons, with dozens of other stove and greenhouse *confrères*. We see decent specimens of these but seldom now, and even then too seldom respectable examples. We sigh in vain for such perfect specimens as the veteran Thomas Baines used to turn out, and in the hope that the culture of these plants may be resuscitated, we hail with pleasure the publication by Mr. John Murray of Mr. Baines' *Stove and Greenhouse Plants*,—to which we hope shortly to allude more fully.

It is true that many of these plants are slow growers, but that defect, if it be so, may well attract to the plant more attachment than ever can be found for things which grow like weeds. Even small gardeners may well find time for improvement in their cultural powers of greenhouse-flowering plants, for Zonal Pelargoniums (Ivy-leaf kinds), Petunias, Balsams, Fuchsias, Celosias, and similar things present flowering material which is ever welcome at shows, and if respectably grown never fail to secure all the admiration they merit.

THE SEASON AND THE CROPS.—Drought has been somewhat early an important factor in our garden work, and has seriously discounted on hot dry soils, much of that labour which has been so plentifully disposed during the earlier portion of the year. So far the season has been a glorious one. The Hay harvest is good and got up in capital condition, provided the farmers have not been in too great a hurry, a very common case in good seasons. Then Corn looks wonderfully well, and is early. A hot dry season favours Corn, and especially Wheat, hence a good crop of those cereal products may be looked for, and the farmers will doubtless again have the privilege of grumbling at Corn prices to their heart's content.

But the drought of last year, running as it did so considerably into the winter, is even now, under the influence of some recent hot sunshine, telling with great power upon many garden and field crops, and of those things feeling the pinch already are Peas and Potatos, for both have materially given out, and the latter have so far flagged that it would seem as if a heavy rainfall, such as we experienced on Sunday morning, could only result in the production of super-tuberation. It may be that these results of drought are confined to limited areas, and it is certain they are least felt in soils that are deeply worked, but all cannot trench if they would, and often may not if they could. Then the growth of winter greens is greatly hindered in the seed beds, and club is dreaded, whilst planting out under hot, scorching sunshine is almost impossible. Rain may fall again at any moment, possibly ere this meets the eyes of our readers, but should it do so we trust it will be in the form of a thorough soaking, penetrating deep into the soil, and not a mere surface fall, which would but do harm rather than good.

MR. GEESON, Haldon House Gardens, Devon, has raised a new Passion-flower, a hybrid between Passiflora racemosa and the new P. Constance Elliott. The foliage is like that of the first-named parent, while the flowers have the characteristics of Constance Elliott, a white form of P. cœrulea.

Gardening Miscellany.

FLOWER SHOWS FOR NEXT WEEK.—*Tuesday*: Newcastle, Staffordshire, Horticultural Society's Show. *Wednesday*: Newcastle-upon-Tyne Horticultural and Botanical Society's Summer Show.—Great Hasely (Oxon) Flower Show. *Thursday*: Wiltshire Horticultural Society's Show at Salisbury.—Salterhebble, Halifax, Rose Show.

WE hear that Mrs. John Laing is going to America—not the estimable wife of our friend at Forest Hill, but the last of Mr. Bennett's seedling Roses, which bears her name. Mr. Evans, of Philadelphia, who bought Her Majesty and W. F. Bennett, has been in London during the past week, and being captivated with the charms of the new one has secured the whole of the stock.

MR. TOWERS, late gardener at Syston Park, Grantham, has been engaged as gardener to Mrs. K. Smith, Wood End, Chichester.

THE REV. F. S. THORNTON, St. Sepulchre's, Northampton, appeals for subscriptions on behalf of the four children of the late Mr. Rowe, whose widow died a month ago leaving them utterly destitute. Mr. Rowe, who was formerly gardener to the Viscountess Clifden, went into business for himself at Northampton, and lost the whole of his savings, and at his death left his widow and children unprovided for.

MR. THOMAS BAINES, who for many years has been an able contributor to the horticultural press, has collected the valuable series of papers on plant culture which have appeared from time to time in the columns of our contemporaries, *The Gardeners' Chronicle* and *The Garden*, and, with additions and improvements, has now issued them in the form of a book, entitled *Greenhouse and Stove Plants*, which Mr. John Murray is publishing.

MESSRS. J. H. KRELAGE & SON, of Haarlem, have purchased the famous collection of Tulips of M. Jules Lenglart, of Lille, France.

THE death is announced of M. Regnier, Curator of the Botanic Garden of Saigos. M. Regnier was the importer of Calanthe Regnieri, Ærides Houletti, Saccolabium illustre, and other new Orchids. He was on a collecting expedition in Cambodia, and, with his two companions, was killed by the natives.

MR. BOND has been engaged as gardener to H. Barry, Esq., Bush Hill House, Winchmore Hill; and Mr. Barnett as gardener to — Miller, Esq., Cedar Villa, Kensington; both through Messrs. John Laing & Co., Forest Hill, S.E.

THE Messrs. Webber's prizes for the best packed Peaches, competed for at South Kensington on Tuesday, were won by Mr. T. Turton, Maiden Erleigh, Mr. T. Hare, Wellingborough, and Mr. Waterman, Preston Hall, who all adopted the same system, that of wrapping the fruits singly in tissue paper, and packing them firmly in layers in soft dry moss.

THE large seed firms are well represented at "The Royal" at Preston this week, Messrs. Carter & Co., Holborn; Dickson, Brown, & Tait, Manchester; Messrs. Dickson & Co., Chester; Messrs. Sutton & Sons, Reading; and Messrs. Webb & Sons, Wordsley, having very conspicuous displays of garden and farm produce.

THE NATIONAL CARNATION AND PICOTEE SOCIETY (SOUTHERN SECTION).—The ninth exhibition of this Society will be held in the conservatory of the Royal Horticultural Society on July 28th. The treasurer (Mr. H. A. Rolt, 170, Hartfield Road, New Wimbledon) will be glad to receive subscriptions or donations to make the exhibition a financial success. The prizes have to be paid immediately after the exhibition, and to do this he requires £20 more than he has yet received. A few friends came forward and generously subscribed the funds to make the Auricula exhibition a financial success, and the Committee hope that the more popular Carnation exhibition may receive at least equal support. A few old subscribers annually fall off; but if each member would obtain one new subscriber, the success of the exhibition would be assured. Intending exhibitors will please to send their entries to Mr. Barron, Royal Horticultural Society, South Kensington, at least four clear days before the 28th.—*J. Douglas, Hon. Sec., Great Gearies, Ilford.*

DROUGHT AND THE WATER SUPPLY OF GARDENS.

If any proof were needed of the benefits or the profits resulting from an abundant and easily applied water supply to gardens, a walk round at the present time is the best and surest means of acquiring it. Here, in the north of England, from the middle of May till the present date (July 13), with the exception of slight showers, ranging from one to eight hundredths, the drought has been something quite exceptional, rivalling that of 1868, chiefly owing to an uninterrupted period of dry and scorching winds from south to south-west, which immediately neutralized any good effects of the small quantities of rain which fell. To-day, I expect, is the beginning of a change to better things, as we have had some thunder, followed this afternoon by a fall of seventeen hundredths of rain, but still far too small a quantity to reach into the soil for more than an inch at most.

During an experience of over twenty years, I do not remember encountering such difficulties as I have met with during the last two months. Vegetables, if not actually dying off, are in "the blues," and at a standstill, and are therefore scarce; early Potatos are not much larger than marbles although ripening, and fruits, which are plentiful, both bush and wall, are dropping from the trees through want of moisture in the ground. And in dry seasons like this, water is so scarce with us here, that from sheer necessity we are compelled to abstain from giving it in the garden; the labour which would be caused by having to apply sufficient quantities, which we have not, would be too great to be undertaken. All we can do is to give the plants a thorough soaking when put out, and trust to Providence for their future supplies. It is in such cases that the benefits of mulching can best be seen.

How much to be envied are those of our gardening brethren who can obtain an abundant and unlimited water supply, by gravitation or otherwise, with a complete system of pipes and hydrants throughout the whole extent of the garden grounds. How pleasant it is to have only to affix the hose wherever and whenever required, and being certain that with only a minimum amount of trouble, which we should not reckon trouble in our present case, all the different requirements and applications of water to the garden are insured, time and labour saved, the trees clean and healthy, and the produce increased to such an amount as to soon compensate for any extra expense involved in putting in the supply. And of how much superior quality are fruits and vegetables when produced under conditions where the water supply is unlimited and given without stint when it is required?

I am quite certain that the produce of a given piece of ground could be more than doubled by a judicious use of water alone, and that therefore owners of gardening establishments would be only acting in their own interests by insuring a constant and unfailing supply of good water to their gardens. I know cases where such a supply is saving the expense of several extra hands, and even if this were not the case, the time and labour spent in applying sufficient quantities of water could be more profitably employed elsewhere. I speak of giving sufficient quantities, for the reason that there are two ways of watering plants of any kind to be effective and beneficial to the plants requiring it. I have often, and so no doubt have many of my gardening friends, heard fellow-gardeners say that they could not give water in dry weather, such as this has been, for the reason that they had always to be keeping at it and it did little good.

This is a creed, I need scarcely say, I have no faith in, and in my own mind, when hearing such words used, immediately set that man down as being either a lazy man or a careless one. No rational being, much less a professional gardener, could for a moment believe that a sufficient quantity of water given to any plant, either in the open ground or indoors, will be of no benefit to it. Of course driblets, such as are too commonly given in insufficient quantities to reach the roots and feeders, will do no good, and in fact are worse than useless, as harm is generally the consequence in such cases.—*R. Stevens, Paxton.*

MICHAELMAS DAISIES.

Sometimes a collection of these herbaceous Asters is shown by Mr. T. S. Ware and others, and then one is struck with the beauty and the great service they render in the garden at the particular time of the year when they flower; and yet, valuable as they are, they appear to find their way into gardens very slowly indeed, for one may go into many and scarcely find a perennial Aster in one of them. And yet they form a group of hardy perennials, containing more than a hundred species and varieties, the greater portion of which are probably worthless for decorative purposes; but some of them are undoubtedly the best of our autumn-flowering plants. Such of them as deserve this designation will be found in the following list, and they are distinguished by colour, by size of the flowers, by abundance of bloom; and they will do well in almost any position in the garden. Some few make good rock plants: we have seen some grown with great success in pots; but in whatever way they may be cultivated they will be found most useful, both for decorative and cut purposes.

Now for our select list. It includes Alpinus, pale lavender-blue, with orange centre; Aurellus, large violet blossoms, dashed with orange in the centre; Aurellus Bessarabicus, a fine variety of the preceding, with rich purplish-blue flowers, with orange centres; Cyaneus, bright mauve, very free, and one of the latest to flower; Discolor, white, changing to rosy-pink; Formosissimus, a distinct and beautiful species, flowers rosy-purple; Grandiflorus, one of the latest and most beautiful of the family, flowers large, and of a rich purplish-blue; Novæ Angliæ, rich bright rose, flowers large, very distinct, and its variety rubra, with bright magenta blossoms; Polyphyllus, white, very free; Salsuginosus, large white flowers, with yellow eye, extra fine; Turbinellus, pale rosy-purple; and Versicolor, white, shading to rose, distinct and pretty. All the foregoing can be had from 9*d.* to 1*s.* each, and in good plants.

These Asters do well in good garden soil, and if they can root deeply into it will last for years. But the plants will be greatly benefited by a mulching of manure and leaves in autumn, after the old growths have been cleared away, and the soil forked about the roots.

It would appear that the name Michaelmas Daisy was applied originally to A. Tradescanti, a white-flowered species introduced from North America some 250 years ago, and no doubt because of flowering just previously to and about Michaelmas time. But the old English name of the perennial Aster is the "Starwort," from Aster, a star. The flowers of Composites, or Starworts, are called florets, and being collected together on a receptacle, as in the Daisy or Dahlia, the rays of their circumference resembles stars. Aster amellus should be a flower of great antiquity, for in one of his books the poet Virgil prescribes the root of this, the Italian Starwort, for sickly bees. In Germany, the Starwort is used by lovers as an oracle to decide whether their love is returned or not. Göethe introduces this rustic superstition in his tragedy of *Faust*, when the luckless heroine consults the floral oracle as to the affection entertained for her by Faust. The French call the Italian Starwort, A. amellus, l'Œil de Christ, and the China Aster la Reine Marguerite.—*Quo.*

THE CULTURE OF MIGNONETTE.

The Mignonette has long been a flower of primary importance on account of its delicate perfume. Like most other aromatic plants, when grown on a light and somewhat barren soil, fully exposed to the sun, its odour is far more impressive, but I could not advise its culture on such soils in gardens except for experiment; such culture, I need hardly say, producing diminutive scraggy plants not worth the trouble of sowing, even though its fragrance be more powerful. I had the pleasure of seeing, some years ago, a border of Mignonette that afforded me great satisfaction and pleasure. The whole border was completely covered from end to end; the flowers were borne well above the foliage, which was of a dark green hue—the standard of perfection and good health. When in the zenith of its beauty, one was apt to imagine from its fragrance, what many travellers have informed us, that when sailing into some foreign ports, often on a summer's morning the gentle breeze off the land is impregnated with a thousand delicate odours blended together, and of delightful sweetness.

To be able to have such a display of Mignonette as the aforesaid, choose a border that is fully exposed to the sun, and during winter have as much manure wheeled upon it as may be considered necessary for trenching, which should be done as soon afterwards as possible. Some soils, it must be borne in mind, are not benefited by trenching, for there is often brought to the top soil injurious to the existence of plants. Therefore a knowledge of soils is always necessary to enable us to improve them, and adapt them to the wants of what it is desired to produce. The nearer the soil touches a pulverized state (with a very porous sub-soil such as sand) the better adapted is it for Mignonette. Wet, damp, adhesive soils act unfavourably on the roots of this favourite plant, turning the beauty of their pure whiteness into a sickly yellow. Soil of this character may be improved by the free use of sea sand or coal ashes, which will correct its tenacity and facilitate root action.

After the border has been dug, allow it to remain in its rough state until a day or two before the Mignonette has to be sown, which should be done about the middle of April. The first operation is to rake the whole carefully over, breaking all clods and gathering the stones off until the whole is fine. Then the seed can either be sown in shallow drills or broadcast, and gently covered. All that is necessary afterwards is to keep it clean, and if too thick, to thin it a little. The border will last the whole season, and be a source of pleasure, if not profit, where there is a large demand for cut-flowers for vases. A good plan for perfuming rooms with Mignonette, is to fill garden saucers full of damp sand and dibble the flowers in as close as they can stand. These will last for a few days, when the saucers can again be re-filled.

Mignonette is also invaluable as a decorative plant when well grown, though it has not the bold, dashing appearance of the show Pelargonium, the dazzling brilliancy of the Scarlet Zonal, nor the captivating colour of many an Orchid. Yet under good cultivation it is a first-class house plant. I consider that the best time to sow the seed for pot culture, either for show or for decoration, is about the beginning of April. From that sowing I can have plants that are fit for the house in three months in 6-in. pots, about 1 ft. 6 ins. high and nearly the same across. The system I have adopted here is to sow the seed either in pots or pans, and when they are strong enough to prick out, I get as many sixty sized pots as I intend to grow plants. The soil for the plants in this stage is made up of one part of loam and two parts river sand. In taking them from the seed pan we try not to break a root or injure them in any way. We do not attempt potting them, as some people boast, at the rate of "hundreds by the hour." Care, patience, and time is required; and if this is not exercised you need not be surprised if your plants are not as good as your neighbours.

The strongest plants are selected, and one is put into each pot, the soil should not be pressed into the pot; I simply take the pot between the hands and give it a gentle tap or two on the potting bench. The batch is then taken either to a cold frame or a greenhouse, where they are shaded from the sun, a gentle watering is given them through a fine rose, and they are allowed to remain for a week or so in the same place, when they may be exposed to the sun. All the flowers are carefully pinched off or taken out with a pair of scissors. Whenever the roots appear at the bottom of the pots, they are potted either into 4-in. or 6-in. pots, the soil used being the same as recommended for specimens. The batch is placed again in cold frames and carefully watered, plenty of air is given them to encourage robust growth, and all that is necessary afterwards is to keep them staked and pinched. When they are required for the house, pinching must be stopped a few weeks previously and manure water given them to enlarge the flower.

To grow into specimens, I pick all the largest out of the batch in sixties, and make up a compost as follows: three parts of loam to one part of old manure, and a liberal addition of sea sand. To every bushel of the above, I add a 5-in. potful of bone meal, or a 5-in. potful of Thomson's manure; the latter of

course is the best, for it contains all the nutritious elements favourable to this plant, and is lasting in its effects. I also add a handful of old lime rubbish or charcoal to make it porous. The whole is well mixed together, 5-in. pots are crocked, and they are carefully potted into them. It may be as well to say that if the ball is broken in the operation, I throw the plant on the rubbish heap; it might grow, but it is seldom worth the trouble of looking after. After they are potted, they are placed as near to the glass either in a frame or greenhouse as possible. Stakes are put in, and in a short time they are potted into 7-in. pots, using the same sort of soil as before. As soon as the roots touch the edges of the pots, they are again potted into 10-in. or larger, which is their last shift; the soil is rammed into the pots with a piece of stick, and then a trellis is made to train them on.

I consider this trellis far superior to the usual system of training, and as I have never seen it done before, I will simply state the sizes: diameter of bottom ring, 2 ft. 6 ins.; perpendicular height from the cross-bars tied to pot to the two semicircles crossing above, 1 ft.; distance between the rings, 3 ins. I have had plants on such a trellis 3 ft. to 5 ft. through, and you could not see the wire-work, which was covered with bloom. After the trellis has been put on take out the stakes, tie down the shoots, and place the plants in cold frames. To grow standards the same treatment is given, only one shoot is led up a stake. All the side shoots are pinched out, and when high enough, a trellis is made and the shoot pinched. This will cause three or four shoots to break out, which are tied down. I have had standards 3 ft. to 4 ft. high, and 3 ft. across, with hundreds of heads of blooms.

Watering is one of the most important points requiring attention in the cultivation of Mignonette. At no time should the plants be allowed to get too dry or too wet, for more injury is done through injudicious watering than anything else. As I have already taken up much space, I can only say in conclusion give soot water now and again to keep worms down, and liquid manure previous to flowering.—*John Cameron, Cargilfield, Edinburgh, N.B.*

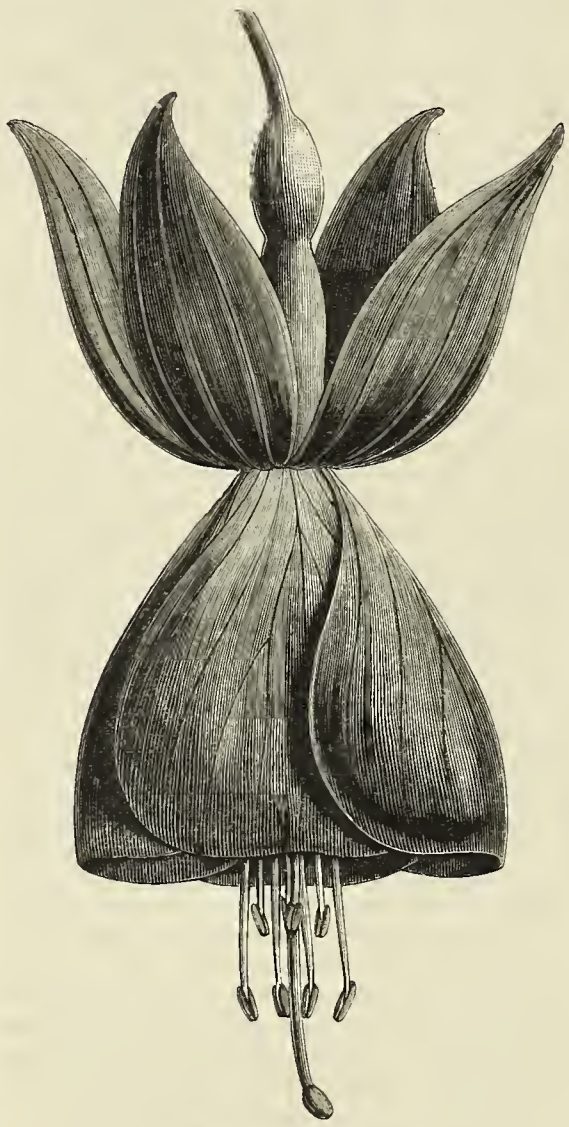
NOTES FROM IRELAND.

The Fruit Crops: Can Peaches be Grown in the Open Air?—Most people, as you very correctly remarked in your last issue, anticipated, from the splendid ripening and unusually dry weather of last year, a prodigious crop of outdoor fruit, but they were doomed to disappointment. Even if the low temperature during fructification did not affect them, the repeated hail storms must have done so. In fact, I saw more than once, in neighbouring gardens, flower petals, and no doubt flower stamens—if I may use a new phrase—flying, and cut right away by hailstones ¼ in. in diameter. Visiting one of the finest and best kept gardens in this county the other day—and this locality is singularly favoured — my inquiries and observations confirmed the usual accounts from elsewhere: the prospects in April and May were very bright, but closer scrutiny later on shows a different result.

There is a splendid prospect of Peaches on a south wall, 300 ft. long, at Minella, near here, the residence of Mrs. Malcolmson, but it was protected from the end of March until the fruit was fully "set," with glass sashes. It is simply a waste of time and labour to try to succeed without glass protection; but there must be a thorough free circulation of air. To aim at this, Mr. Crehan, the head-gardener at Minella, rests his sashes on a frame, designed by himself, about 6 ins. from the ground. In another garden near by the sashes were raised so as to be about 4 ft. from the ground, but success was not achieved. If any man could have succeeded in growing Peaches on unprotected walls, Mr. Osborne, head-gardener to A. H. Smith Barry, Esq., Fota Island, near Queenstown—with perhaps as fine a climate, according to Sir J. Hooker, who visited it, as the Isle of Wight—would have done so. Visiting the gardens there some time ago, he assured us he was giving up the experiment as impracticable.

I found the same thing true of Mr. Fairbairn, at Curraghmore, the palatial residence of the Marquis of Waterford, which His Royal Highness the Prince of Wales was curious enough recently to go out of his way to see, and which I very fully described, with its 20,000 acres of demesne and corresponding size of gardens, in your contemporary, *The Gardeners' Chronicle*, last year. It had been long previously given up also at the old princely residence of A. McMurrough Kavanagh, Esq., Borris, co. Carlow, when I called there. Driving some thirty miles on the same occasion to see the beautiful show garden of the Hon. Lady Louisa Tighe, at Woodstock, co. Kilkenny—then described in *The Garden*—Mr. Gray, the intelligent and courteous head-gardener, showed me where he had "glassed-in" the Peach-wall, and virtually made it a "Peach-house."

If the reader will accompany me mentally to the other side of Ireland, I may note that at Kylemore Castle Gardens, in the centre of what I may call the Connemara desert in Galway, I saw indoors the largest and best-flavoured Peaches I ever noticed. In conclusion, I may say, from this hasty survey of Ireland, in no part of the island will or can Peaches be successfully grown in the open air and unprotected. One exception alone have I met, that of Roebuck Castle, near Dublin, shown me by Mr. Bracken, head-gardener to E. P. Westby, Esq.—*W. J. Murphy, Clonmel.*



FUCHSIA GENERAL GORDON.

FUCHSIA GENERAL GORDON.

We have received from Mr. Robert Owen, The Floral Nursery, Castle Hill, Maidenhead, some blooms of his new Fuchsia General Gordon, which are certainly the largest that have come under our observation. We give above an engraving of one of the blooms—not the largest—natural size, in order the better to show its fine proportions, and may add that the petals are broad and stout, of a rich shade of purple, veined with scarlet at the base, and the tube and sepals bright red, verging on crimson. In size, shape, substance, and colour, General Gordon seems to be all that can be desired, and we learn from Mr. Owen that it is a good grower and free bloomer.

OUR FRUIT CROPS.

Speaking of a limited area, the fruit crops are generally satisfactory in this part of Lancashire, except in the case of Damsons, of which I was confidentially informed the other day that there was not one in the county. Apples—which I regard as the most important crop—are extremely evenly placed on all trees. Pears are disappointing, and have dropped off till the last few days from large orchard trees, and to-day I failed to see a single fruit on two trees, 30 ft. high, of Marie Louise. Such a failure has not occurred before during the last five years. Williams's Bon Chrêtien and Beurré de Amanlis in the same row are fairly sprinkled, and Louise Bonne on the opposite or northern side of the orchard has, as usual, a good crop. On the walls the Pears are probably over an average, and here again on a west aspect a tree of Marie Louise, covering a space 30 ft. by 10 ft., is entirely destitute of fruit, which is a most unusual occurrence, whilst on the same aspect a second-rate Pear, unknown to me, and which has only borne a few fruits once in four years, has a fair sprinkling on it this year.

At Worden Hall, near Preston, the choice sorts of Pears are on the south wall—which I consider the most fitting aspect for our northern climate. There the trees were well-loaded when I saw them three weeks ago, and in many instances a dozen might be covered with the palm of the hand, so that Mr. Frisby contemplated thinning. In the same garden Apricots and Plums are a good crop. Peaches and Nectarines, where timely attention was given to the fly, which was most persistent last spring, have plenty of fruit on them. Bellegarde Peach and Elruge Nectarine are the best with us. Cherries are a mystery to me. Our trees, the same as elsewhere are annually a perfect sheet of blossom, yet we never get what may be termed a heavy crop, and the one this year is as good as any. They are all planted on a south wall, and one is overhung with the eaves of a building quite 2 ft., and well sheltered in other ways, so that it is in the next best position to being covered with glass, but it is only occasionally that it shows any more gratitude than the rest for being so favourably situated. Morellos are, as usual, loaded.

Bush Fruit.—Gooseberries, where the birds have not interfered with the buds in the spring, are, I think, the heaviest crop I ever witnessed, and we always have what would be considered a full crop. Currants are also a good crop, but have recently become infested with aphis, the black ones more than the others, and the swelling of the fruit has been sadly interrupted. Birds made sad havoc with buds of bush fruit in the early months of the year in some gardens. We have some here in an orchard which are not so much under our eye as the others that are completely stripped, even the Black Currants, an occurrence that I never observed before till last year, when about half-a-dozen green linnets appeared to do all the mischief, and this year they and the same number of tom-tits have reduced the crop from bushels to quarts. Why didn't I shoot them? I reply obstruction, obstruction, Sir; and half-a-dozen gun shots would have made all the difference. Five years ago, in consequence of the hard winters and different arrangements as to shooting, there were none of these destructive creatures to be seen in this garden, and very few others that are troublesome to the gardener.

Raspberries with their usual unfailing regularity are a heavy crop, and hitherto have not suffered from drought, which they rarely do in this part, and the rain this day will do them and other things a vast amount of good. The Raspberry, so far as I know, enjoys perfect immunity from diseases or the attacks of insects, and the late period at which it flowers places it beyond the reach of frost. Strawberries are a heavy crop, on young plants particularly so. The dry hot weather of the past week or two seems to have been too much for old plants, and reports have reached me that on light sandy soils the fruit on early sorts is scarcely worth picking. We picked our first dish of Keen's seedling from a south border on the 10th of this month.—*W. P. R., Preston, July 13th.*

"Familiar Trees" is the title of a work, by Mr. G S. Boulger, that Messrs. Cassell will publish in monthly parts. It will range with Mr. Shirley Hibberd's *Familiar Garden Flowers* and Mr. Swaysland's *Familiar Birds.*

SCOTTISH GARDENING.

THE CAUSES OF FAILURE AND SUCCESS IN APRICOT CULTIVATION.*—The Apricot, which is known as Armeniaca vulgaris, is said by some to be a native of Armenia, and is to be found throughout all the temperate regions of central Asia. On the western slopes of hills in China and Japan it is found in abundance, and there, as reported, it is very fruitful, growing, no doubt, on stoney or calcareous surfaces; and under such conditions in this country, especially in the south, we often find the health of the trees and excellence of the fruits very near perfection. Ends of old houses, where a chimney ascends to warm the surface, ripen fruit and wood, and drive away damp; roots (battling into masses of fibre) in dry soil, almost hard as rock surface and bottom alike—are positions (too numerous to relate) in which we have seen Apricots which would give delight to all present. Where this fruit is most abundant, and its culture widely diffused, the value put upon it by those who know it best is very great indeed.

Apricot-growing has been understood for centuries in Italy, where it is named "precocia," from its early fruiting and ripening; and we are told that it was known in England during the time of Henry the Eighth. There are probably a score or more kinds known in British gardens, and, according to our observation, the more insignificant and worthless the kind the more it is exempt from disease. Among the hardiest and most productive of the five or six good kinds, Shipley's, or the Blenheim Apricot of some, is the one most worthy of extensive cultivation. Blenheim gardens (like many of the cottagers' houses, farm erections, and other structures in that district at the present time) produced the largest Apricots, which were sent to the London fruit-shops. Great quantities of the inferior kinds are grown for jam-making, and form an excellent auxiliary to fruit-production (largely on the increase) for meeting the wants of such of the populace as are unable to purchase butter; and the suggestions made by the late Prime Minister are being verified by this increased preservation of fruit for food. But I fear British-grown Apricots will only hold a secondary place as regards quantity, because the disease which year by year destroys the trees reduces the supply of fruit to nominal proportions.

The cause of the dying off, piecemeal, of the trees has long been a vexed question; many of the speculations as to the cause of this malady in gardens are vague, and, I fear, untenable as to the primary cause. I use the word malady advisedly, for what can be more distressing to a painstaking cultivator, when he sees his trees arrive at something like maturity—apparently in robust health—and suddenly large breadths of wall space are denuded of the shining branches and glossy green leaves as if fire had been the agent of destruction. This has been going on ever since I knew what Apricots were, and, as far as my observations go (and they have been made from the Moray Firth to the southern part of Dorsetshire), the disease is on the increase. Many have written their views on the transition of these trees from perfect health to sudden death, but I fear, like the cure for poor old "General Debility," the specific still remains in abeyance. In this paper it is my object to deal more with facts as they now exist, than to offer a special remedy which would guarantee exemption from the scourge, and I give, as follows, the opinions of many who have pinned their faith to what they have adduced, and who consider the disease to be owing—

1. To a cold damp subsoil, heavy and tenacious, where drainage has never been attended to.
2. To a damp climate where rain keeps the ground saturated and at a low temperature.
3. Unduly rich soil, causing growth such as this climate cannot ripen.
4. Roots deep in the soil away from sun and air, and so causing their decay.
5. Late spring frosts acting on the new growth.
6. Injudicious pruning and neglect of thinning, which is often experienced after dry, sunny, and wet autumns.
7. Cold exposed positions, where sun has little or no power.
8. Late growth in autumn.
9. Much cutting of the wood during frosty weather, injuring the bark and causing canker.

There is a certain amount of feasibility in all that has been written on the Apricot disease, and a degree of logic in these nine and other statements, which have disheartened many a clever cultivator. I will take these views in detail, then adduce my own. As to the first cause, "a cold damp subsoil," I have had abundant proof that such conditions do not suit the Apricot, the habitat of which is a rocky soil, and certainly not a wet one; a warm and dry bottom is most desirable for any fruit-bearing trees. I know a place which was for many years famed for its splendid Apricots, but in course of time the roots extended to the subsoil, and disease in a formidable form set in directly, and the grand trees became a wreck. This could have easily been prevented, as I shall hereafter describe, from observations taken in Oxfordshire, Worcestershire, Suffolk, Wilts, Somersetshire, and other parts. As regards the second cause, I may say that I have had little experience in wet climates; but what I have observed among fruits in some parts of Scotland, where the rainfall is greater than in any other part of Britain, is that fruit-growing (except small bush kinds) creates a real difficulty, and that the trees become Moss-covered and very subject to canker. In a low-lying garden on the west coast of Wales which I had under my charge, it was with the greatest difficulty that common fruits could be grown, or the trees kept alive from Moss and Lichens growing over the wood, but by lifting the trees and placing the roots above the level ground, which was well drained, they were much improved. Apricots were (in that locality) not worth the labour of looking after.

The third cause, unduly rich land, causing late sappy growth quite unnatural to the Apricot, is, I consider, one of the primary causes of canker in Apricot trees. I have seen more harm done by rich soil in private gardens than what the peasantry of the district experienced with trees twisted and trained anyhow on their cottages and out-houses; the roots struggling among mortar rubbish and in the hard trodden paths. In the gardens no sun or length of season experienced in this island could ever mature these young growths, which keep the whole trees from resting preparatory for winter's cold and damp. In early spring the trees are moving, then late frosts do their deadly work.

The fourth cause, is the roots embedded deep in the ground, which may be inert, cold, and unhealthy. This is on a par with other causes, and needs no comment. I have known such trees as Cedars and common deciduous forest trees to perish from this cause. The position is low and damp, and at a certain depth the roots perish. Apricots are sometimes seen, in old gardens, which have been gradually dying for many years, and at last collapse; when rooted out it is discovered that the roots had gradually got away from a very solid and healthy surface into a cold, inert subsoil; the surface roots continue healthy, but those down below were in a continual state of decay.

At Falkland Palace, on one of the old ruins, an Apricot of gigantic proportions, which had for many years yielded great crops of fine fruit, gradually showed signs of retrogression, the small fruiting shoots beginning to die. This went on year after year till the old branches too succumbed to the feeble action of decaying roots, and at last the whole perished. No doubt in the earlier stages of that grand old tree's growth, the roots became embedded in the immense foundations of the palace buildings; in further search of food and moisture they grew out into the ordinary subsoil, and thus gradually became defunct. No surface treatment could have helped such a case, nor could any attempt at resuscitation from the base be made, the depth being so great, so gradual decay set in, and slowly but surely finished a fine old tree. Many other cases of gradual decay of Apricot trees I could name as arising from the same cause.

In the fifth case, late spring frosts often make short work with the fruit. I knew a case in Fifeshire where an abundance of fruit was had under the shelter of the large limbs which crossed the trees in all directions. Some would have been inclined to have removed these old knarled giants because of their ugliness, but they were wisely retained, and each produced an abundance of fruit. Late spring frost destroys the branches, but in my opinion, were these branches in their natural condition, and not left over-charged with sap in the autumn, they would be so hard that they would stand the severest frosts known in this country. Hundreds under favourable conditions at their roots have done so, and no doubt will again; but the latter never make much growth after their fruit is ripe. Badly managed trees in nurseries, by forcing unnatural growth and by a barbarous use of the knife, leaving snags to die back, and large wounds, is the beginning of an evil which no skill or remedy will ever remove. Now that the proper pruning and training of wall trees in nurseries is almost a thing of the past, I would advise all and sundry who wish to have good healthy trees to plant maidens, and let the knife be used with much caution. The old "cutting back" system should be avoided as a positive evil.

Cause sixth, injudicious pruning, I have already hinted will do mischief without end, but I firmly believe that when the roots are under the conditions which we have indicated (firmly bedded in hard rocky soil), making little wood which ripens early, strange liberties may be taken with the knife, and I will refer to one case I have selected out of scores of others I could mention. At a farm house in Worcestershire, where an abundance of fruit is had from a large old tree, the pruning is of the most barbarous description. In autumn, a farm labourer cuts off every growth he can find, and large quantities of leaves are torn off. Plenty of fruit is annually gathered from that tree, certainly not fine either in size or flavour, but no canker is to be seen.

Cold exposed positions, the seventh cause, is said, by a few, to be a source of mischief to Apricot trees; so it is where the sun cannot reach them, but cold with a dry bracing air appears to suit them. In a cold unprotected district in Nairnshire, I have seen very healthy old trees where neither branch nor leaf appeared to ever have suffered from any cause. The same is to be met with in Inverness-shire and other cold districts, but the fruits ripen only moderately and are very late. In some parts of Oxfordshire, Apricot trees may be met with growing on every aspect; remarkably fine fruit we have seen gathered from houses facing north, but the trees are planted on elevated positions. In that county the soil is mostly of a drab colour, and no doubt well charged with chalk and lime, and everyone knows the benefit of these to stone fruit. Apricots are grown (proportionately) more extensively and finer in quality in Oxfordshire than in any other county I know of, and are a source of much profit to cottagers and others.

The eighth cause of failure is late, un-ripened growth. I believe that this is a certain cause. But why should there be late growth at all? It is a true sign that the roots are having unnatural supplies of nourishment, are very destitute of fibre, and may be revelling in loose soil and suffering from most of the foregoing evils, which cause late un-ripened growth. Root pruning and firmly ramming the soil, which should have plenty of lime and brick rubbish incorporated with it, is the remedy in this case. A little coarse sand is of advantage to adhesive soils.

The ninth cause, pruning during frosty weather, is a practice not uncommon, and I question its soundness. Unhealed wounds are very conducive to disease, the bark is injured more or less, and if the wood is unripe and sappy, mischief is likely to follow. I believe so little in winter pruning at all, that there is little left for us to do after the summer pinching; and I reduce the labour of pruning by encouraging natural spurs to grow close to the walls, and by attending to the roots during the growing season, and keeping them in a mass of fibre. Trees grown on cottages and other buildings seldom grow beyond the pathways, and they remain healthy among the foundations of lime, stones, or bricks. It is a bad practice to put flagstones below Apricots, as the roots draw to them and suffer from cold and damp. The wet does not get quickly enough away from them.

There has been much written on protecting fruit-trees, and the best protection I know of for Apricots is glass, which should be portable, running it off during summer to allow an abundance of air to envelope the whole trees—not mere currents, but a natural atmosphere all over the tree, and putting it on during spring as a protection to flower-buds, and in autumn to aid the ripening of the wood. Top and

* A paper read at the last monthly meeting of the Scottish Horticultural Association.

front ventilators could always be used at those times apart from the portable lights. Vermin on Apricots (apart from the grub) is uncommon. The little grub, however, is very formidable, and I know no means of getting rid of it but hand-picking when once it is established in the young leaves. Tobacco-powder dusted over the trees in due time is a good preventive, also water mixed with soft soap. Apricot trees under glass (I mean permanent glass coverings) are seldom met with in a satisfactory condition. I know where they are well done—and have been for years—in pots, which are taken to the cool orchard-house to flower, set their fruit, and mature it. They are then plunged in ashes outside, in the full sun and air.

As to the best means which I know of to employ in order to avoid the disease, I will give my experience with a number of trees which I planted in Worcestershire, and as details have been given in *The Gardeners' Chronicle*, and also in *The Journal of Horticulture* and several local papers, I shall not be considered egotistical if I state how I treated the Apricots, which covered 14-ft. walls in about five or six years, and were in perfect health, and quite free from disease at every period of their growth. First the ground was well drained, foundations were formed under the trees by layers of broken bricks; a layer of soil was placed over this and well mixed with lime and brick rubbish, and the whole rammed as firm as a rock. The trees, which were mostly maidens, were examined well for suckers, the long roots shortened back, then laid out flat on the prepared bottoms; a little clean soil of a sandy nature was placed over and among the roots, and made tolerably firm. In front of the roots the mixture of brick rubbish was placed all round, and rammed as firmly as possible with heavy rammers. Slight mulchings were laid over them and finished with clean soil, over the mulching, for appearance sake. Training was fair, horizontal, and upright. Pruning was mostly done between May and September; the knife was seldom required. Gross shoots were either rubbed off or stopped before they became robbers. There was no shortening back at any time by the knife, except at the roots; the tops being regulated by lifting and cutting back a portion of the roots as seemed necessary.

The period chosen for this operation was between the months of May and September, which allowed the cuts to heal and throw out innumerable fibres. The top growth was thus arrested and became hard, like whalebone. Many object to summer manipulation of the roots, but I have practised it for about twenty years on all kinds of fruit-trees, and from the results experienced up to the present season I am not inclined to strike into a new line till I find something better. To keep fruit-trees healthy in our island, my opinion is, that the growths of the current season should be perfectly ripe when the fruit is gathered. Apricots are more often ruined by luxuriant growth from rich soil at their roots than from poverty.—*M. Temple.*

SELECT HARDY PERENNIALS.

(*Continued from p.* 711.)

Dictamnus Fraxinella.—In this fine old-fashioned perennial we have not only a plant of sterling merit, but one which is adapted either for border decoration or for exhibition purposes. At a glance, one may regard it as a serviceable plant. It is self-supporting, forming a bush 2 ft. to 3 ft. high, and produces fine spikes of peculiar reddish flowers, which are exceedingly fragrant; it is one of the best of showy perennials, delighting in a deep, rich soil. There is also a white form of this plant, which, in general habit and time of flowering, is identical with the type; seeds are freely produced, by which, and also by division, they may be increased. I do not, however, advise the latter method, since one good specimen in flower is worth half-a-dozen miserable scraps.

Dielytras.—These one and all possess a grace, more or less, which always renders them welcome wherever met, and the several species being equally good and useful ornaments for the garden, when properly utilized, they cannot fail to give satisfaction if this particular be adhered to.

Dielytra cucullaria (Dutchman's Breeches).—This is exceedingly graceful and interesting; its Fern-like foliage is of a glaucous hue, and it has somewhat arching flower-stems, on which are borne its white, yellow-tipped flowers. For a partially shaded nook in peat and loam, this is a very pleasing plant, growing about 1 ft. high.

Dielytra eximia.—This is among the most interesting of spring-flowering plants, exceedingly graceful and free flowering. For forming a margin to a bed, or dotted here and there among other spring plants, the effect is very pleasing. The foliage is remarkable for its delicacy, and is of great service where foliage is required for vase decoration; here it may be used to advantage. It is of compact habit, and from amidst its abundant foliage the flower-stems arise; the flowers are of a reddish-purple colour. A few pots in the conservatory in early spring will be found both attractive and ornamental; indeed, in or out of flower, it is very pleasing. It is, among other things, a useful plant under trees in woodland walks, which shows its fondness for shade. Very charming is it in early morn, or after a gentle shower, with the dewdrops glistening upon it.

Dielytra spectabilis.—This, as the specific name indicates, is a very showy plant, and one which is well known and duly appreciated. For forcing for conservatory decoration in the early months of the year, it is probably without a rival, a few plants producing such good effect when placed among other foliage or flowering plants. In the border, too, it is equally charming, and when seen in fine clumps is very effective. It suffers sometimes from spring frosts, so that it should be protected when frost is expected; it is a free grower, and cannot be too highly recommended. These are all propagated best by division of the root stock. As spectabilis may be had remarkably cheap, it should be largely grown, and after being forced may be planted in the beds or borders, and thus assist in making these gay another year.

Dodecatheon, or American Cowslips.—I now come to one of the most select groups among herbaceous perennials, the Dodecatheons or American Cowslips, and while I feel how much might usefully be said of these charming plants, I will for the present confine my observations to their culture. Nothing can be more obvious to anyone who can discern beauty and grace combined when it is before them than the engravings of these lovely plants which have so recently appeared in The Gardening World. So faithfully are they represented, that it would be superfluous on my part to speak further respecting them, since all who have seen them cannot but form the one opinion of their extreme beauty. I may remark in passing that the general appearance of the individual blossoms are similar to those of the Cyclamen, in having a reflexed corolla. They differ materially in other respects, however, primarily by the flowers being produced in umbels, in the one case, and on solitary stems in the case of the Cyclamen; this is the greatest of external distinctions, both genera belonging to the one order Primulaceæ.

The best kinds are D. splendidum, a well-named kind, and a perfect gem among hardy plants; flowers deep crimson, growing about 6 ins. high, delighting in a bed of moist peat in a shady position. D. Jeffreyanum is the tallest of all; this grows fully 2 ft. high, and I have never seen it finer than when fully exposed and planted in deep strong loam. In this respect it differs from the remainder of this group, and I lay stress upon the fact so that a wider number of hardy-plant lovers may be enabled to embrace so good a plant, which may to a certain extent be modified if peat (a scarce commodity in some parts) had to be provided. Notwithstanding this it does exceedingly well in peat and shade; the leaves are long, lanceolate, and the drooping rose-coloured flowers are borne in large numbers; it is one of the finest of perfectly hardy perennials.

Then we have D. Media, the American Cowslip proper, which came from Virginia over a century ago; it is easily grown in good soil, choosing partial shade and equal parts of peat and loam. The flower stems attain 12 ins. high, and as many as twenty flowers on each umbel is by no means a common occurrence, so that to get fine clumps of these is something worth working for; their flowers last a long time in perfection, they are all quite hardy and free seeders, and care should be taken of every seed. For the rockery in quiet shady nooks, for peaty spots in the bog-garden, or among hardy plants generally in the mixed border, they are most telling; they are much varied from seed, and of the last-named kind there are many forms.—*J.*

A COLLIER'S GARDEN.

To really get to know a typical collier requires the exercise of some little patience and shrewdness. Colliers are by no means a shy or timid race, and when they know their man, that is, who they are talking to, they are, as a class, among the most open-hearted of men, and generous to a fault; but if they find anyone trying to "quiz" them, then you will find they are as "daft as a donkey," to use a Lancashire expression. Accustomed to danger, few of them know what fear is, and working so much deep down in the bowels of the earth, they are unaccustomed to mingle with the busy and educated life on the earth's surface. Is it any wonder then that they are somewhat rough in their pastimes? Cottages they may have, but how few there are who have a few yards of garden-ground attached to their homes, though there may be around them on either hand scores of acres of land yielding but little in the shape of rent, and waiting year after year for some one to take it on building leases for mills, works, or houses. There is no recreation for these men, so that it is no wonder they take to pigeo flying and other questionable "fancies." Yet there are many noble exceptions to this rule; they are not all bad. There is an air of comfort in many of their homes sadly wanting in others. Many are good musicians, some have houses of their own in the Swinton district, where mining is extensively carried on, and we are bound to confess our surprise at the quality and variety of their garden productions, and the knowledge of botany and practical gardening matters which exists among them.

In some of these colliers' gardens we have seen plants which would put some so-called gardeners to the blush, but the most remarkable among them is the garden of the Messrs. Tyldesley, of Fern Bank, Hazlehurst, near Worsley, father and son both being working men at one of the collieries near by. The senior Tyldesley has built himself a house, and also some greenhouses, in which he has gathered together a most remarkable collection of British and North American Ferns, not small, half starved, and miserable looking objects such as are so often met with, but really grand specimens, some of them several feet in height and circumference. They are grown in houses built expressly for the purpose by the Messrs. Tyldesley, and we should say the collection of specimens is worth over £200. Several of the Osmundas, or Royal Ferns, measure from 9 ft. to 18 ft. across. Of those we measured we may mention Osmunda cristata, 18 ft.; O. purpurescens, 16 ft.; O. undulata, 6 ft.; O. interrupta and O. cinnamomea, 8 ft. The two latter are North American species. Other fine specimens include a pretty seedling from the Axminster variety of Athyrium Filix-fœmina plumosum, A. F.-f. ramosissimum, A. F.-f. plumosum, the true Axminster variety, A. F.-f. Victoriæ, A. F.-f. calytrix, A. F.-f. acrocladon (Stansfield), a very rare kind, A. F.-f. cristatum, and a seedling variety superior to it, Blechnum spicant cristatum; many varieties of Lastrea Filix-mas, such as plumosum, divaricatum, corymbiferum, grandiceps, furcans, and others, some of them 6 ft. across; some handsome Scolopendriums, and many others.

We remarked, "They want more room to show themselves," and the reply was, "We should be glad to part with some of them, they are too crowded." The floor of the house we noted was being carpeted with the Cornish Money-wort, Sibthorpia, and it was quite at home. The Messrs. Tildesley may well be proud of their plants, such a finely-grown lot is not met with every day, and, when we consider the calling they follow, it does them great credit. Out-of-doors we found a collection of hardy things, some of them rare British plants, and also various Alpine and herbaceous plants. Van Houtte's Campanula was grandly in flower, and a mass of Thymus tomentosa was carpeting the ground in full bloom. Of the mossy Saxifrages there was a large collection, and thirty-six of other kinds; of Sedums, eleven, and Sempervivums, nine; several species of Funkias and Dianthus, and many other good things. Both father and son have a good knowledge of plants; the father is also a musician, and the son, we are informed, is now studying geology. All honour to such men, for of necessity they must carry great influence for good among their fellows, and long may they continue to do so.—*N. J. D.*

The Amateurs' Garden.

THE GREENHOUSE.

Roof Climbers will now be making rapid growth, and should be kept thinned out and regulated, that the plants beneath may have the full benefit of light to prevent drawing and assist in ripening and hardening their growth. To ensure this latter being carried out, it is a good plan to place most of the hard-wooded section in some favoured spot in the open, the most suitable situation being a partially-shaded position shut in by shrubs or trees, which will keep off the wind and thus save the plants from injury through being broken about. As the change from the house at first will be great, the plants will need syringing overhead to counteract the drying influence of the air, and they will also require watching to see that they do not suffer from want of water at the roots, but when any is given, it should always be sufficient to soak right through the ball and wet the whole body of soil.

Cinerarias.—The first batch of these ought to be progressing fast, and large enough for repotting, which should be done in light rich mould and the plants stood in a cold frame placed behind a shady wall, where, if kept with plenty of air and sprinkled during the evening, the growth of the plants will be sturdy and strong. To succeed the early lot, a few more may be raised now by again sowing seed, or taking suckers from any old ones that have been saved, and if these latter are kept close and moist, they soon root and make nice useful stuff.

Primulas and Mignonette.—These do well under similar treatment to that recommended for Cinerarias, and the two may therefore be grown together and potted in the same kind of soil, but for the Primulas it is better to employ more sand to let the water pass freely through. To have Mignonette in bloom early in the autumn and winter, seed must be sown soon, the handiest sized pots for growing the plants in being 32's, which should be well-drained, and then filled with rich loam, rammed hard, and on this the seed should be sown and slightly covered, and if then gently watered it will soon be up, when the plants will need thinning so as to leave only about five in a pot.

PITS AND FRAMES.

These ought to be doing good service now in growing Cucumbers, Melons, and Tomatos, as well as preparing plants for winter-blooming, such as Bouvardias, Cinerarias, Primulas, &c., for which purposes pits and frames are well adapted at this season. To get a good crop of Melons, the plants must only be allowed to run out with their main shoots and laterals from them, on which the fruit shows, and directly the flowers are open they should be set, immediately after which the Melons should swell. To push them on as fast as possible, the way is to sprinkle them well over about three o'clock in the afternoon, and then close the frame, when the sun will raise the temperature considerably and do the plants good. The same course of management will suit the Cucumbers, but they do not require setting, and only need plenty of heat and moisture to keep them productive, towards which manure-water is a very great help. This should be stood in the sun before being used, to make it warm, and the same with any water, or the roots will be chilled.

THE FLOWER GARDEN.

Nothing distresses plants so much, and checks their continuous flowering, as seed-bearing, which is a great tax on the energies of the plants; and to relieve them of the strain and encourage further growth and free blooming, the seed-heads or pods should be removed directly the petals fall, as the taking them off not only does good in the way referred to, but keeps the beds or borders tidy, especially where there are Roses, which, if not looked over frequently, litter the ground with their blossoms. As soon as these are off, the strong shoots that have borne them ought to be shortened back, with a view to getting another crop of flowers in the autumn, and this the plants will yield if they are well looked after, so as to keep them free from mildew and greenfly, parasites they are very subject to at this season, but the first named may be easily stopped or eradicated by the use of fine sulphur, and the aphis by applications of tobacco-dust and heavy syringings of clear water to knock the fly off.

Propagating Roses.—If the budding of Briars is not yet done, no time should now be lost, as the buds will go on well after the rain we have just had, which will set the sap in rapid motion, and make the bark run freely; and when it does this, there is nothing in the way of success. Not only is it a good season for budding, but it is also the best for putting in Rose cuttings, and as many sorts do better on their own roots than when worked, it is advisable to propagate and grow a lot in that manner, the way to make and manage the cuttings being to select medium-sized shoots that are firm and half ripe, and cut them into lengths of 6 ins. or so, with a bud at the base. This done, they should then be inserted in sandy soil, under handlights, placed on a shady border, and if there kept close, and damped occasionally, they will strike, as also in pits or frames on half-spent hot-beds, where they soon root.

Shrubs of the evergreen class may be rooted in the same way, but the surest method with these is to layer up by burying a portion of the stems of the lower branches after pegging them down. Any plants that are getting too large, or encroaching on others, may now be pruned in, or cut into shape, and hedges clipped, as they will break again, and make sufficient foliage to hide the wounds, and look well for the winter.

THE FRUIT GARDEN.

The Vinery.—Grapes will now be swelling fast, and should have every assistance by way of watering, but the mistake many make is in giving little and often instead of a thorough good soaking, and then leaving the border till it becomes moderately dry again, by doing which the soil is kept in a good condition, favourable to healthy root action, instead of being made sodden and sour on the surface, and it frequently occurs that when in that state there it is wanting in moisture below. The best way to manage in all cases where the border is outside the house is to mulch, and for this purpose nothing is more suitable than short stable dung, which answers the purpose of shade and lies light, and therefore does not obstruct the passage of the air, but prevents too rapid evaporation. Where it can be got there is nothing like liquid manure for Vines, especially such as are fruiting, and till the Grapes begin to colour it should be given freely, but if strong it will be necessary to dilute it before putting it on.

Not only is it requisite to have the borders in good order, but the atmosphere in the house must be kept moist by frequently damping the floors, or red spider will soon be rife, and if this insiduous little enemy gets on the leaves they soon turn brown, and the Vines suffer and become unable to finish their fruit. When this begins to colour a little air should be left on the ventilators by night or put on very early in the morning, or the moisture that arises will condense on the berries and spoil the nice bloom, or prevent them putting it on. As the growth of laterals only robs the Grapes, they ought not to be left, but pinched or cut out as they show themselves, till the fruit is fully swelled and coloured, after which it does good to let them run as they will, and the same with young Vines now, for the more leaves they make the more roots will they form and the faster will the rods swell, the action of the one helping and controlling the other.

Peaches.—These, like Vines, require a thorough soaking of the border, as, while the fruit is swelling, rapid demands are made on the trees, and unless the roots are well supplied with moisture the Peaches are liable to fall off, or if they remain on they are sure to be of small size and poor and the leaves to become affected with red spider, which must be kept off by heavy syringing both morning and evening till the fruit becomes well advanced. The same remarks apply to trees out-of-doors on walls, the shoots of which should now be kept closely nailed or tied in that the fruit may have full exposure to the sun and light, without which it is impossible to get the fruit a good colour, or to have it of fine quality and flavour.

THE VEGETABLE GARDEN.

The Dry Weather is telling unfavourably on all vegetable crops, which are now suffering from dryness at the roots, and though it is impossible to water all, Peas, Scarlet Runners, and Cauliflowers should be kept going, as they are the most important, and are likely to fail first; but it is surprising what a help a good mulching is along the sides of the rows. Almost any littery rubbish does for this, but the best stuff is long dung, the juices of which are washed down in watering and are of great assistance by the stimulus they afford to the plants. Liquid manure is also of much benefit, and where it can be got in quantity should be applied freely, by giving good soakings, and the same with water, as dribbles of either only bring the roots to the surface, where they perish, but if the earth is moistened below, they strike down and can then take care of themselves. Celery being half aquatic in its nature, cannot have too much water, but like the Peas, &c., when any is given, it should be in such quantity as to soak the soil, and as Celery is a gross feeder, it will take any amount of liquid manure.

Tomatos.—The only way to get these to set freely is to keep them well watered, as when allowed to become dry they shed their blooms, and if the first show of these is lost the crop of fruit must be late. To help the Tomatos to swell and ripen, the plants must be kept thinned, the right way being to run the main shoots as high as the wall, fence, or supports will admit, and to keep cut out, or pinched back, all side branches or suckers that may push up below, and it may be necessary to remove some of the old leaves that overshadow the bunches of fruit.

Turnips.—A late crop of these should now be got in, a suitable situation for them being a piece of ground that has been cleared of Potatos, which will not need digging, but only a forking over and levelling with a rake to make the surface sufficiently fine for sowing the seed. To get this to germinate, the best way is to wait for rain before putting it in, after which it will be up quickly and the Turnips soon grow and run ahead of the fly, which does so much harm when the weather is dry.

Cauliflowers.—It is now time to make a sowing of these for handlights, or to place under frames, or at the foot of a wall, to stand the winter; the way to get the plants up being to water the ground before sowing, and after it has become a little dry again the seed may be put in, and when covered with soil have a mat thrown over the bed.

Cabbages may be raised in the same manner, the best early kind to sow now being Ellam's, which has a nice close compact little heart, and turns in well in the spring, when it is very tender and good. To succeed the one mentioned, the Fulham or Enfield Market are as desirable as any, and may be sown at once, or a week or so later on.

POLEMONIUM RICHARDSONI.

This charmingly pretty Greek Valerian, though it has been under cultivation in gardens for some years, is but very little known, yet it deserves a prominent place in every mixed border of hardy plants. It is a native of Arctic North America, and is closely allied, although superior in every respect, to that old favourite P. cœruleum, commonly known as Jacob's Ladder, itself one of the most elegant of spring-flowering herbaceous plants. P. Richardsoni, so named in honour of Dr. Richardson, a celebrated Arctic explorer, who found it in 1826 near the Great Bear Lake, forms neat, attractive tufts of angular hairy branching stems, with bright green alternate, pinnate leaves, and in good soil grows to nearly the height of 2 ft., and from May onwards until the present time yields a continuous crop of large and showy azure-blue saucer-shaped blossoms, in terminal panicles, and rendered all the more attractive by reason of its golden anthers. The plant is thoroughly hardy, is easily increased by division, and will grow freely in any ordinary garden soil, so that there is little excuse for its cultivation not becoming general. At the meeting of the Floral Committee, held on May 26th last, Mr. T. S. Ware showed some beautiful plants, and received a First-Class Certificate for it. Our engraving was also, we may add, prepared from specimens kindly forwarded by Mr. Ware, in whose nursery at Tottenham it has this season been a great feature.

CHISWICK GARDEN IN JULY.

A very interesting corner of the world, but a corner of which very few people, comparatively speaking, know anything, is the garden of the Royal Horticultural Society at Chiswick. The great advance that has been made in the cultivation of fruits and flowers of late years has often been the subject of comment, and this year is especially observable both as regards quality and quantity. Very few people have anything like an adequate idea of the developments and improvements that have been effected in the horticultural world during the past generation or two, and very few, indeed, have any idea of the share which this very unobtrusive garden at Chiswick has had in the business.

POLEMONIUM RICHARDSONI.

Chiswick Garden is not a very showy or a very extensive one. It comprises somewhere about ten acres of ground, and it is laid out and managed strictly with a view to utility rather than show. Not that it is altogether wanting in a certain old-fashioned beauty of its own, and its well-laden fruit trees, its pleasant lawn, and numerous plant and fruit-houses render it a very interesting and attractive garden, though it cannot and does not pretend to compare with others which are not burdened by its practical duties. There was a time when it could be spoken of as "unique in all England;" when it was described by writers as a sort of paradise here below, with its gorgeous displays of flowers, its sheet of ornamental water and shady bowers, "whilst," says one writer, speaking of a fête day here, "the air is ringing with music, bursting forth, now in front, now behind, and now again far away on one side, band answering band; an immense and most brilliant-looking crowd, including most of the aristocracy of England, is promenading over the lawns, or slowly moving through the conservatories." They were the days before the Society's unfortunate advent at South Kensington, when their domain at Chiswick was three times as large as it is now, and when the Society was immensely popular and thriving, and consequently wealthy. The Chiswick estate was then also a model of high-class ornamental gardening, according to the best ideas of the day. Some years after they undertook, jointly with the Exhibition Commissioners, their unfortunate enterprise at South Kensington, they relinquished all but ten or eleven acres of their ground at Chiswick, and transferred to their new domain all the ornamental features of their work, leaving only the scientific and practically useful part of the business at Chiswick. As all the world knows, their partnership with the Commissioners was a financial fiasco. They were compelled to deliver up their beautiful quadrangle to popular exhibition purposes, and were thus thrown back entirely upon their Chiswick territory, crippled in their finances and with the land they had once made an earthly paradise in the maws of the brick and mortar demon, never to be recovered. Thus it has come about that this nationally important Society, to which we are all indebted to an extent most people are unaware of, has to-day a garden which in many respects is altogether unworthy of it, and a degree of popularity not a tithe of what it ought to have.

Mr. A. F. Barron, who for many years has very ably superintended this garden, has, as it has been said, some ten or eleven acres of ground in which to carry on the experimental work of the Society, a large proportion of this ground, probably a third, or from that to a half, being covered with glass. For the carrying on of the whole of the work there are some four-and-twenty men employed, and the business of the Society may be described in the words of Mr. Knight, "the publication of well-ascertained facts, the detection of errors of ignorance, and the exposing of the misrepresentations of fraud." There are three committees for the general direction of the work—a Scientific Committee, a Fruit Committee, and a Floral Committee, each consisting of about thirty experts. They meet every fortnight at South Kensington, and at Chiswick as often as may be necessary. The kind of subjects which come under the attention of these three bodies may be easily surmised, and the gardens here are laid out strictly with a view to their experiments. The Scientific Committee, for instance, will receive from some manufacturer a sample of manure for which special capabilities are claimed, or if a sample is not sent by the manufacturer, and the thing seems to be making its way into popular favour, a sample of it will be purchased and its value put to a careful experimental test. It will be applied to plants grown in competition with others under precisely identica conditions of light and moisture, soil and temperature, or it will be tried in comparison with other manures of known value, and the actual results will be published in the Society's Journal. A few years ago very close attention was given to the subject of tree grafting, and with especial reference to the influence of the stock upon the scion. It was demonstrated beyond question that very much depended on a judicious combination of kinds, and it is now found to be practicable to make such selections as will effect in

two or three years what it would formerly have taken ten to accomplish. Then again, the whole system upon which forcing houses of all kinds are heated may be said to have been elaborated at Chiswick. This garden was only established about sixty years ago—planting was commenced in 1822. At that time heating by hot water pipes was was all but unknown. Writing at about the date of the establishment of this garden, Mr. Knight says: "The constructing of forcing-houses appears to be generally defective, and two are rarely constructed alike, though intended for the same purpose; probably not a single building of this kind has yet been erected in which the greatest possible quantity of space has been obtained and of light and heat admitted proportionate to the capital expended. It may even be questioned whether a single hotbed has ever been made in the most advantageous form, and the proper application of glass, when artificial heat is not employed, is certainly very ill understood." It is due to this Chiswick garden and to the experiments carried on there, that all these doubtful points have long been cleared up, and that the enormous advance in the growing of fruit and flowers under glass observable of late years has been at all practicable. The Horticultural Society established scientific principles, and then came Sir Joseph Paxton's original structure in Hyde Park to popularize among the wealthy the idea of ornamental glass structures, and the combined effect has been a development of horticulture under glass, not so much as dreamed of fifty years ago. They have a wonderful series of glasshouses at Chiswick, including the famous great vinery 180 ft. long and 30 ft. broad. It has between fifty and sixty Vines trained over its interior, and they are now bearing fruit which when ripe will, it is computed, amount to somewhere about two tons, and the roots are all outside, and they have had this year forty loads of manure. They have a second and more recently constructed vinery, also with a wonderful show of fruit.

The functions of the Fruit and Floral Committees are chiefly those of an examining body, and the awarding of certificates for really good things. Any person who has raised a new flower or fruit, or what he takes to be a new flower or fruit, may send specimens here and have them pronounced upon. As in the case of fertilizers, if a thing is being puffed upon the market as a startling novelty, and is not sent for the imprimatur of the Society, it will be purchased and submitted to the proper committee, and its merits, or want of merits, duly proclaimed. It continually happens that growers produce some variety of a fruit or a flower with which they are not familiar and which they honestly believe to be a new thing. Whether they are members of the Society or not, and without any fee, they have only to send a specimen to Chiswick or South Kensington and they may be tolerably sure of learning the truth about it. "New" things are continually being pushed on in the market which are not new—perhaps are merely old and forgotten things revived. Now and again, at the proper season, the Society will get together from all sources as many as possible of these things of a given kind. This year, for instance, they have a splendid collection of Fuchsias, comprising some 200 sorts, or rather comprising plants which profess to be of 200 sorts. These will be closely examined by the Flower Committee, and the various aliases under which some of them will be found to be circulating in the trade will be set forth in the Society's Journal [some day]. They are also this year giving special attention to Potatos, which they are growing here in great variety. A number of various kinds, many of them sent by growers as new and meritorious sorts, are planted under equal conditions, and will by-and-bye be dug up, and so many marks awarded for them as "croppers," and so many marks for their table quality after they have been boiled. Any grower having the good fortune to raise a really new and good thing may get a certificate which at once gives his production an important market value. Green Peas, Cauliflowers, Pelargoniums, Caladiums, Gloxinias, Maiden-hair Ferns, and Tomatos are among the things on trial this year. They have some twenty professedly different sorts of Tomatos to come before the Fruit Committee. These, like the rest of the things, are all grown by Mr. Barron and his staff, and it is essential, of course, that they shall all be grown upon an equal footing as regards soil and sunshine, moisture, and general attendance. Besides all this, these gardens are stocked with large numbers of fruit trees—Apples, Pears, Plums, and so forth, and any member of the Society may send here for grafts of any kind he may require, and will be sure of getting them if they are recognized as standard sorts. As a result of the late "Apple Congress," large numbers of the sorts hitherto regarded as standard have been destroyed, and newer kinds have been substituted. It has been decided to hold a similar inquisition upon Pears in October next, and the immense stock of Pear-trees from which growers have been recruiting their orchards all over the kingdom will similarly be subjected to a process of weeding out.—*Daily News.*

FRUITS.

Fruit Culture under Glass.—Vines: Anyone having Black Hamburg Vines in the early or second early houses which, through old age or other cause, have not yielded satisfactory crops during the last couple of years, I would strongly advise to cut all the bunches as soon as the berries are ripe, with 9 ins. or 10 ins. of wood attached to each bunch, the ends of which should be placed in bottles of water in the Grape or fruit-room, or any other conveniently cool and dry place, until the Grapes are required for use. This done, root out the old Vines, remove the soil from a narrow strip of the border, say 5 ft. wide, examine the drainage, and, if necessary, re-arrange it, placing over it a layer of good turfy loam, and afterwards fill the space excavated with a compost consisting of five parts of turfy loam, one of wood ashes, one of lime rubble, one of fresh horse droppings, and about an ordinary-sized garden barrowful o fresh soot, mixing the whole well together before wheeling it on to the border when dry. In preparing the border, make allowance for the soil subsiding 5 ins. or 6 ins. within as many weeks from the time of making it.

Planting the Vines.—Before proceeding with this operation, the woodwork, glass, and brickwork should be thoroughly cleansed—the latter should be washed with hot lime and the former with soft-soapy water. If the cultivator be not provided with home-grown Vines, of course he will have to buy them from some one who is reputed for the cultivation and sending out of clean, healthy plants. These, when thoroughly moist at the roots, should be turned out of the pots, have the drainage removed, and the soil all round the ball of roots and earth loosened with a pointed stick and be then planted at 3 ft. apart, about 1 in. deeper than they were in the pots, and make the soil firm about them in planting; then put a stick to each plant for support, and secure them to the trellis, but leave them sufficiently long to subside 5 ins. or 6 ins. with the soil.

Bearing this in mind, tie the sticks loosely to the trellis, so that sticks, Vines, and soil may all sink together. This being done, give sufficient tepid water through a rose to settle the soil about the roots, and afterwards give a surface-dressing of a few inches thick of decayed manure. Shade the Vines with mats for a few days until the roots have taken to the new soil, and with this object in view and to freshen up the foliage, which, under the circumstances, will show a tendency to flag, damp them slightly over head three times a day until they have made fresh growth, after which morning and afternoon will be often enough, damping, however, the surface of the border, pathways, &c., a couple of times—say at eleven and one o'clock — during bright sunshiny weather to promote a genial atmosphere. Vines thus treated will reach the top of the rafters before the end of the season, and, if treated during the interval in the manner indicated at p. 698, may be allowed to bear a few bunches each next year. This method of procedure has everything to commend its adoption, seeing that a crop of Grapes is taken from the old Vines this year in sufficient time to establish young ones for carrying a crop next year.

Grapes and Spiders.—House spiders are quite as troublesome to Grape-growers as they are to house-maids, and they are certainly much more injurious if allowed to locate themselves in the vineries, as affecting the appearance of, it may be, otherwise faultless bunches, by partially enveloping the berries in their artistically spun webs to the detriment of the bloom, than their presence, however objectionable, would be in the interior of the town or country mansion. Therefore, at no time, but particularly during the summer months, should spiders be tolerated in vineries; they should be hunted daily, and their webs broken up, great care being required in removing them with a camel-hair pencil from the bunches of Grapes or the individual berries not to rub the latter, as in that case the work would be better left undone.—*H. W. Ward, Longford Castle, Salisbury.*

Fruit Trees.—Summer Pruning: The importance of this operation cannot well be over estimated, and so well are its advantages understood by practical men, that it is probably practised to a greater extent at the present time than at any former period. Notwithstanding this, however, there are many so-called gardeners, as well as many amateurs who occasionally employ the jobbing man, who do not have recourse to it so much as is desirable for the well-being of the trees, and as a natural consequence of their own interests as well.

This must be my excuse for adverting briefly to the subject in your columns, and if only a small percentage of those who have not hitherto adopted summer pruning as one of their fundamental rules of practice can be convinced of its utility, my present object will have been accomplished.

Although the end of June in most localities is a good time for a beginning to be made, it is not by any means too late even now to commence, but no time should be lost. Apples, Pears, Plums, Apricots, and Cherries —Morellos excepted—should be taken in hand first. Cut back all young wood not required for the extension of trees or filling in vacant spaces to within about 2 ins. of their base. In some instances, notably old established wall-trained and pyramid Pears, several shoots will sometimes grow from very nearly the same point; all these, with the exception of one or two, should be cut clean out to obviate over-crowding, and for adding strength to such bloom-buds as are in course of formation for the following year. Of course, it is only to trained trees and others grown on the bush system that these remarks apply.

The treatment of Peaches and Nectarines varies somewhat from the above, inasmuch as little shortening back, with the exception of lateral growth on strong vigorous shoots, is required. Nail in succession shoots for next year's crop, a space of 2 ins. may be allowed to intervene between each; all other young growth which is not needed for this purpose may be treated as superfluous, and should be cut clean out. Many practical men nail in the young shoots much closer than is advocated above; in my opinion, however, nothing is gained by it, but very much lost, as in no case which has come under my observation has the wood, foliage, and fruit been so fine as on trees where less crowding prevails.

Raspberries should have all suckers cut off, leaving only six or eight of the strongest young canes to each shoot. Currants, red and white, are far better in both quality and quantity, as a rule, if they are subjected to summer pruning. In this case the young wood may be cut back to a length of from 4 ins. to 6 ins. A few young healthy bushes treated thus will be found far more profitable than double the number of older ones which receive only the customary winter or autumn treatment.—*J. H.*

Judging Grapes.—I noticed with pleasure a departure in the rules of judging Black Grapes at the Cheltenham Show held last week. I have frequently seen at previous exhibitions large bunches of Black Hamburghs with large berries, not well finished, placed before smaller but well-ripened bunches. However, at the show held on July 8th, owing I suppose to a change in the judges, the first prize was given to Hamburghs of medium size in bunch and berry, but quite ripe and with the bloom perfect. Several good bunches of Muscats were shown, but none were perfectly ripe; it was rather early in the season for well-finished examples of this Grape. The evil practice of showing other people's products, both

flowers and fruits, I regret to say is on the increase. Such practices of course deprive the exhibitors of any merit that may be claimed for the productions shown, and to say the least, the whole business is most objectionable.—*Double Glo'ster.*

FLOWERS.

Work in the Plant-houses.—At the present season of the year the most important work in connection with the plant-houses will be to see that all winter-flowering plants are potted on as they require it. Begonias (winter-flowering) should soon be ready for potting into their flowering pots, and any that require it should be stopped for the last time. Salvias should also have their final shift by the end of the present month. Tree Carnations and Bouvardias will also require attention, especially with regard to tying, as, where exposed, they are very liable to break off, if we get rough, stormy weather. Although some of the Bouvardias that are grown on for succession may be stopped later, yet the main crop should now be gone over for the last time. Cinerarias and Primulas must not be neglected, as Cinerarias are sure to get crippled by insects if allowed to get pot-bound, while Primulas that are allowed to stand too long before being potted on never make good plants, and will very probably flower prematurely. Where it is required to have a batch of Primulas for spring flowering, or for seeding, a sowing should be made at once. Cinerarias sown now will also come in very useful, and will retain their foliage better than those sown earlier.

Solanum capsicastrum.—This is one of the most useful plants for winter decoration. The plants should now be well in flower, and to get them to set their berries well they must be well exposed, but must on no account be allowed to suffer for want of water, and as soon as the berries are well set they should be liberally supplied with manure-water.

What is a Herbaceous Plant?—When acting as a judge at a country flower show not long since, I came upon a class for twelve bunches of hardy herbaceous plants distinct, and among them I found Roses and Sweet Williams. These are not herbaceous plants in the strict sense of the word, but I found that the aim of the framers of the schedule was to secure the presence of hardy flowers, and they used the term herbaceous in the form of hardy, and not merely as including perennials, for Sweet Peas were shown also, and they come under the denomination of hardy annuals. "Herbaceous" is a term that should be employed with great care in schedules of prizes. Let us suppose that the simple question, What is a herbaceous plant? be proposed to a number of gardeners; it would be found there would be a considerable degree of variation in their answers. It is not that there is any difficulty in defining what is strictly meant by the term herbaceous, yet it is evident, from the statement made above, that certain notions on the subject appear to prevail that are not quite correct.

A strictly *herbaceous* plant is one that produces an annual stem; the term is used as opposed to ligneous or arboreous, which means partaking of the nature of a tree or shrub, with enduring woody stems and branches. Of this character there is a vast proportion of the vegetable kingdom, and it embraces numerous annuals, biennials, and perennials. The annuals perish stem and root, soon after they have perfected their seeds; biennials, which endure two years, and in some cases more, generally perish after they have once fulfilled the same conditions; whilst perennials, which are of many years' duration, annually put forth fresh stems. If these stems die down soon after they have borne flowers, they may be regarded as herbaceous. It will be seen, therefore, that herbaceous plants are very distinguishable from woody, ligneous, or arboreous ones. And further, bulbous plants are herbaceous.

In all probability, seeing the broad interpretation that is put upon the term herbaceous at country shows, it would be well if "hardy," or "hardy perennial plants," were the term used instead of herbaceous. At present, many hardy shrubs are included, and it is difficult to see how they can be rejected, unless the schedule of prizes should reject everything that, like the Rose, is in the form of a woody shrub.—*Quo.*

Aristolochia ornithocephala.—Considering the freedom with which they grow and bloom, the handsome character of the foliage of most of them, and the singular formation of their flowers, there are few more strikingly ornamental stove climbers or pillar plants, and yet how seldom do we meet with them in houses in every way adapted to their requirements. Next to A. Goldieana, that somewhat recent introduction from Old Calabar, and which produces the largest flowers of all, we should be inclined to place A. ornithocephala, flowers of which are before us from the gardens at Scone Palace, Perth, where it seems to be well grown and appreciated, as its merits deserve. The singular resemblance of the flower to a bird's head, and its colour, pale yellow, with a network of dark purple-brown, render it a very conspicuous object. It is a native of Brazil, and in good hands may be grown as well on a balloon trellis as up a rafter, though we confess to liking it best in the latter position.

Antirrhinums.—Mr. W. Caudwell, The Ivies, Wantage, who grows extensively some of the most popular of our hardy florists' flowers, has favoured us with a bunch of his strain of white-throated Snapdragons, which have not only size but good form and great variety in the colours to recommend them. His large bed of them must have been very imposing before the hot weather set in.

Diplacus glutinosus.—This old-fashioned flower is well grown at Broomhall Field, where there is now a good specimen plant in full bloom. Grandiflorus, Lord Derby, and Sunbeam are improvements on the species, and merit more general cultivation.—*J. Udale.*

Exacum affine.—A compact bushy stove annual from the rocky Island of Socotra, where it grows abundantly on the banks of water-courses, and produces numerous flowers of a bright lilac-blue. It was introduced by Dr. Schweinfurth. A good figure is given in the July number of *The Botanical Magazine.* It is a pretty little plant, with small shining green leaves, and flowering freely during the early spring months. It is easily grown and requires only very simple treatment.

Narcissus pachybolbus.—This pretty and distinct Narcissus belonging to the Tazetta group is figured in the July number of *The Botanical Magazine.* It is distinguished from other species of the group to which it belongs by its very large bulbs, stiffly erect glaucous leaves, and small pure white fragrant flowers. It is a native of Algeria, where it flowers in December and January; and in this country a little later, as the plant from which the drawing was made was exhibited in Febuary last at the Royal Horticultural Society by E. G. Loder, Esq. It was introduced to cultivation about twenty years ago by the late Mr. Giles Munby. Coming from so mild a climate, it is not suited for open-air cultivation with us, but must be grown with other greenhouse or half-hardy bulbs.

Corydalis pallida.—This is a pretty branching perennial, with elegantly-cut leaves, and long racemes of bright yellow flowers. It is figured in the July number of *The Botanical Magazine.* Seeds were received at Kew from Mr. Ford, of Hong-Kong, who had collected them on the opposite coast of China, north of the Canton River. They were sown in September, 1884, and flowered in the herbaceous department in the following March. Several species of this genus are well known as useful plants for the perennial border.

Rhododendron niveum var. fulvum.—This handsome Rhododendron is figured in the July number of *The Botanical Magazine.* It differs from the species in having a buff-coloured instead of snow-white tomentum on the under side of the leaves, and in the larger truss and deeper colour of its flowers. It is one of the original plants raised from seeds collected by Sir J. D. Hooker in Sikkim, in 1848-9, and is planted in a bed in the south-west angle of the Temperate House at Kew, where it flowers freely every year, and is said to far exceed in beauty R. niveum itself. The number of Sikkim Rhododendrons numbers about thirty species, all handsome greenhouse plants, and some of them especially so; their chief drawback being that they require a rather large amount of room. They are also the parents of some of our most beautiful hybrids.

VEGETABLES.

The Kitchen Gardener's Calendar.—Onions: The middle of next week will be a good time to make the first sowing of Onions to come into use in April and May next, and again about the middle of next month, for use in June and July. In cold districts the first sowing should be made a few days earlier, and, in order to secure the best possible results, a dry and light soil should be selected in preference to a damp and heavy one, and the site should be well exposed to the south or west. The ground should be liberally manured and deeply trenched, and afterwards it should be trodden all over, and then roughly raked, and after receiving a good surface-dressing of soot it should be again raked, this time evenly, and with a finer tool. The drills should be drawn at from 12 ins to 15 ins. apart, and 1 in. deep. The seed should be sown somewhat thickly, and covered, and be finished off in the same way as spring-sown Onions, and the after-treatment be identical with that given to the latter. The young plants can be thinned out when necessary, as required for salading in the autumn; they should, however, be left sufficiently thick in the rows to make allowance for mishaps during the winter months. The varieties most suitable for this sowing are the Queen and Early White Naples, and these come into use in the order in which their names appear. The Red and White Tripoli and White Naples, if sown, as already stated, in the middle of August, will make a good succession. The result of these sowings will fill the blank that would otherwise most probably occur between the bulbs of the preceding and current year's growth, through that of the former becoming flabby, and consequently of little value for culinary purposes, from the bulbs starting into growth in May and June.—*H. W. Ward.*

Ellam's Early Dwarf Cabbage.—My experience of this variety is that when sown on July 20th for spring cutting it grows into good stocky plants with the lower leaves touching the ground, and always stands the winter well. But it must be cut as soon as it is ready; or if a good shower of rain comes followed by a little sunshine it cracks all to pieces, and is useless for the table. This is its peculiarity with me, and I should be glad to know whether other growers have experienced the same thing. For a market man who can cut the heads as soon as they are ready it is A 1. A new variety, called the Early Warwick, has been strongly recommended to me, but not to be sown before the 1st of August. Have any of your readers any useful information respecting this sort to communicate to a brother *Gardener?*

Tomatos.—I have tried all the new Tomatos as they have come out, and find Phillips' Perfection the very best of them all, but as a cropper our own strain of the old Red is the heaviest.—*G.*

Garden Refuse.—Looking over the large kitchen garden attached to the Metropolitan Police Orphanage at Twickenham the other day, I was much interested to note the way in which Mr. Gardiner, the superintendent, disposes of his garden refuse, leaves, sweepings, &c. A piece of ground is always kept vacant which trenching will improve. A trench 2 ft. in width and depth is thrown out, and into this is placed all the refuse of the garden as collected. When full and well trodden in another trench is thrown out, and the soil covering the refuse in the first trench deeply, and, of course, raising the ground somewhat for a time. In the course of a year a large piece is thus treated and improved.—*B. A., in The Gardeners' Chronicle.*

THE

Orchid Growers' Calendar.

Cattleya maxima Backhousei is a dwarf compact evergreen plant, having pale green stems and foliage, in which peculiarities it is distinct from all others. The sepals and petals are of a light magenta, and the lip is of the same grand colour, but distinctly veined with deep magenta-purple. It blooms after the growth is completed, from a sheath at the top of the just matured stem, the flowers being produced during the winter and spring months, and continuing in beauty for two or three weeks. This variety comes from Peru. We find this plant to do well at the warm end of the Cattleya-house, where it should be placed as fully in the light as possible, with but little shade, merely sufficient to keep the bright sun from scorching its foliage. It will thrive well in baskets, or equally well in pots suspended from the roof, and also when placed on the stage where there is plenty of light. It requires good drainage, which may be secured by filling the pots three parts full of crocks, and placing some sphagnum moss over them to keep them from getting clogged. This is one of the chief objects, namely, to secure perfect drainage, so that the material does not get in a sour or unhealthy state. If the soil is allowed to go bad, that is to get into a stagnant, soddened condition, the plants often suffer through the decay of the roots, which causes the stems and buds to shrivel, and when that is the case, the plants often dwindle away, or, if not, they take a considerable time to bring them back into a healthy state. If this unhealthy condition should unfortunately overtake any of the plants, it is the wisest plan to take them out of the soil and wash their roots, after which they may be placed in fresh material in a shady part of the house, until they begin to plump up and make fresh roots, and then they may be put nearer the light. These instructions apply to all Cattleyas when they get into a bad state. Take care, however, not to rub the leaves or bulbs, but should any insects have appeared, be very careful of the plants in removing them. The best material for potting we find to be rough fibrous peat, and live sphagnum moss; or they will do in either. We prefer a few lumps of charcoal mixed with the other material, as it helps to keep it open and more free for the moisture to pass away; besides which, the plants will be greatly benefited by the material being kept sweet, which the charcoal will aid in doing.—*B. S. Williams, in The Orchid Album.*

Zygopetalum rostratum.—Some fine specimens of this rare and showy Orchid are to be found in Mr J. E. Bonny's collection, at Downs Park Road, Hackney. The plant is of much the same habit as Z. maxillare, and seems in its native habitat to attach itself to stout tree Fern stems, which must necessarily be well shaded from the sun's rays by the foliage above. The flowers, which are generally borne in pairs, are of great beauty, and all the more to be desired that they are delicately fragrant and last a month in bloom. The labellum is 2½ ins. in length and 2 ins. in width, pure white, with a few violet lines at the base, sepals and petals 2 ins. in length, white tinged with green. The plant grows well along with Odontoglossum Roezlii, Pescatoreas, &c., in a moist, shady house. It should receive an abundant supply of rain-water when growing, and enough to keep it plump after the bulbs are matured.

Cattleya speciosissima.—This lovely form of the labiata section of Cattleyas is flowering well at Birchfield, Fallowfield, the residence of A. Heine, Esq. Some two years ago a number of plants were received direct from its native habitat. Many were put into pots, some also were made up in baskets and suspended from the roof. Under both conditions they have done well; and during the spring and at the present time, as the young growths have come the sheath and then spikes have appeared, so that many have opened flowers of good form and substance. I have before me one flower measuring over 8 ins. across, the petals in their widest part being 2½ ins. This is by no means the largest, still the dimensions are good. The colour of the sepals and petals is of a soft blush shade, the labellum being of an intense amethyst, beautifully veined with white and yellow markings; the throat a deeper yellow, with bright streaks of the amethyst. The open circular lip closed towards the base always gives to this species a most distinct characteristic. Mr. Craggs finds it requires plenty of light during the growing season, and that with a good share of heat and moisture it should be induced to make its growth as quickly as possible, then having flowered, sometimes will make a second growth, and flower later in the autumn. There are several fine varieties, but it is mostly in the intensity of colour in the lip and throat that the difference consists.—*W. S.*

Odontoglossum vexillarium Measuresianum.—This chaste variety, exhibited by R. H. Measures, Esq., of The Woodlands, Streatham, at the Royal Horticultural Society's last meeting, appears to be the nearest to pure white of any of the O. vexillarium. The substance of its flowers is good, and the only colours in it are a clear yellow tinge, and a small crimson mark in the centre.

Odontoglossum vexillarium Cobbianum.—The true variety of this was exhibited by Mr. Walter Cobb, of Silverdale Lodge, Sydenham, at South Kensington, last Tuesday, and was generally voted to be far superior to that often seen bearing the name. The flowers are large and well-formed, lip clear white, with crimson marking at the base, petals pink, edged with white. Altogether it is a charming and distinct variety.

Thunia Marshallii.—This charming Orchid is flowering freely in the collection at Broomhall Field, Sheffield, under the fostering care of Mr. Walker. The flowers are freely produced; the sepals and petals are pure white, the large fringed lip stained a delicate lemon colour and pencilled with fine lines of crimson shading to purple. This species should be in every collection.

Odontoglossum vexillarium is also well grown at the same place. Although the stock at present is very limited, there has been a display of about seventy panicles of flowers in varying shades of rose-pink to very pale mauve.—*J. Udale.*

NOTES ON GARDENS.

Pickering Lodge, Timperley.—I send you a few notes taken a few days ago, when looking over the well-kept gardens of George Hardy, Esq., at Pickering Lodge, Timperley, Cheshire. There is a very pretty entrance lodge, surrounded with a low rockery well filled with Alpine plants, Pansies, &c., and the carriage-drive to the mansion is a nice sweeping road, with a belt of grass on each side, and instead of bedding out plants there is a very fine and extensive collection of gold and silver Hollies, many varieties of Yews, Thujas, &c., all well-kept pyramids from 9 ft. to 12 ft. high, and beautifully coloured. In front of the house is a circle of well-kept lawn, and at the end of the house a few choice beds of Rhododendrons; in fact everything is of the first quality. The first plant-house entered is the show-house for the flowering Orchids, and a grand sight awaited me there, about 1,040 spikes of Odontoglossum vexillarium arranged across the house, intermixed with Maidenhair Fern, on a raised stage in tiers, so that nothing could be seen but a bank of perfect beauty, many of the flowers measuring 5¼ ins. by 3¼ ins., and many very fine deep-coloured varieties. The next house contains many fine specimen Cattleyas, including a very fine plant of C. Skinneri alba, some fine varieties of Cattleya Sanderiana, one with forty flowers, and a small plant of the same variety with a beautiful spike of six flowers, a dark variety. Another house of Dendrobiums, Eucharis, &c., contains a fine plant of Dendrobium Paxtoni, making thirty-five fine growths, and a great number of healthy plants of D. Devonianum grown in shallow baskets.

An imported Eucharis, of the purest white I have yet seen, and in size between E. Sanderii and E. candidum, is also in flower. There are also several more houses, containing Odontoglossum Alexandræ, Masdevallias, Sophronitis, &c., all in the best of health, and a few nice plants of Dendrobium Ainsworthi. There is only a small kitchen garden here, and three vineries, two of which are newly planted, and have made good stout canes of short-jointed growth, and a lean-to house of Tomatos, grown in pots, and bearing a heavy crop of fruit. Everything grown here seems to be specially well cared for, and the visit to me was a very instructive one.—*Joshua Atkins, The Gardens, Tatton Park.*

POTATOS AT PENGE.

That well-known amateur cultivator of Potatos, Mr. McKinlay, has so long been associated with them, both as a grower and as a successful exhibitor, that any information bearing upon his system of culture and the probable yield of his season's crop can hardly be wanting interest. Mr. McKinlay has but a limited area in which to grow his tubers, but his soil is admirable and has been deeply cultivated for several years, but always growing Potatos; in fact it has produced scarcely anything else, as these are to the grower objects of special interest. In previous years the ground has been heavily dressed with short manure, chiefly horse droppings from the London streets, very superior material well calculated to produce not only fine but clean tubers.

As one result, in most seasons the top or plant growth is usually exceptionally robust; indeed we have seen tops from one row not only 4 ft. in height, but as much in width, literally a mass of growth that seemed to be out of proportion to any possible produce. Certainly such was not the case, because the root crop was invariably an enormous one, although giving many tubers much too large for exhibition purposes, and also very often many diseased. Last year one strong-growing new kind, Chancellor, was staked and found to reach a height of 6 ft., altogether out of proportion to ordinary requirements, as such kinds always thrive best in soil of moderate quality, and when top growth is not unduly forced.

This season, prior to planting, Mr. McKinlay determined that he would add no fresh manure, and would rely entirely upon deep working and such nutritive properties as the soil had remaining over from previous years, and although we have had a dry season, yet so far the growth generally is excellent, not so rank as last year, but still first-class, and such as indicates that a capital crop of tubers will be lifted presently. Generally the rows are 4 ft. apart, though some of the strongest growers get a little more room; but still it is evident even now that none too much room is given, for the tops in all cases are finely developed, and there is better prospective balance between crop and top than has been seen in previous years.

With a desire to obtain that full and complete knowledge of progress in Potato novelties which is so essential to one occupying the position of Secretary to the International Potato Exhibition, Mr. McKinlay grows what new kinds he can obtain for comparison with the best older kinds; indeed his labour and ground is far more completely applied to work of this sort than in producing Potatos for consumption, as, were the latter the case, of course fewer kinds would be grown. As it is, we see at Penge, in one garden alone, some fifty to sixty kinds, and in another garden, tenanted specially for the production of Potatos, are many others, with duplicates of those in the home ground.

In some cases the growth of various so-called kinds enables comparison to be obtained as to distinctness or otherwise that is also very useful later on. Thus no honest grower can ever put up Reading Russett and Red Russett as distinct, and, as far as top is concerned, the resemblance between Woodstock Kidney, Ashtop Fluke, and Miss Fowler is remarkable. Curiously, this latter new kind has done badly, not only here but in other gardens, coming not only very late, but badly. Very robust growers are Fidler's Success, formerly Beauty of Eydon, and Fidler's Prolific, late Hughes' Prolific; Gladstone (Irouside's), a round kind, having dark, Ashtop foliage; Sukreta, a

very fine sort, with Snowflake-like leafage; Snowdrop (Perkins), with similar leafage; Prime Minister, Chancellor, Harvester, with curious, curled top leaves; Lilywhite, Cosmopolitan, all full of growth and white kinds; and Midsummer Kidney, Snowball, and London Hero, all dwarfer whites; and Cardinal Rufus, Rosebud, The Dean, and Bedfont Rose, coloured kinds.

All these twelve kinds are Mr. Dean's raising. Bedfont Rose, the latest of all Potatos to push growth, was planted with the rest, and, failing to come up, the tubers were lifted and found not to have pushed growth, so well does it keep. Others were then planted in the same place, and these coming away after other kinds were earthed up, are now making rapid growth and promising a fine crop. Of Mr. Fenn's kinds, besides Reading Russett, were Prize-taker, Lady Truscott, Reading Ruby, and many others. Also Ross's fine Climax-like variety, M.P., which so nearly resembles the Doctor; also Sutton's The Clarke and Utility, strong growers; Charter Oak, New Peach Blow, Adirondack, and other Americans; Hughes' Crimson Beauty Kidney, like to Cardinal; McKinlay's Pride and Model, both quite late sorts; Lord Beaconsfield, Vicar of Laleham, First and Best, and other knowu varieties. We shall watch for the final results of Mr. McKinlay's efforts with much interest, as really fine crops must follow upon the present splendid clean growth.

OX-EYED DAISIES.

The great white Ox-eyed Daisy of our fields is Chrysanthemum leucanthemum, and I think I never before saw it finer than during the early summer months of the present year. In fields and parks, on the sides of railway cuttings, and by the margins of roads, I have seen this common Daisy, both numerous and very fine, during the past two months. When I was at Bearwood some days ago, I was interested in noticing how much finer some of the roadside varieties were than others, having broader florets and more rounded blossoms. I suppose it is too common a plant to be cultivated, but if it were taken in hand, some very fine forms might be obtained from it. Did any one ever find a double variety growing wild? Mention has been made of its appearance, and one writer notices instances he has met with wherein the florets of the ray were tubular.

As Chrysanthemum segetum, the yellow Corn Marigold, has come to be cultivated, why not C. leucanthemum? The latter is a pereninal, and perhaps too persistent; while C. segetum is an annual. But the coming Chrysanthemum is undoubtedly C. lacustre. What is its native habitat? And with whom did it originate? If introduced from abroad, when? and by whom? I ask these questions for the sake of information. It is a perennial, producing sub-erect stems 3 ft. long, bearing a profusion of large single white flowers in summer and autumn. It is a very showy plant for shrubbery borders, &c.; it has a handsome type of foliage, and is very showy when in flower. I cannot say too much in its praise. It deserves to be planted in a good deep loam.

It would appear that the generic name — Chrysanthemum—is derived from *Chrysos*, gold, and *Anthos*, a flower; and it refers not to the colour of the ray petals, but to the florets composing the disc or centre. C. leucanthemum is also named the Moonwort, no doubt because the full flowers resemble a full moon. It is also known as the Magdalen Wort, or more anciently Maudlin Wort, because it blooms about the time when the anniversary of the Magdalene is celebrated. But which is the Yellow Gowan of Scotland? Chrysanthemum segetum, or the Marsh Marigold, Caltha palustris; as both are sometimes so designated.—*Quo.*

White Elephant Onion.—Last season I had a number of kinds of Tripoli Onions, but none of any great merit. Onions being always useful, it is imperatively necessary that I should grow the best variety. Happening last season to judge the cottagers' and amateurs' collections at the Stamford Show, I noticed a dish of a variety called White Elephant, grown by our townsman, Mr. Pepper. This I at once noted and procured seed of it, and I am happy to say that it has given me the highest satisfaction, the bulbs being large, clear white, and there being very few runners. I shall grow it extensively next season.—*R. Gilbert, Burghley, in The Garden.*

HORTICULTURAL SOCIETIES.

Royal Horticultural, *July 14th.*—With a fair display of fine-foliaged plants, a magnificent group of Odontoglossum vexillarium, large and most effective groups of herbaceous plants, Lilies, &c., and first-rate competitions in several classes for fruits and vegetables, this was a thoroughly representative exhibition of seasonable garden products. Of the group of Odontoglossum vexillarium, some seventy plants, large and small, all most profusely bloomed, and admirably staged, with a judicious mixture of Maidenhair Ferns and Cocos Palms, it may, without fear of contradiction, be said that nothing finer has ever been seen, and we should have been pleased if their owner and exhibitor, George Hardy, Esq., Pickering Lodge, Timperley, had been awarded some more substantial prize than a Silver-Gilt Banksian Medal. In the competitive classes for fine-foliaged plants, the specimens shown were of medium size only, though for the most part well-grown stuff, and the lion's share of the first prizes went to Mr. J. Hudson, Gunnersbury House, and the remainder to Mr. J. James. Mr. T. S. Ware was well first with a collection—a remarkable one too—of hardy herbaceous plants, Mesrs. Paul & Son, Cheshunt, being second. Mr. Ware also came in first with cut spikes of six Lilies, showing L. Parryi, Canadense rubrum, testaceum, Humboldtii, Martagon Dalmaticum and Brownii, Messrs. Paul & Son being second, and A. S. Smith, Esq., Silvermere, Cobham, third.

The new plants certificated were Odontoglossum vexillarium Measuresianum, from R. H. Measures, Esq., a fine pure white form alluded to in another column; Alocasia Hendersoni, a very distinct species with long handsome metallic green leaves from Messrs. E. G. Henderson & Sou; Begonia (tuberous) General Gordon, a remarkably large double salmon-rose flower, from Mr. R. Owen, Maidenhead; Lilium Parryi, a showy bright clear yellow-flowered species, exhibited by the New Plant and Bulb Company, Colchester; Renanthera Storeyi, a handsome species allied to R. coccinea, but broader in the flowers and more beautifully marked, from Mr. Hill, gardener to Lord Rothschild; Rose Pride of Reigate, H.P., a very showy sport from Countess of Oxford, of a rich crimsou colour striped and splashed with rose and white, and Rose Madame Norman Neruda, H.P., rose-pink, of fine size and form, and richly perfumed, both from Messrs. Paul & Son; Pelargonium Blanc Parfait, a very neat, pure, double white-flowered Zonal; and Ivy-leaved Pelargonium, General Millot, a very good variety with double rosy-red flowers shaded with purple.

A spike of seven flowers of the richly-coloured Cattleya Sanderiana came from the collection of the Comte de Germiny, Rouen; and Messrs. Heath & Son, Cheltenham, had a large-flowered form of Odontoglossum vexillarium. From G. Neville Wyatt, Esq., Cheltenham (Mr. Simcoe, gardener), and from Mr. B. S. Williams, came flowering specimens of the scarce Vanda Dennisoniana hebraica. Mr. G. F. Wilson contributed a basket of fine spikes of Lilies; Messrs. G. Bunyard & Co. some attractive Regal Pelargoniums; the New Plant and Bulb Co. several interesting forms of Calochortus; Messrs. Veitch & Sons, Clematis coccinea and the pure white Andromeda speciosa cassinœfolia; Mr. R. Owen, several fine seedling Begonias; Mr. W. Bull some flowering plants of the true Bermuda Lily; Messrs. Charles Lee & Son, collections of ornamental leaved trees and shrubs, cut Roses, &c.; Mr. R. Dean, some beautiful Ten-week Stocks, Mauve Beauty and Bedfont Crimson; Mr. Eckford, a showy collection of Sweet Peas; and Messrs. James Carter & Co., a new Sweet Pea of great beauty, named Dedham Rose.

At the meeting of the Fruit Committee, Messrs. Rivers & Son were awarded a First-Class Certificate for Nectarine Goldoni, a very fine variety of medium size and of a rich golden-yellow, flushed with red on the sunny side. Mr. Bannister, Cote House, Westbury-on-Trym, Bristol, sent a seedling Grape, the result of a cross between the Black Hamburgh and Muscat of Alexandria. The berries in shape resembled their first-named parent, but both in colour and flavour were more like the Muscat. It was said to set well and ripen off in a cooler temperature than is required by Muscats, and the Committee requested to see it again.

The display of fruit was good all round, but nothing in the competing classes equalled in interest a superb collection of Cherries, Peaches, and Nectarines from Messrs. Thomas Rivers & Sons, Sawbridgeworth. Among the Peaches were beautiful examples of the Conkling, a large and handsome American variety of a beautiful orange colour suffused with crimson; Magdala, Dr. Hogg, and Golden Rathripe. The Nectarines included the Spenser, a large variety of a fine deep ebony colour; Goldoni, medium size, rich orange and crimson; Darwin, Pine Apple, Byron, and Humboldt. The Cherries, which were exceedingly fine, consisted of twenty-one dishes, and included, of light-coloured kinds, Gros Couret, Colour de Chair, a small yellow; Bigarreau Blanc d'Espagne, and Bigarreau Monstreuse de Mezel, extra fine in size. Among the black-skinned sorts were Early Rivers, Large Black Bigarreau, and Bigarreau Noir de Guba; while of reds, Espagne, Olivet, and Griotte Imperiale were the most conspicuous. With two handsome Queens, Mr. Louden, gardener to T. Barnes, Esq., The Quinta, Chirk, secured the highest award for Pines; and the best of a dozen dishes of Black Hamburghs, compact, well-shouldered, and well-finished bunches, came from Mr. Tavener, gardener to Sir A. K. Macdonald, Bart.; Mr. Louden being second, and Mr. Roberts, gardener, Prestwold Hall, Loughborough, third. In the any other black variety class, Mr. Roberts, Gunnersbury, took the lead with a finely-finished sample of Madresfield Court, Mr. Miles coming in second with three bunches of Gros Maroc, weighing 6 lbs. 6 ozs.; and Mr. Allen, Gunton, third with Madresfield Court. The best dish of Muscats came from Mr. A. Smith, gardener to W. H. Sewell, Esq., Warren Hill, Loughton, good, well-shaped bunches, but wanting in colour. There was an excellent competition in both classes for Strawberries, and Mr. D. Roberts was first with two dishes, good samples of British Queen and President; and a capital sample of Sir J. Paxton, from Mr. T. Edington, gardener, Woodthorpe Grange, Nottingham, held the premier position in the single dish class. Peaches and Nectarines were both shown in good numbers and first-rate quality. Among the dozen dishes of Peaches staged, a splendid sample of Barrington, from Mr. R. Farrance, Shadwell Heath, was an easy first; and out of sixteen dishes of Nectarines the best was an excellent sample of Stanwick from Mr. Bashford, Gardener, Chorlton House, East Sutton. With two dishes of Cherries, Mr. J. Hudson, Gunnersbury House, Acton, was first, and Mr. H. W. Ward, Longford Castle, a good second. With a brace of the Longleat Perfection Melon, a large, oval-shaped, white-fleshed variety, Mr. Pratt, Longleat, took a premier prize; Mr. Goddard, gardener, Hexton Court, Maidstone, coming in second, and Mr. Wildsmith, Heckfield, third, with Hero of Lockinge.

The competition in the class for eight distinct kinds of vegetables was of an extensive and interesting character, no less than fourteen collections being staged, while the quality, except in a few instances, was all that could be desired. For the first prize the contest was a close one between Mr. Miles, gardener to Lord Carrington, and Mr. Richards, gardener to Lord Normanton, and the judges eventually decided in favour of the latter—a verdict that was not universally accepted as the right one. Mr. Richards certainly staged an excellent lot of produce, which included Green Globe Artichokes, Daniells' White Elephant Onion, a very fine sample, Early London Cauliflower, Sutton's Improved Intermediate Carrot, Sanders' Marrow Pea, Perfection Tomato, Canadian Wonder Beans, and Lapstone Kidney Potatos. Mr. Miles had a very fine bundle of Asparagus, and first-rate samples of Stamfordian Tomatos, Veitch's Pearl Cauliflowers, Culverwell's Giant Marrow Peas, Green Globe Artichokes, and Sutton's Improved Intermediate Carrot. Mr. S. Haines, gardener to Lord Radnor, came in third; and extra prizes were awarded to Mr. C. J. Waite, gardener to Colonel the Hon. W. P. Talbot, and Mr. T. A. Beckett, Cole Hatch Farm, Penn, Bucks. Besides the varieties above-named, the new Pen-y-bydd Marrow, Hibberd's Prolific, and Moore's Vegetable Cream Marrows, White Naples Onions, Snowball Turnips, and Hackwood Park Prolific Tomatos were well represented in the various collections. A fine sample of Trophy from Mr. R. Farrance, florist, Shadwell Heath, was adjudged first in a collection of eight

dishes; and Mr. Goodacre, Elvaston, was first for Cucumbers, with a fine brace of Telegraph, Mr. H. W. Ward, gardener to Lord Radnor, being second with Purley Park Hero. For Messrs. Webb & Sons' prizes for the best twenty-four pods of their new Wordsley Wonder Pea, there was an excellent competition, and the awards went to Mr. H. Marriott, Skirbeck, Boston; Mr. Cook, Boston Long Hedge, and Mr. H. Marriott, junr., and the same competitors in the same order secured Mr. J. House's prizes for the best forty pods of his Perfect Marrow. From Messrs. James Carter & Co., came a very instructive collection of some sixty dishes of Peas representing the effects of field and garden cultivation, and smaller collections were contributed by Mr. T. Laxton, Bedford, Mr. J. C. Mundell, Moor Park Gardens, and Mr. Waterman, Preston Hall.

Finchley Horticultural, *July 14th.* — The twenty-fifth annual exhibition of this society was held on Tuesday in the picturesque grounds of Woodside, Whetstone, the residence of Mr. Alderman Cotton, M.P. Plants, cut-flowers, fruits, and vegetables, and especially the two latter, were well represented, and altogether the committee and their able and well-tried secretary, Mr. Joyner, may congratulate themselves upon the success of the day's proceedings. Mr. B. S. Williams, of Holloway, contributed a large group of stove and greenhouse flowering and fine foliaged plants, and from Messrs. Cutbush & Son, Highgate, came some nine or ten boxes of cut Roses, including one of the fine A. K. Williams. Mr. Henry Mobbs, gardener to W. T. Linford, Esq., sent a most interesting and extensive group of old-fashioned flowers, for which he received the first prize, Mr. Diddams, gardener to Col. Paget, coming in second. For a good collection of miscellaneous plants, Mr. G. Agate took a first prize, and Mr. J. W. Woodall the second. Mr. J. Carter, gardener to Mrs. Morgan Brown, took the highest award for Zonal Pelargoniums, showing among others a magnificent specimen of Mrs. Mellish, about 5 ft. over, and a well-bloomed specimen of the salmon-coloured Laura Strachan. Gloxinias were remarkably well shown, Mr. J. Agate coming in first, and Mr. Carter second. Cockscombs were also well represented, Mr. Burnett having the best. For a group of plants, Mr. Mobbs was first, and Mr. Eason second. Calceolarias, Begonias, and Hydrangeas, were also fairly well shown. For a bunch of Black Grapes, Mr. Lowry, gardener to Jas. McAndrew, Esq., took the first prize, Mr. G. Silvester the second, and Mr. Carter the third. For the best White Grapes in the corresponding class, Mr. Pulling was awarded the first prize, Mr. Lowry the second, and Mr. Burnett the third. For the best six Peaches, Mr. Birse was first, Mr. Wright second, and Mr. Pulling third. For a brace of Cucumbers, in a good competition, the first prize was secured by Mr. Carter, Mr. Agate being second, and Mr. Woodall third. Tomatos: Mr. Burnett first, Mr. Lowry second, and Mr. Carter third. In the competition for thirty-six Roses, Mr. Agate was first, Mr. Pitson second, and Mr. Pulling third. For the best twenty-four, Mr. Pitson was first, Messrs. Cutbush & Son second, and in the class for twelve, Mr. Pulling was first, Mr. Pitson second, and Mr. Eason third.

The first prize for Orchids was won by Mr. W. Birse, gardener to Jas. H. Lermitte, Esq.; second, Mr. Eason; third, Mr. Mobbs. For table plants, Mr. Eason was first, and Mr. Mobbs second. Mr. Burnett secured the first prize for the best four stove and greenhouse plants, Mr. Carter the second, and Mr. Agate third. For the best six Balsams, Mr. Carter came in first, and Mr. Butler second. Mr. Carter was again first for Fuchsias, and Mr. Wright second. The best six Ferns were shown by Mr. Eason. For the best specimen stove or greenhouse plants, Mr. Eason was first, Mr. Pulling second, and Mr. Burnett third.

In the miscellaneous department, Mr. Fox, South Place, Finsbury Pavement, exhibited his Finsbury boiler and hot-water apparatus, a useful and handy medium for heating small greenhouses; and Mr. W. W. Cropley, Rustic House, Edmonton, had a good display of rustic garden furniture and summer-houses. We understand that Mr. Cropley has recently introduced a revolving summer-house, which, working on a pivot, can be turned easily in any direction.—*J.*

Cray Valley and Sidcup Horticultural, *July 11th.*—The society which now bears the above designation is a continuation of the old "Foots Cray, North Cray, and Sidcup Flower, Fruit, and Vegetable Society," and this year its annual exhibition was held on the above date in the Rev. R. M. Berrens' grounds at Sidcup Place, and under the energetic management of the new committee and the three Honorary Secretaries, Mr. H. Gonne, Mr. E. W. Parkes, and Mr. T. Coleborn, with very gratifying results, the exhibition being a good one, the weather favourable, and the attendance large. In the large tent Messrs. John Laing & Co., of Forest Hill, staged a large collection of Tuberous Begonias, Orchids, and stove plants, grouped in their usual effective style. The same firm also contributed an admirable display of cut Roses. Messrs. James Carter & Co., Forest Hill, furnished a collection of well-bloomed plants of their fine strain of "Emperor" Petunias, and other showy things, including a beautiful sample of their handsome new Lady Satin Rose Godetia; and from the well-known nursery of Mr. Sim, Foots Cray, came a choice selection of Ferns. Messrs. Cannell & Sons, Swanley, contributed abundantly from their rich collections of single and double-flowered Zonal Pelargoniums and herbaceous plants. Some fine cut blooms of old-fashioned Roses came from Messrs. G. Bunyard & Co., Maidstone, as also some singular specimens of Japanese Ferns, Davallia Mariesi, made up into various fantastic shapes, which created much interest among the visitors.

The cut Rose classes were quite a feature of the show, there being a good competition among the leading growers, and the flowers staged fresh and good. For forty-eight varieties, Mr. B. R. Cant came in first, Messrs. Paul & Son, Cheshunt, second, and Mr. Ramsey, Waltham Cross, third. For twenty-four and twelve varieties respectively, Messrs. Bunyard & Co. came to the front, beating Mr. Cant and Mr. Ramsey in both cases. For six varieties Mr. Cant was first again. The amateurs' Roses were also exceedingly good and numerous, especially fine in quality being the twenty-four varieties which won the National Rose Society's Silver Medal, and which were exhibited by Mrs. Fuller, Bexley.

In the amateurs' tents there were excellent collections of Ferns, Orchids, flowering and fine-foliaged plants, fruits and vegetables. For a collection of plants grouped for effect, Mr. Crasp, gardener to Earl Sydney, was first with a very tasteful arrangement, the Rev. R. M. Berrens coming in second. For six Orchids, Mr. Parson, gardener to J. H. Bath, Esq., was first, and the Rev. R. M. Berrens was again second. Mr. Abbott, gardener to Sir W. Hart-Dyke, M.P., contributed, not for competition, a capital collection of vegetables; and amongst other miscellaneous exhibits, we noted a well-flowered group of Begonias from Mr. B. C. Ravenscroft, Granville Nursery, Lewisham. The Silver Medals of the Society were awarded to Mr. R. Crasp, Mr. Hill, gardener to the Rev. R. M. Berrens, for the best exhibits in Division B, open to amateurs employing gardeners; and to H. Gonne, Esq., and H. S. Moore, Esq., in Division C, open only to amateurs employing occasional labour.—*J.*

Gloucestershire and Cheltenham Horticultural Society, *July 8th.*—The second Floral Exhibition of the year, which took place in the Montpellier Gardens, Cheltenham, was quite one of the most successful and enjoyable that has ever taken place under the auspices of the Horticultural Society. The really brilliant weather, which, following as it did upon a cloudy and uncertain morning, partook almost of the nature of a surprise, was all that the most sanguine could have desired or hoped for. The stifling oppression of the atmosphere, which has sometimes been experienced upon former occasions, was this year most sensibly and effectually obviated by throwing open the canvas at the further end of the tents, thereby not only causing the air to circulate freely through them, but also admitting a most welcome glint of light upon the floral decorations inside. This was fully taken advantage of by Mr. Cypher, whose really beautiful and artistic grouping of plants and flowers at the end of the Rose tent was one of the most attractive features in the show. The light feathery leaves and delicate tracery of the plants gaining in distinctness and beauty by the natural background of sky and distance visible through the aperture, the moss green bank embedded with countless Roses, forming, as it were, a gorgeous parterre. The stands of cut Roses entered for competition by different exhibitors eclipsed in beauty and size any that have been before seen here, and, though the first and second prizes in this department were carried of by outsiders—Messrs. Jeffries & Sons, of Cirencester, taking two firsts, and the Cranston Nursery and Seed Co. and Messrs. Cooling & Sons the seconds—between whose collections and that of Mr. Mattock, of Oxford, the judges must have been sorely puzzled to decide; while those of Messrs. Heath & Son and Mr. Cypher, though averaging smaller blooms, contained specimens which might fairly challenge comparison with the best in those of their competitors. Mr. Hopwood and other local florists had also many beautiful examples.

But although Roses constituted the distinguishing feature of the show, they by no means formed its sole attraction; for in the same tent the Orchids shown by Mr. James, of Upper Norwood, and G. Nevile Wyatt, Esq., of Lake House (Mr. Simcoe, gardener), received quite as large a share of attention. The stove and greenhouse plants on the central stages were scarcely up to the standard of former shows, though including many fine plants; and Mr. Cypher and Mr. James had each several beautiful Heaths.

The second tent arrived at was appropriated to fruits and vegetables; of the former of which there were half-a-dozen dishes of Melons, Peaches, and Nectarines, and some fine clusters of Black and White Grapes—exhibited by the Earl of Coventry, the Rev. Canon Coventry, the Rev. G. G. Coventry—of very tempting appearance; the same distinguished exhibitors also carrying off the chief prizes in the vegetable department; twelve large Tomatos from Earl Sudeley's houses, which are said to be lit by electricity, being also among the "samples" contributed to the show.

The large collections of stove and greenhouse plants occupied the centre space of the third tent on the wall tables of which were some of the largest Fuchsias—loaded with blossom—ever exhibited in Cheltenham, contributed by Mr. Osborne, of Karenza, and collections of beautiful Pelargoniums and Gloxinias from the conservatories of Mr. Lingwood, Mr. H. Chapman, and Sir Alexander Ramsay.—*Cheltenham Looker On.*

ANSWERS TO CORRESPONDENTS.

Names of Plants.—*X. Y.*—1. Cistus villosus; 2. Helianthemum vulgare, one of the many garden forms; 3. Lencothœ Catesbæi; 4. Vaccinium ovatum.—*W. McD.*—1. Lockhartia lunifera; 2. Epidendrum cochleatum var.—*Chas. Watson.*—Apparently merely a common form of Cupressus Lawsonianus. It is impossible to name varieties of this very variable plant from a small scrap, habit and colour have so much to do with it.—*Ireland.*—1. Dendrobium moschatum; 2. Brassia verrucosa; 3. Bletia hyacinthina; 4. Maxillaria tenuifolia; 5. Pancratium caribæum; 6. Franciscea calycina; 7. Not recognized; 8. Centranthus ruber; 9. Thalictrum minus; 10. Not recognized; 11. Gladiolus Colvillei; 13. Veronica spicata.—*W. E.*—1. Deutzia crenata flore-pleno; 2. Escallonia macrantha; 3. Buddlea globosa; 4. Kerria Japonica flore-pleno; 5. Plumbago capensis; Polygala Dalmaisiana; 8. Santolina incana; 9. Antennaria margaritacea; 7 & 10. Not recognized. Thanks for such good materials; it is a pleasure to name plants from such capital specimens.

Lee and Blackheath Flower Show.—In our report of this exhibition at p. 718, we inadvertently stated that Messrs. J. Laing & Co. were second for forty-eight Roses, instead of Mr. J. W. Todman, Eltham Nursery, Kent, who is credited only with the third award.

Communications Received.—B. H.—J. L. & Co.—C. F.—J. W. T.—W. S.—J. U.—G. N.—D. P. L.—J. L.—H. J. J.—G. F. P.—T. S. (Many thanks.)—B. F.—J. D.

NOTICES TO CORRESPONDENTS.

The Editor *begs to inform his readers that special attention will be paid in the columns of* The Gardening World *to the answering of questions on all subjects connected with practical horticulture, in which department he will have the assistance of several gardeners of great experience and known ability. To save time, however, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.*

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's bona fides. No notice whatever will be taken of anonymous letters.

COVENT GARDEN MARKET.

July 16th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Grapes, per lb.	1 0- 3 0	Pine-apples, Eng., lb.	2 0- 3 0
Melons, each	2 0- 3 0	—St. Michaels, each	3 0- 5 0
Peaches, per doz.	2 0- 8 0	Strawberries, per lb.	0 3- 0 9

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	2 0- 4 0	Herbs, per bunch	0 2- 0 4
Asparagus, English, per bundle	-	Horse Radish, bundle	3 0- 5 0
Beans, French, per lb.	- 1 0	Lettuces, Cabbage, per dozen	2 0-
Beet, per dozen	2 0- 3 0	— Cos, each	0 1-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	1 0-
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lily of the Valley, 12 bunches	-
Anemone, 12 bun.	-	Marguerites, 12 bun.	2 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Mignonette, 12 bun.	1 6- 3 0
Azalea, 12 sprays	-	Moss Roses, 12 bun.	2 0- 5 0
Bourvardias, per bun.	0 9- 1 0	Narcissus, various, doz. bun.	-
Camellias, 12 blooms	-	Pæony, 12 bunches	-
Carnations, 12 blooms	1 0- 3 0	Pelargoniums, per 12 sprays	0 6- 1 0
Carnations, 12 bun.	2 0- 4 0	—scarlet, per 12 sprays	0 4- 0 6
Chrysanthemums, 12 bunches	-	Pinks, various, 12 bunches	1 0- 4 0
— large, 12 blooms	-	Primula, double bun.	0 6- 1 0
Cornflower, 12 bun.	2 0- 4 0	Primulas, Chinese, bun.	-
Cyclamen, doz. blooms	-	Pyrethrum, 12 bun.	2 0- 4 0
Cineraria, per bunch	-	Rhodanthe, 12 bun.	6 0- 9 0
Day Lily, 12 bunches	-	Roses (coloured)	2 0- 4 0
Epiphyllums, 12 blms.	-	Roses, indoors, p. doz.	1 0- 3 0
Eschscholtzia, 12 bun.	2 0- 4 0	Roses, per dozen bunches	2 0- 6 0
Eucharis, per dozen	3 0- 6 0	Spiræa, 12 bun.	6 0- 9 0
Gardenias, 12 blms.	2 0- 5 0	Stephanotis, 12 spr.	2 0- 4 0
Heliotropes, 12 sprays	0 6- 1 0	Stocks, 12 bunches	2 0- 4 0
Hyacinths, Roman, doz. sprays	-	Sweet Peas, 12 bun.	2 0- 4 0
Iris, 12 bunches	-	Sweet Sultan, 12 bun.	4 0- 6 0
Lapageria, white, 12 blooms	2 0- 3 0	Tuberoses, per dozen	0 4- 0 6
Lapageria, red, 12 blms.	1 0- 2 0	Tulips, per doz.	-
Lilium candidum, 12 blooms	0 6- 1 0	Violets, doz. bun.	-
— 12 bunches	9 0-12 0	— French, per. bun.	-
— Longiflorum, 12 blooms	3 0- 6 0	— Parma, per. bun.	-
Lily of the Valley, doz. sprays	-	White Jasmine, bun.	0 6- 0 9
		Woodroffe, 12 bunches	-

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, doz.	6 0-24 0	Heaths or Erica, var., per doz.	-
Arum Lilies, per doz.	6 0-18 0	Hyacinths, doz.	-
Azalea, per doz.	-	Hydrangea, per doz.	9 0-18 0
Balsams, per doz.	3 0- 6 0	Ivy Geraniums, per dozen	3 0- 6 0
Begonias, per dozen	4 0-12 0	Lilium longiflorum, per doz.	18 0-36 0
Bouvardias, dozen	9 0-18 0	Lilium lancifolium, per doz.	18 0-24 0
Calceolarias, per doz.	6 0- 9 0	Lobelias, per doz.	3 0- 6 0
Cineraria, per dozen	-	Marguerites, per doz.	9 0-18 0
Cockscombs, dozen	3 0- 6 0	Mignonette, per doz.	4 0- 6 0
Cyclamens, doz.	-	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargonium, per doz.	6 0-18 0
Deutzia, per dozen	-	Pelargoniums, scarlet per dozen	3 0- 9 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	4 0- 6 0
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	-	Rhodanthe, per doz.	6 0- 9 0
Evergreens, in var., per dozen	6 0-24 0	Spiræa, per dozen	9 0-12 0
Ferns, in var., dozen	4 0-18 0	Stocks, per dozen	3 0- 5 0
Ficus elastica, each	1 6- 7 0	Tropæolums, per doz.	2 0- 4 0
Fuchsias, per doz.	4 0- 9 0		
Foliage Plants, various, each	2 0-10 0		
Genista, per dozen	-		

Bedding Plants, in variety, 8*s.* to 16*s.* per hundred.

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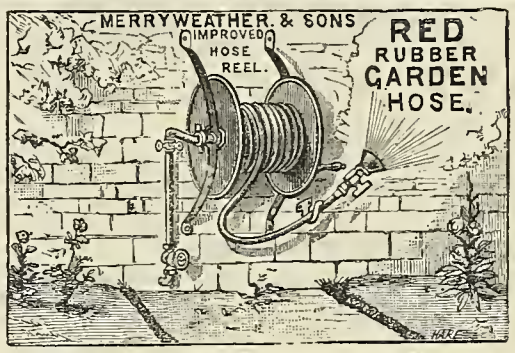

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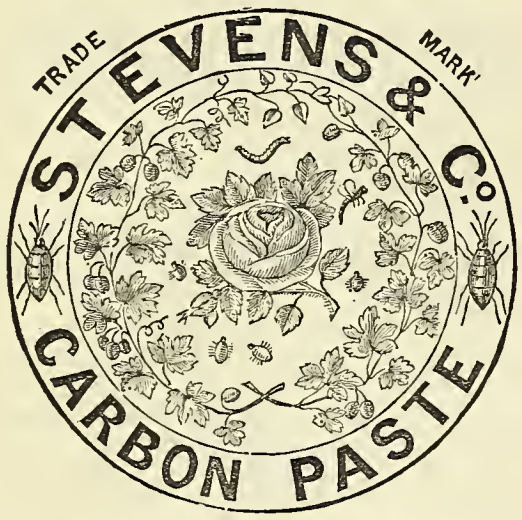

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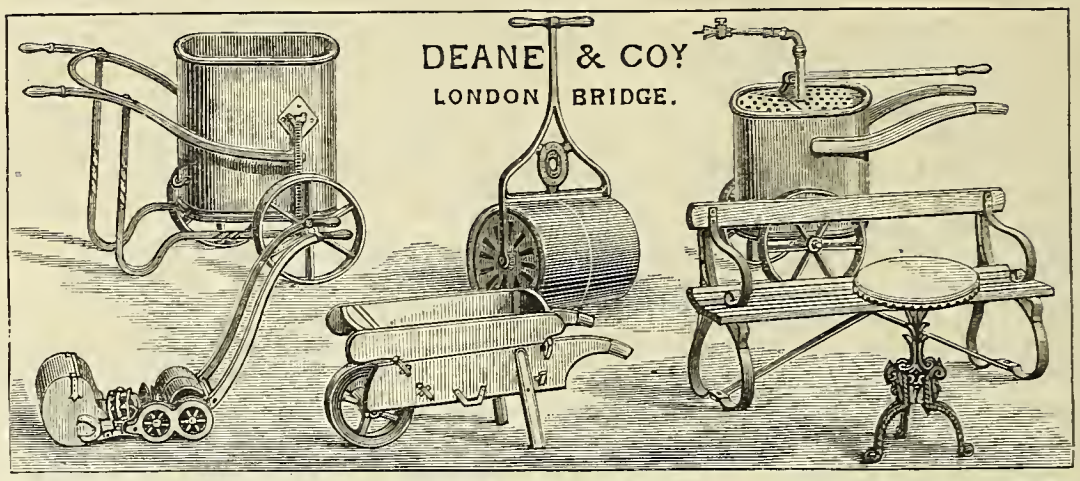

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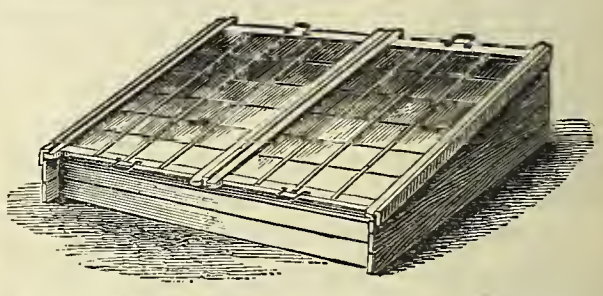

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THE GARDENING ILLUSTRATED WORLD

No. 47.—1885. SATURDAY, JULY 25TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

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MR. J. C. STEVENS begs to announce that his next SALE of ORCHIDS in FLOWER will take place at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY, August 12th, and he will be glad if Gentlemen desirous of entering Plants for this Sale will please send particulars of same at their earliest convenience.

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MESSRS. PROTHEROE & MORRIS beg to announce their ORCHID SALES for next week as follows, at their Central Auction Rooms, 67 and 68, Cheapside, E.C.:—

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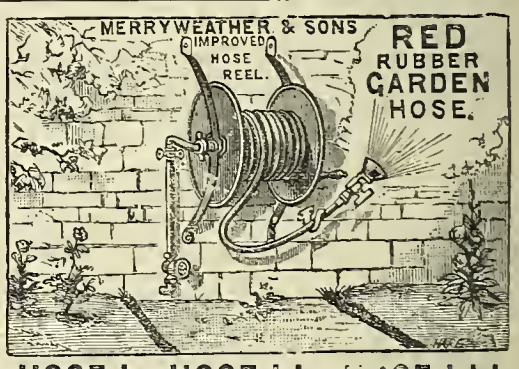

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 25TH, 1885.

PLANTS FOR THE SICK.—A plea that cannot easily be resisted has been made through the press in aid of that special department of the Kyrle Society which concerns itself with the providing of plants and flowers for the poor. Whilst this plea is in the interests of the poor chiefly, it is also for the benefit of those who are sick and those who are well, but our sympathy chiefly lies with the sick, because good health is itself a blessing, which nothing else can adequately replace, and those who are in health can in some form or other obtain advantages from which the sick are debarred. The plea, therefore, put forth in aid of the provision of plants and flowers for the sick, especially in hospitals, has special force, and goes home to the hearts of all who love flowers, and it is hoped specially of those who have plants and flowers in plenty. Perhaps some readers may join with us in asking why it is that, whilst we practically lavish large sums of money in the decoration of our parks and public gardens (especially in the metropolis) for the gratification of those who can get out to enjoy them, we have made no public provision of similar charms for the sick. Why, for instance, may not some public department take hospitals under its care so far for the provision of plants and flowers and other elements of sweetness and beauty, instead of having these appeals to private generosity. Obviously, though many public gardens are maintained from the imperial taxes, such a public burthen as that now suggested should not be placed on these, because hospitals should be maintained solely by funds raised in the areas they cover. Had the great metropolis that municipal government which all other cities and towns have, the local authorities might then not only take charge of the public parks and gardens within its radius, but could, from the same source which provided these with plants and flowers, also furnish the humbler town gardens and hospitals with similar elements of pleasure and beauty.

Very much from time to time has been made of the giving away of plants lifted from the beds and borders in the public parks and gardens in the autumn; but such gifts are valueless, as the plants are just then absolutely unfitted for pot-culture under such conditions as the poor possess, and specially so at the very worst period of the year. One good plant established in a 48-sized pot given in the spring is worth a score of such fresh-lifted bedding plants given in the autumn. If generosity of this sort is to be practical, let it take a more sensible form, and provide plants in pots in the spring, such as the poor can and would cultivate with unquestioned delight. But in the present case we want provided for the sick poor plants that do not require much tender care from those who wish to enjoy them. We want plants fresh and healthy, full of bloom, and calculated to carry bloom for some time. Musks, Fuchsias, Petunias, Balsams, Stocks, Mignonette, Pelargoniums, Maiden-hair Ferns, India-rubber plants, Creeping Jennies, &c., these are but a few of the things which might be provided in myriads from some municipal garden and be distributed over the hospitals and infirmaries of the metropolis, or of great towns, for the delectation of the unfortunate inmates. If done in that way the work would be well and regularly performed, but if left to private generosity it will be done only intermittently and unsatisfactorily. If that course be not adopted, at least the authorities can contract with florists to florally decorate our sick institutions at moderate charges. Any plan seems better than one which necessitates constant appeals to the public, whilst the additional charge upon the municipal taxes would be far too infinitesimal to merit disapproval.

NICE POINTS OF INTERPRETATION.—These are often cropping up in schedules of prizes, and judges are sometimes put to their wits' end how to interpret ambiguous expressions in a large and generous spirit. At a recent show in the country there was a class for twenty-four varieties of cut Roses, single blooms, the schedule saying nothing more. Two exhibitors out of five competing in this class put up some thing like thirty-six and forty flowers each, confining themselves to the twenty-four varieties, but having several in duplicate. These two stands should have been disqualified, but at the request of the Committee they were taken into competition, on the understanding that the practice of staging more flowers than is obviously required by the schedule should be discontinued. What are practically evasions of the Schedule of prizes are occasionally permitted by judges, with the result that they become precedents, and awkward ones too, when another judge is called in in the course of a year or two.

How often one sees in schedules a class for, say, twelve bunches of flowers, distinct varieties, which could and perhaps should be read twelve distinct varieties of hardy flowers in bunches; and it is curious to notice how not a few exhibitors will put into a bunch three or four different kinds, say of Candytuft, Pinks, Sweet Williams, &c., thus greatly increasing the number of varieties actually required. It is hard to disqualify these when the practice has been sanctioned by previous awards; but there is a distinct violation of the strict requirements of the schedule, and bunches of hardy flowers are much more effective and instructive when composed of one variety only. Recently, at a country exhibition, there was a class for the best collection of Carnations, not less than twelve varieties, and the prizes were so good, that the first and second should have been awarded only to stands of decided excellence. One exhibitor only entered, and he put up a stand that did not contain a single bloom worthy the name of a Carnation; they were mainly Cloves, and among them were four or five yellow ground seedling Picotees. It was contended by the exhibitor that these were Carnations, as they had come from seeds of Carnations, which was not disputed, but they did not come up to the level of the Carnations required by the schedule. And the exhibitor was very angry because a large sum of money, that should be given only to a stand of the best quality, was not given to what was little better than rubbish.

What is really wanted at country shows is a well informed, but firm and courteous superintendent, whose duty it should be to see that all subjects staged be in conformity with the requirements of the schedule. This would save the judges a great deal of unnecessary deliberation as to whether certain things were eligible for competition or not. As a rule, judges are much overworked at country exhibitions, having a large number of classes to go through, and too often, many of them containing exhibits of a vexatiously-inferior character. Their work is greatly delayed when they are called upon to decide on questions that could more fittingly be pronounced upon by the framers of schedules. But, in all interpretations that judges have to put upon schedules, it is best to do it in a broad and generous spirit, at the same time indicating where a practice is wrong, and suggesting that it be righted another season.

Gardening Miscellany.

FLOWER SHOWS FOR NEXT WEEK. — *Tuesday:* Meeting of Fruit and Floral Committees at South Kensington.—National Carnation and Picotee Society's Show.—Buckingham Horticultural Society's Show. *Wednesday:* Aberdeen Horticultural Society's Show. *Thursday:* Oxfordshire Horticultural Society's Show. *Saturday:* Royal Hortioultural Society of Southampton's Summer Show (2 days).—Liverpool Horticultural Association Show in Sefton Park (2 days).

THE Annual Excursion of the members of the Horticultural Club will take place on Thursday next, when Slough, Egham, and Virginia Water will be visited, including Baron Schroeder's garden at The Dell.

MR. S. LYON, for the last six years gardener to Lady Scott, Sundridge Park, Bromley, is leaving that establishment, owing to the property being sold, and has been engaged by Lord Bridport to succeed Mr. Jones as gardener at Cricket St. Thomas, Chard, Somerset.

MR. A. FENTON has succeeded the late Mr. Muir as gardener to Lord Hopetoun, at Hopetoun House, Linlithgow.

IT has been decided to hold the Auricula Conference at South Kensington on the 23rd and 24th of April next. The programme of the Conference and Exhibition will be issued shortly.

THE balance sheet of the York Gala and Horticultural Exhibition, held in June last, shows a balance in hand, after meeting all liabilities, of £217 3*s.* 7*d.* The income from all sources amounted to £1,794 18*s.* 7*d.*, and the total expenditure, including £535 for prizes, was £1,577 15*s.* A silver Challenge Vase, value 15 guineas, and a first prize of £10, is offered by the Chairman of the Hull and East Riding Chrysanthemum Society for 48 blooms, 24 incurved, at the ensuing exhibition on November 19th and 20th.

MR. JENNINGS, gardener to Leopold de Rothschild, Esq., Ascott, who exhibited the magnificent collection of Souvenir de la Malmaison Carnations at the late Rose Show at South Kensington, has, we are pleased to hear, been awarded a Silver Banksian Medal by the Royal Horticultural Society.

AT a recent sale of Orchids by Messrs. Protheroe & Morris at their rooms in Cheapside, the following prices were realized:—Cattleya Reineckiana superbissima, £34 13*s.*; C. Arnoldiana, £30 9*s.*; Lælia elegans, a fine imported mass, £26 5*s.*; Odontoglossum species in bloom, £19 8*s.* 6*d.*

MR. W. C. BENNETT, of Condover, Shrewsbury, has brought under our notice a machine for washing flower-pots which he is bringing out, and which should meet with a ready sale amongst those who have much of this unpleasant work to do. The machine consists of a couple of cylinder-shaped revolving brushes, fixed side by side, with a handle and cog-wheel arrangement, which, when put in motion, will wash a pot inside and out at the same time. The "Simpless" Flower-pot Cleanser, for so it is called, has also an advantage in that it can be fixed to any tank or tub.

PRUNED ROSES produce fine flowers, if, as sometimes happens, they are pruned properly. A good note on the subject appears at p. 50 of the *Gardeners' Chronicle*, of July 11, the summing up of which is that "unpruned Roses do best!" Thirty years ago Mr. Hibberd proposed to leave unpruned all proper garden Roses, restricting the pruning to those from which a few extra fine flowers were required. In his "Amateur's Rose Book," published 1863, the proposal was formulated for practical purposes. In the fifth edition of the "Rose Book," published 1874, p. 87, will be found the following statement: "We have some gigantic bushes that have never been touched by the knife for at least twenty years, and they are wonderful for health and splendour; but, of course, they do not produce Roses fit for exhibition." Mr. Hibberd's proposals in respect of pruning have been long and laboriously abused, but everywhere men are acting on them very much to their advantage.—*Gardeners' Magazine.*

HOW TO MAKE THE LAND PAY.*

Under the above instructive and comprehensive title, the Rev. H. P. Dunster, M.A., a Norfolk vicar, and without doubt a very earnest, warm-hearted, and thoughtful clergyman, has written a book which all should read who desire to realize the bearings fully of the Land Question in all its relationships to production and consumption. It is possible, nay certain, that in some portions of his interesting book Mr. Dunster has drawn somewhat upon the sanguine nature of his temperament. Still he errs in that respect in good company, for he gives to his readers quotations from numerous authorities on the respective subjects treated of that merit attention, even though they may appear to matter-of-fact people to be more optimist than experience justifies. But not for the world would we seem, even in the most infinitesimal degree, to fling a wet blanket over efforts so admirably intentioned and overflowing with so much that is earnest and loveable.

The author is evidently a man who realizes to the utmost the difficulties which now surround agriculture in this kingdom; he sees its many weaknesses, and, with a desire to bring back once more to his native land that comparative prosperity in native labour and produce she once enjoyed, has set himself to elucidate the various questions which, in relation to the land and its productions, thrust themselves with exceeding force upon the public mind.

Whether in the task he has undertaken he has fully succeeded must be left to the reader's decision rather than to ours. No doubt he has issued his book to the world as much to create discussion upon these topics as to press his own views, and it is to be desired that, whatsoever may result, the book will have a large sale and be widely read. One thing we would here add. It is that noble views and broad-minded conceptions such as animate the bosom of our clerical author are far too rarely found amongst his class. Would that the clergy generally gave their time and energies to the consideration of these and similar subjects, with which their peculiar position in rural life gives them special opportunities for observation and judgment. Unhappily, the clergy have ignored questions of social and political economy, and the effort of Mr. Dunster to remove from his class the onus of long neglect seems but to make that neglect all the more prominent.

That the reverend author is something more than a mere rural doctrinaire is evident, as the following bold passage in his introductory chapter shows:—"It would be well for those interested in land if, instead of clamouring hopelessly for protection, and waiting for Government relief, they would set themselves to try the remedies which their own intelligence and industry and capital place within their reach; and if the present system of farming does not pay, let them, at any rate, make trial of some other." These are brave words, especially as coming from a clergyman, and addressed to that stolid individual, the British farmer. Let us hope the farmer will read them, and profit by the teachings of the book in which they are found. Practically, Mr. Dunster looks for a remedy for the present depressed state of agriculture to the introduction largely of farm gardening, the general production in suitable soils and localities of fruit, vegetables, and flowers, for all of which there is considerable demand, and the production of which at home should not only give ample employment to much of our teeming population, but should also, in saving large outgoings to other countries, give us more wealth to expend at home. But whilst primarily we have to comment upon those portions of the book which deal with market gardening, there is considerable interest attaching to the proposals made to extend the production of milk, an article of the very first importance and value to the people, and of which we could do with double our present yield. Not only do we want more milk, but we want its component parts in the form of cheese and butter.

To dairy farming and the production of the articles just mentioned, Mr. Dunster devotes two very instructive chapters, and follows with another on the production of pig meat, which seems to be indissolubly allied to small farming, and especially to gardening, because of the enormous amount of garden refuse which may be profitably applied as pig food, and returned to the land as nutritive manure. Then we get chapters on the production of poultry and eggs, and also on rabbits, for all which articles we are deplorably dependent upon foreign countries, and when the query is put, "Why not raise them at home?" we are strangely told, "It won't pay." That is a query which may well be put to the recently appointed Commission on the Depression of Trade, and we should like to read its reply. But great stress is laid upon fruit farming, or the production of fruit on considerable areas of ground. In connection with this topic, which is largely treated upon, Mr. Dunster quotes not a few authorities and opinions, all worthy of the highest consideration, and gives information as to situation, planting, soils, and other matter, which can be read only with interest and profit.

The two chief difficulties which surround profitable fruit culture in this country are:—the finding of a profitable market, and ungenerous seasons. For the former it may well be thought that the consumption of fruit by the vast population of this country would be illimitable, but even now, given a good fruit season, the depths of that consuming power seems to be too often sounded. A change of habit of living on the part of our people, combined with education and nobler longings, may yet render fruit consumption here unfathomable. Still there remains the difficulty that with all our present fruit productive resources, we seldom get a fair crop of many things, because seasons fail to favour. That difficulty no amount of planting and expansion of fruit farming can overcome, except that we also plant shelter-trees and belts, and thus do something practical towards creating those climatal conditions without which crops too often fail to mature. Orchard fruits, bush fruits, Strawberries, and even small nuts are generously dealt with, and in a spirit of remarkable hopefulness and faith.

In dealing with bulb culture as an adjunct to profitable culture of the land, Mr. Dunster gets into debatable ground, although it is not easy to understand why we cannot utilize our fen lands and riverside alluvial soils profitably for this purpose. Of course the Hollanders are miles ahead of us in knowledge with respect to bulb culture, and also in persistent industry. Probably indolence has had much to do with our neglect of bulb culture at home, and the assured certainty that we could always purchase cheaply abroad. The chapter on bulb growing contains much useful information respecting Dutch methods of propagation and culture, which merits attention for the sake of the knowledge thus expressed, if for no other cause. Why the Dutch can command the bulb markets of the world, is one of the questions to be asked and answered, and why we cannot grow bulbs as well at home and as cheaply, is another to which an answer is needed.

Flower gardening for the production of cut-bloom for market is liberally treated upon, and here we think the author has made selections of flowers which will not in many cases commend themselves to practical men. What is a fact, however, is that flower culture for market is already at home an immense trade, and that still we import enormous quantities which may be grown at home, or others more adapted for our sterner climate. The chapter which treats of medicinal herbs is very interesting, although here we find that profit and popularity is very contingent upon the varying changes in the British Pharmacopœia, for some foreign drugs, and especially vegetable ones, have largely superseded our old-fashioned herbs.

Vegetable farming naturally gets considerable attention in the book, although there is much open to question in the list of desirable things to grow; that is, however, an error of small moment and easily rectified. It would be well ere another edition is issued, were some practical advice on that head taken by the author. We find Bee-keeping, Mushroom, Sugar, Beet, and Watercress culture as subjects allied to gardening freely treated of, and many more topics that merit attention. We prefer to invite readers for the book rather than giving extracts, which, however helpful in a review of a book, may not always be selected with propriety and judgment.

* How to Make the Land Pay.—By the Rev. H. P. Dunster, M.A. Longmans.

THE COMMON PASSION FLOWER.

How grandly the fine old Passion Flower is blooming this season in the suburbs of London. The severe winter of January, 1881, played sad havoc with many of the plants that had established themselves for years past, and cut them down completely to the ground, if it did not destroy them outright. A few threw up a second growth, some were planted afresh, and now, after the recurrence of two or three mild winters and favourable summer seasons, the plants are once more in a fine state of development, and blooming freely. It appears to do best when planted in a good bed of loam on the gravel. As it is the custom to plant it on the front of a villa residence facing the south, south-west, or west (either position being favourable to its well-being), it is obvious that in hot drying weather a good deal of moisture is required, and it should be given abundantly during the hot summer months. And not only does the plant flower freely and continuously, but the flowers are followed by gaily-coloured fruits, that are both conspicuous and attractive during the autumn and early winter months.

The Passion Flower first introduced into this country was the *incarnata* of Linnæus, a native of Virginia, and figured by Parkinson in his *Paradisus Terrestris*, who there styles it the surpassing delight of all flowers. The species now so commonly grown is not only of great beauty, but superior hardiness, is of more modern introduction, and though a native of the Brazils, only suffers from the effects of our climate when the weather is exceptionally severe.

The common Passion Flower is a wild denizen of the South American forests, and it is said that the Spaniards, when they first saw the lovely blooms of this plant, as it hung in rich festoons from the branches of the forest trees, regarded the magnificent blossoms as a token that the Indians should be converted to Christianity, as they saw in its several parts the emblems of the passion of our Lord. In this way there has been originated representations of what we must regard as purely legendary flowers, especially the Jesuits' figure of the Maradoc, which Dr. Masters regards as a "make up." But the Doctor is of opinion that the species called Passiflora incarnata "is the one in which the semblance of the parts of the flower to the instrument of our Lord's passion was first observed. The cross, the scourge, the hammer, the nails, the crown of thorns, even ten of the Apostles—Judas, who betrayed, and Peter, who denied, being absent—all may be seen by the imaginative in these flowers."

It must not be supposed that this plant is hardy in all parts of the country. It may not be safe to plant it out in the open air north of a line drawn, say, from Cambridge right across the country from east to west. But those who reside in favourable localities should make the common Passion Flower one of their chief hardy climbers.

CARNATIONS AND PICOTEES.

The value of these old-fashioned, showy, and deliciously fragrant flowers as subjects for cultivation in town gardens is well illustrated in the case of the large collection now in full bloom in the nursery of Messrs. James Veitch & Sons at Chelsea. The Messrs. Veitch have for several years now grown a large number of varieties, and by annually weeding out inferior sorts, and adding seedlings of approved form combined with a more vigorous habit of growth than is possessed by some of the old varieties, they have acquired a collection of these plants second to none, and which as regards the number grown and the quality of the flowers now open are of a superior class to those of any previous year's display. That the Carnation and Picotee does not object to smoke if otherwise well tended too, the Chelsea plants abundantly prove, for they are strong, clean, and healthy, and yield stout robust "grass" for layering purposes ere long.

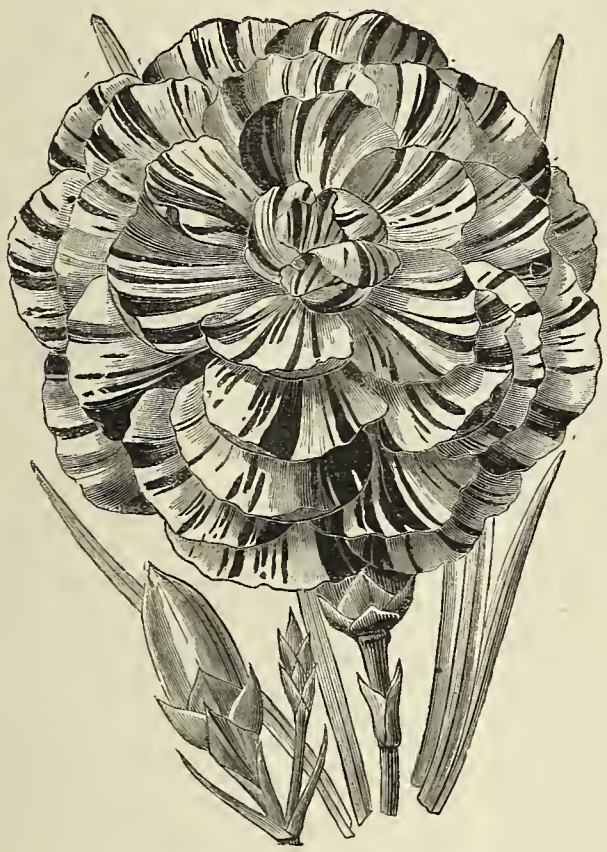
Their cultivation is a simple matter as practised here. As soon as the bloom is over, the plants are layered in the usual way, and in due time the rooted layers are potted up into 60's, and wintered in cold frames. In this position they are guarded as much as possible from the injurious effects of damp and insects,

and make stocky, vigorous plants for planting out in the beds as near to the third week in March as the weather will permit. Subsequent to planting the beds are mulched with short well-rotted manure, water is applied when necessary, and staking and tying follows in due course. For convenience of comparing the different varieties in each section, the beds here are so planted that this can easily be done, and perhaps the greatest number are devoted to self-coloured flowers, which by many are preferred for border cultivation to the bizarre or flaked flowers, for which enthusiastic florists have such a strong affection.

Taking the flowers as they stand in review order, the "selfs" first, we note the following as being first-rate: Celia, rose-pink, new, and extra fine; Duchess of Connaught, white, with a slight blush tiut; W. P. Milner, not beaten by any white variety for form or freedom of growth and flowering; Brigadier, scarlet, very showy; Lady Rose Molyneaux, one of last year's new ones, a good white in the way of Landseer; Ossian, also a fine white of last season's introduction; Royal Purple, one of the finest of this shade, a large and neat flower; Exquisite, a good white but too much like W. P. Milner to be kept up as distinct; John Barnett, in the way of Celia but brighter in colour; Laura, white, with a pretty rose stripe; Magnum Bonum, a good showy old scarlet; Virgo, somewhat small, but pure white, and the blooms very neat in shape; Emperor, yellow, very free; Drap d'Or, yellow, and much dwarfer than the last named; Fairy Queen, of the colour of a Niphetos Rose; Edith, new, a good clear yellow, and large flower; Lord Tennyson, yellow, and a free bloomer; Princess Teck, a pretty yellow ground flower with a profusion of small crimson stripes; Florence, a good old buff-yellow; The Bride, white, and very free; Miss Marianne North, a fine large white flower introduced last season; Janeiro, yellow ground with deep crimson feathering; Ouida, a very early-flowering deep crimson, and very free blooming; Mrs. Buller, buff-yellow; Mrs. Glen, a very fine yellow; Lady Ormathwaite, white ground with red feathering, new, dwarf, and very free; Ida, bright rose, very dwarf; and Brilliant, very bright rose, new, and good in every way; Calliope, purple, new, a large heavy flower; Kempton Yellow, new, yellow tipped with purple; Clarisse, white, splashed with red, and very large; Gertrude Teigner, a pretty shade of pink, not large, but of good form; Vivid, crimson-scarlet; and Sparkler, purplish-crimson, of medium size, but excellent quality.

The leading sorts here among scarlet Bizarres are A. D. Southgate, Harrison Weir, Young Milton, H. K. Mayor, True Briton, Alderman, and Admiral Curzon. Amongst crimson Bizarres, Albion's Pride, John Simonite, J. D. Hextall, Guardsman, Georgeus, and John Heines are most conspicuous. The pink and purple Bizarres include such sterling varieties as William Skirving, James Taylor, Unexpected, Princess Beatrice, Squire Penson, and Sarah Payne. In scarlet Flakes, Dan Godfrey, Friar Tuck, Flirt, Bandmaster, Thomas Toomes, John Bull, and Lord Lyon, have each and all strong points of merit. The purple Flakes include such fine sorts as Purple Prince, Mayor of Nottingham, Ada, Squire Trow, James Douglas, Earl of Wilton, Florence Nightingale, Juno, Captain Jinks, and Bugler. In rose Flakes, James Merryweather, Jessica, John Keats, Rose of Stapleford, Sybil, Lord Chelmsford, and Mrs. Matthews are specially fine.

Of Picotees there is of necessity not such a formidable array, but the sorts have been well selected, and what we name below are all first-rate:—Heavy-edged red: Dr. Epps, Ensign, Jewess, J. B. Bryant, John Smith, Lord Valencia, very dwarf, Lothair, Picturata, and Queen of Summer. Light-edged red: Mrs. Keynes, Rev. F. D. Horner, Thomas Williams, Delicata, Minnie, Grosteen, very large; John Hinds, and Mrs. Bower. Heavy rose-edged: Mrs. Rayner, Royal Visit, Fair Helen, Miss Gibbs, Edith D'Ombrain, Miss Horner, Mrs. J. Wood Ingram, and Lady Boston. Light rose-edged: Lucy, Estelle, John Bolton, Morning Star, Mrs. Fordham, Miss Polly, Rev. H. Matthews, and Claudia. Heavy purple-edged: Mrs. A. Chancellor, Beauty of Cheltenham, Edith, Medina, Zerlina, Novelty, Princess Dagmar, and Red Braes. Light purple-edged: Alice, Clara Penson, Baroness Burdett Coutts, Minnie, and Her Majesty. In the yellow-ground section Sir Beauchamp Seymour, Goldfinder, and Grandiflora are very fine.



BIZARRE CARNATION.

HEAVY-EDGED PICOTEE.

SOUTHWARK PARK.

This charming park, which forms an "oasis" in the "desert of Rotherhithe," and which, although quite unknown to the majority of Londoners, is fully appreciated by the many thousands who dwell within a stone's throw of its boundaries, has recently been made still more attractive by the addition of an ornamental lake. For many years the want of water has been felt, and as long ago as September, 1883, the vestry of Rotherhithe (in which parish the park is situated) memorialized the Metropolitan Board of Works on the subject, praying that a lake might be formed in the park. The Board referred the matter to the Parks Committee, the members of which, acting with that caution which distinguishes all their dealings with the public money, considered the question in all its bearings, and it was not until last December that they unanimously agreed to recommend the Board to construct the lake. This result was, we believe, brought about mainly through the untiring exertions of Mr. John Tolhurst, the energetic member for Rotherhithe, who was well supported by Mr. Shepherd, the member for Bermondsey.

Designs and working-drawings were then prepared by Mr. George Vulliamy (the architect of the Board) and submitted to and approved by the Board.

Tenders for the work were advertised for, and opened on 25th February last, when out of the tenders (the highest being £4,850) that of Mr. George Bell, of Tottenham, which was the lowest, was accepted for the sum of £2,665. The work has since been carried out by Mr. Bell, under the superintendence of Mr. J. J. Sexby, the Surveyor of Parks and Open Spaces.

The lake consists of a concrete basin well puddled with clay as a foundation, and neatly finished around the margin with a coping of blue rounded bricks. The outline, both of the mainland and the islands (which are three in number), consists of a succession of graceful curves, so arranged as to give the appearance of continuity, and we could find no point of view from which the whole extent of the lake could be seen. The advantage of this is apparent, as although the total area, including banks and islands, is, we understand, only about 2¾ acres, the indefiniteness of the view would lead an observer to suppose it might be very much greater.

The question of supplying the lake with water has been thoroughly gone into by the Committee. At one time it was suggested that a well should be sunk on one of the islands and the water pumped therefrom, by means of a windmill of an ornamental character. This would undoubtedly have been a great feature, but it was found that the cost would be very considerable, as compared with the method which has been adopted, viz., to have the water laid on from the main of the Southwark and Vauxhall Water Company, which supplies the park.

Planting has been executed by the Board's own labouring staff under the supervision of Mr. Coppin, the Superintendent of the park. The islands have been thickly planted with suitable trees and shrubs, and are already commencing to render their verdant tribute to the landscape.

SCOTTISH GARDENING.

Notes on Roses.—At this season of the year, the "Queen of Flowers" probably commands more attention than perhaps any other plant growing in the open air. The interest taken in the cultivation of Roses is widely shared by all classes; they are objects of admiration to all, from peer to peasant, and many of the finest plants are to be found in the possession of cottagers. Where proprietors take an interest in their poorer neighbours and aid them in securing neat gardens, where their tastes can be developed in cultivating flowers, fruits, and vegetables, such proprietors cannot fail to experience much pleasure and satisfaction at having the privilege of thus (in a certain sense) "bearing one another's burdens." We know that many employers of labour in Scotland have done much to cheer their poorer neighbours, and greatly advance morality and thrifty habits by judicious arrangements in providing cottage gardens and allotments, and afterwards interesting themselves in fostering a taste for horticulture. In many counties of England, especially in the south, the best Apricots, out-door Grapes, and Roses, are to be found in the gardens of the peasantry. We have very distinct recollections of the Essex, Suffolk, and Norfolk Roses, and in Oxfordshire and Wilts, where lime is very abundant in the soil, Apricots are found healthy, and fruiting admirably on cottagers' houses, while Roses adorn the fronts of the dwellings, and the cultivation of them, in many cases, is thoroughly understood.

Poverty of soil, dryness at the roots, sour, undrained land, being well-known to act as the chief barriers to success in Rose growing, are frequently combated with a skill by humble cultivators that would do credit to any gardeners we ever knew. In such dry seasons as this, the present, and last year, it is no light task to keep Roses healthy and maintain the excellence of bloom so desirable.

Localities change matters very materially. While some Roses are all that one would desire, when grown in certain districts, they are almost worthless in other places. We were told the other day by a visitor, that in his western, mild, and moist county, Souvenir de la Malmaisons would not open sufficiently to make them recognizable, but they have shown their distinctive qualities here most satisfactorily. We have found that much can be done to remedy such evils as not opening, but to substitute a bracing atmosphere and a reduction of atmospheric moisture, is beyond our ken. Experience in districts wide apart where the nature of the soil and climate varies proportionately has long since prompted us to take measures to find out the kinds of Roses (like hardy fruits) which are popular, and give the greatest satisfaction in the locality, and although good selections may be added to the established favourites, the latter must be planted in the greatest numbers.

We have had some experience with a good collection which we found here, and which were planted in ground excellently prepared the season before our arrival. Changed circumstances led to their having to be lifted to another position. Among these are Roses which have had the character of being tender, tardy in flowering, and liable to disease. Last year further extension and new arrangements caused them to be again lifted and replanted, with their numbers largely augmented by a purchase of other kinds, perhaps 150. The ground was well turned over for them—the subsoil was not brought to the surface, but carefully dug over and well broken, leaving the best soil upwards. The Roses by the removals were fibry at the roots, and healthy. They were planted with rich, wholesome, and kindly soil, thoroughly mulched with rotten cow-manure, carefully covering the junction of stock and scion; over all was placed a covering of soil, to give an orderly appearance to the surface, and although we were eight weeks without a shower to moisten the surface of the soil, the Roses grew and flowered far beyond our expectation. Just a word in passing on mulching: a quantity of manure thrown over the surface of the roots, made firm and close, does much good by nourishing and protecting the roots, but when the manure is made to answer its purpose and is kept from the action of the weather, which soon dries it up and absorbs all the nourishment out of it, we have economy and usefulness in a much greater degree than when the manure is left exposed. It is many years since I took to covering mulching placed over fruit bushes, trees, and Roses.

The lifting of Roses does much to save them from mildew; suckers can be got rid of and the vigour of the plants is much increased by the inducing of a fibry state of the roots, which causes the wood to ripen early, and thus be prepared to stand against a severe winter. The growth is more even, and flowering greatly increased. One of the greatest Rosarians of the present century (both as a grower for sale and for exhibition), while giving us some of his secrets which made him very successful, remarked, "When your Roses are doing well, let well alone." There was a deal of common sense in such advice, but it was evident this gentleman, who possessed many acres of Roses, did not wholly confine himself to the practice which he advised me to follow, as his beds of favourites for exhibition purposes evidently were frequently renewed by fresh soil, causing lifting of roots more or less. Liberal mulchings of old cow-manure, the thinning of the strong firm wood, reduction of flower buds, copious floodings of farm yard manure, and extinction of aphis, were some of the items in his practice, which was inconsistent with the advice to "let well alone." Many of the kinds, which were favourites then for the exhibition table, were represented in the famous prize collections at Edinburgh, lately, which came from Belfast. To have such grand blooms, one must not cultivate at random—liberality at the roots must be special.

The mere pruning and surface-dressing are not all that is necessary for the attainment which some have reached in Rose culture. The use of the knife is, however, not to be despised, and one must not be guided by the old advice of cutting precisely to the same number of buds on each shoot; rather cut out all small spray, and the strong wood may have less shortening. For masses of Roses to fill beds and borders, it is a good system to retain the strong wood in good lengths, and peg them down regularly over the surface of the soil. They break freely all over and close to the roots, and in good ground well cultivated there need be no failure with Roses. This pegging down is a practice which we have favoured from our earliest recollection, and the shoots often root freely into the surface soil, and quantities of plants on their own roots are easily obtained.

The greatest mass of flowers we have ever seen was on a south sloping border where the plants were freely thinned, but the immense shoots were left long and little use of the knife seemed to be put into practice. All the kinds were Perpetuals, and the cultivator, a very old gardener, did not seem to see the necessity of pruning a Hybrid Perpetual different from a Hybrid China; and evidently his purpose was well suited, for such a mass of grand Roses I have not seen since, and that is about twenty-two years ago. It has been noted, and we think correctly, that where fine Wheat can be produced good Roses can also be grown, and if the eastern counties of England (Kent, Essex, Suffolk, and Norfolk) are the finest in the kingdom for Wheat-growing, they are certainly second to none for Roses.

There is much mischief done by the too early pruning of Roses, and we think April—or at least not till late in March—very suitable. The shoots then grow on unchecked. Mildew is perhaps the worst enemy the Rosarian has to contend with, and the prevention of this evil is not always under the control of the cultivator. Where the circulation of fresh air is impeded by buildings or trees mildew can hardly be escaped. Where land is shallow and the roots reach a hard dry bottom mildew may be expected as a matter of course. Stagnation at the roots from any cause accompanied by a damp unhealthy atmosphere is a fertile source of this evil. Among some of the most noteworthy Roses which led in the prize collections at the late Edinburgh show we noted: Duchess of Bedford, Merveille de Lyon, Duke of Edinburgh, Dupuy Jamain, Lady Mary Fitzwilliam (this commanded special attention as a distinct feature of the show), Sir Garnet Wolseley, Gloire de Dijon, Star of Waltham, Triomphe de Rivers, Souvenir de Paul Neron, Homere, Triomphe d'Caen. We have made a list of Roses which have opened extra well here, and which we imagine would be useful in any district, but as we see others (though later) giving much satisfaction, we hope to give a list later on.—*M. T.*

THE VICAR'S GARDEN.

So much has been and is constantly being written about the queen of flowers, that it is most difficult to say anything fresh on the subject; but Roses are so prominent a feature in the Vicar's garden, and they are grown so admirably, that I would feign add my quota in her majesty's praise. The Rose is pre-eminently the Englishman's flower, for however grand or humble his garden may be, he is never satisfied until the Rose lends its charms to its embellishment. The plants in our Vicar's garden are mostly dwarfs, some on the seedling Briar, the rest on the Manettii stock, and planted from 4 ft. to 5 ft. apart. Many of them are fine specimens, yielding blooms which would not discredit their grower at any exhibition. The kinds grown are mostly Hybrid Perpetuals, and almost confined to those selected by the National Rose Society as the best for exhibition. The names are frequently mentioned in the reports of the various shows, so that no useful object will be attained by repeating them here. The soil here is not of that character which an experienced Rosarian would select for the purpose, if he had any choice in matter, consisting as it does of sandy, stony marl, resting on sand and pea-gravel. It receives a liberal coat of manure in the winter, and after pruning time the beds are mulched with the short grass from the lawn, which serves to keep the soil moist and cool, so that in ordinary seasons very little watering is required, but lately occasional waterings of liquid manure have been given. Being planted in a series of beds devoted almost exclusively to them, they present a galaxy of beauty which any possessor of a garden might well be proud of. Where there is space at command, dwarfs are incomparably superior to standards. The effect of a large bed or beds of dwarfs all in flower is beautiful and natural, and the flowers are seen to much better advantage. Where space is limited, and the most must be made of the ground, standards present some advantages, but only in such cases should they be admitted into any garden; at most they are very artificial looking objects, and when out of flower are oftentimes a positive disfigurement.

Having taken a glance at the Roses, we will now take a look at the herbaceous borders, still gay and attractive with many things previously noticed, but enriched with a display of handsome spikes of some of the best Lilies, and as the names of these are not so familiar to many as they should be, we will mention a few of the best at present in flower, viz.: L. croceum splendens, L. davuricum, and L. Thunbergianum in variety; L. japonicum Brownii, one of the very best, flowers large, white inside, the outside rusty-purple, and the stamens chocolate, forming a very distinct feature; L. Martagon and L. Martagon album, a very choice variety, which should be included in all collections, though rather costly at present; L. monadelphum Szovitzianum, of which too much cannot be said in its praise, it being beautiful, majestic, and fragrant, citron-coloured and spotted black; L. pomponium verum, fiery-scarlet; L. superbum pardalinum, extra fine; L. candidum, the old white garden Lily, still, when well done, one of the best; and last, but not least, Lilium auratum. An oft-repeated advertisement runs, "imported bulbs do die," and no doubt the great majority of them have done so. Many explanations have been given for their so doing, and the one given here is that the treatment after flowering is at fault. There are here splendid spikes with from ten to twenty flowers on them, and this is the second season of their flowering. Instead of being allowed to stand or lay about for months after flowering, as soon as the flower stems are ripened off they are repotted in a suitable compost, and kept moderately moist till growth commences.

Among other things in flower calling for notice are Œnothera macrocarpa, very fine; Triteleia laxa, Brodiæa coccinea and grandiflora, Helenium pumilum, Erigeron macranthum superbum, E. multiradiata, and E. speciosa. Have not these a better claim to be called Blue Marguerites than the Agathæa cœlestis? There are not many flowering shrubs at present calling for notice, but there is a large plant of Buddlea globosa. This is a very fine and distinct shrub, but, unfortunately, in some districts is much cut up in severe winters. Spiræa ariæfolia, with its feathery plumes of fresh white flowers, is a lovely object; these are capital for the decoration of flower vases. Deutzia

crenata flore-pleno is equally good. The drought is telling against us here very much; the crops are drying up, shrubs flagging, and large trees begin to shed their foliage. There has been no rain to soak the earth here since the end of April. We are not quite so dried up at present as we were last year, but another week or two without a copious downfall will land us pretty much in the same place as we were last year.—*W. B. G.*

FLOWERING PLANTS AT EXHIBITIONS.

I am pleased to see that you have drawn attention to the scarcity of specimen flowering plants at our various exhibitions, and to the practice of hawking plants round the country from show to show. It is palpable to all that huge, travel-stained Palms, Tree Ferns, and worn-out colourless Crotons, &c., are seen a great deal too often, the same plants being patched up year after year, and sent the round to "earn their keep," with a regularity that has become most tiresome. I look back with pleasure to the days when Green, Cole, Baines, and others, used to show such grand and perfectly fresh specimens; but now it is the same old thing over and over again, excepting in the case of Orchids.

Would it not gladden the hearts of some of the old plant growers to see a few of their favourites again? And would it not do the rising generation of gardeners good to have such things set before them as examples? We do occasionally meet with good specimen Heaths, but many of them are sadly neglected. Where are the specimen plants of E. elegans, E. Massoni major, and other grand varieties? We do now and again see good specimen Ixoras, but seldom such sorts as alba, Colei, or salicifolia. Now and then also a good Dipladenia or a Statice is conspicuous, but these things are very scarce; such plants as Allamandas, Stephanotis, Anthuriums, Eucharis, Clerodendrons, Bongardias, seem the order of the day.

It would be a "joy for ever" to see, if only in the form of half specimens, such good plants as Mussænda frondosa, Rondeletia speciosa major, Combretum purpureum, the curious Gloriosa and Hexacentris, and Stigmaphyllon ciliatum, among stove-flowering plants; Aphelexis, Phœnocoma, Pimeleas, Boronias, Eriostemons, Hedaromas, Dracophyllums, we see frequently, but where are the Boronias, serrulata and pinnata, Acrophyllum venosum, Chorozema Henchmannii, Croweas, Hibbertias, Reidia, Leschenaultia Baxteri, formosa, intermedia, the lovely blue biloba splendens, one of the most showy of greenhouse plants, Pimelea spectabilis, Hendersoni, Neippergiana, and Pleroma elegans? These lovely greenhouse-flowering plants are sadly neglected, and it is possible that half of our young gardeners have never had the pleasure of seeing them.

There are many gardeners who have not the convenience for growing large plants, but who could and doubtless would grow half and quarter specimens, if encouragement was offered them by more of the Horticultural Societies giving liberal prizes, say for six or twelve hard-wooded stove and greenhouse-flowering plants in 8-in. or 12-in. pots. More competitions of this character would be the means of reviving the culture of some of these much-neglected plants, and I feel certain they would be a welcome addition to many an exhibition which is now a flower show in name only, owing to the deficient supply of flowering plants.

I was pleased the other day when in a town in Scotland to meet with a few good Ericas, good examples of Cantua dependens, and the lovely Clianthus Dampieri; the latter were exceedingly fine, and showing quantities of flowers. They had been raised from seeds sown early. It is a lovely plant when in flower, its peculiar scarlet and black flowers being always pleasing and attractive. There is a fine chance just now for ambitious young gardeners desirous of winning their way to fame.—*A. Outram, Victoria and Paradise Nurseries, Upper Holloway.*

Gloxinia Flambea.—Of the numerous fine, erect, flowering varieties which have been raised in and sent out from Messrs. Veitch's Nursery, this has the credit of having been sold in the greatest numbers. It is only of medium size, but perfect in shape and substance, and in colour the brightest scarlet of all.

SELECT HARDY PERENNIALS.

(*Continued from p.* 727.)

Doronicum caucasicum.—This is one of the most effective of spring-flowering perennials, and at the same time one of the most hardy. Its full height when in flower is from 1 ft. 6 ins. to 2 ft.; its blossoms, which are about 3 ins. across, are of a bright golden-yellow, and borne in quick succession for some time. It is just the kind of plant which must meet with many admirers, especially those who have a preference for single flowers. It may be said to be one of the fashionable plants of the present day, for I am sure very few having once made its acquaintance would care to be without it. It forms a somewhat close carpet of leaves upon the ground, and while it is by no means rampant it increases rapidly. The root-stock assumes a creeping habit of growth, that is, it creeps on the surface of the soil, emitting fresh roots in its onward course; this makes it one of the simplest to increase by division, and as it is one of the most effective plants for the spring garden, it cannot be had in too great a quantity. There is still another use for it—its value in a cut state, besides which it is one of the most effective of plants for conservatory decoration; indeed, in a cold house or even a frame, it may be had in perfection considerably earlier than if it has to battle with wind, rain, and frost in the early months of the year. Of its usefulness as a pot plant for the conservatory or drawing-room I was forcibly reminded when calling on my friend, Mr. W. Spinks, of the Royal Exotic Nurseries, Edgbaston, Birmingham, some two or three years since. Mr. Spinks had estimated the full value of this Doronicum, which he remarked had caused quite a sensation in his district. There were quantities in large 32-sized pots in full flower, and those who wish to add to the beauty of the conservatory very early in the year when flowers are scarce should do likewise. The other cultivated kinds are austriacum, Clusii, Pardalianches, plantagineum, and its variety, excelsium. By embracing the first two and the last named, flowers of this one genus may be had from April to September; the popular name of these plants is "Leopard's Bane."

The Dracocephalums, or Dragon's Head, form a handsome group of, for the most part, dwarf-growing perennials, which usually have blue or purplish-blue flowers; these are produced from July onward into the later summer months. The best are argunense, 1 ft. 6 ins. high, having linear leaves and racemes of deep blue flowers; grandiflorum, 1 ft. high, with deep blue showy flowers, and Ruyschianum japonicum, 1 ft. 6 ins. high, erect habit, and whorls of light blue flowers. These are propagated by cuttings inserted in sandy soil under handlights, and also by seeds.

Dracocephalum virginicum album seems to call for special mention; it is, I believe, the only white-flowered kind in commerce. It grows 2 ft. 6 ins. high, and is of erect habit; its flower-stems for about two-thirds of its height being studded with pure white flowers. It is in all respects a first-class perennial, increased in the same way as the preceding.

Echinops.—This is a genus of plants which, while we cannot regard them as beautiful, are, from their peculiar form, most attractive in certain positions, such as the wild garden, isolated positions on the lawn, or on the higher positions of the rockery; in either of these, their quaint and picturesque bearing, and their globular heads of flowers, make them conspicuous; they are strong growers, and usually attain 3 ft. or 4 ft. in height.

Epimediums.—I will now pass on to the Barren Worts, all of which are singularly beautiful and interesting. The average height is about 1 ft., the colour of the flowers, roughly speaking, being confined to red, yellow, and white. Owing to their dwarf habit and free-flowering qualities, they are suited either as front-row plants in the border, or for the rockery in a partially shady spot preferably; they delight in peaty or light loamy soils, and are also suited for culture in pots. From the compact tufts of somewhat hard, leathery leaves, issue the flower-stems, which are gracefully arched and furnished with their beautiful blossoms. The most worthy of culture are alpinum, red; macranthum, white; niveum, white; pinnatum, yellow; and violaceum, purple—all of which are most readily increased by division, an operation best performed in early autumn.

The Erigerons constitute a free-flowering and showy group of composite plants, which for the most part have flowers of a lavender or purple-blue shade; but as there are exceptions to most rules, so it is with this, as by a recent introduction we have not only a new departure, in so far as the colour is concerned, but we have another gem added to the already long list of good hardy plants. This one—a conspicuous one too—is Erigeron aurantiacus, which grows about 9 ins. high; it forms a compact tuft of hairy leaves, and produces freely its rich orange-coloured flowers, which are as large as a crown piece. Need I say more than this of so charming a plant? It is indeed a very fine perennial, suited for a very choice position on the rockery, or in the border. Then we have E. grandiflorum, and its white kind, of similar height to the first-named, with equally large flowers of blue and white respectively. E. macranthum grows about 1 ft. high, and has large purple flowers; it is a neat and showy plant. E. speciosum, and the variety superbum, are taller; these grow 2 ft. and upwards in height, and produce in great profusion, throughout the summer and autumn months, their large, showy, purple-blue flowers, rendered more conspicuous by their yellow centres or disc. These are all readily increased by division and also by seeds, and in the case of the first-named, every seed should be secured, for it can never be had in too great a quantity.—*J.*

ROYAL HORTICULTURAL SOCIETY.

I am desired by the Council of the Royal Horticultural Society to ask you to allow them to make known, through the medium of your columns, that they are prepared, at the request of and in concert with the Royal Commissioners of the Indian and Colonial Exhibition of 1886, to offer their co-operation and assistance to such of the colonies as may desire to avail themselves of it.

Some of the colonies have already expressed a desire to have, as a feature of their courts, illustrations of the indigenous flora in vestibules or plant-houses. In addition to these, the Council believe that collections of ornamental and economic plants, in a growing state, and of fruits, would be of much interest and value.

The Royal Horticultural Society will be ready to give advice and practical assistance in preparing, arranging, and carrying out such illustrations to any of the colonies who may apply to them. But they desire to point out that it is essential, for even a very limited display of growing plants, that not a day should be lost. I shall be glad to answer any inquiries. The Assistant Secretary and the Superintendent of the Society's Gardens will be ready to meet and consult with the Colonial Commissioners and to take forthwith the necessary steps in conjunction with them.—*F. Mason, Secretary.*

A SUCCESSFUL VINE GROWER.

An interesting story is told in connection with French vineyards of the successful struggle of M. Bastide, who has just received the first prize, the medal of honour, at the competition of cultivators in the Herault. M. Bastide purchased in 1878 for 350,000 francs, or about £14,000 English money, the estate of Agnac, which is situated near Montpellier. It contained 380 hectares of land, of which 106 were for cultivation, 274 woods, &c. A fine vineyard of 80 hectares, which had formerly yielded 10,000 hectolitres of wine, was at the time of M. Bastide's purchase almost totally destoroyed by phylloxera, and the soil was invaded by couch grass. His first care was to root out the dead and dying Vines, and to sow the ground partly with Lucerne grass and partly with Cereals, so as to clear the ground and prepare it for the re-construction of a new vineyard with strong Vines. This he has effected. His first Vines were planted in 1880, and at the moment of inspection the vineyard covered 84 hectares, 15 hectares having been reclaimed from worthless land on the borders of the estate. In the cultivation of his vineyard M. Bastide has spared neither labour nor expense. He has tended it incessantly, and has brought the ground into first-rate condition by the plentiful application of manure. In the first four years of his ownership the expenses greatly exceeded the receipts, but now the receipts are in excess of the expenses, with every prospect of large increase. M. Bastide's father, an old agriculturist, 80 years of age, has been his principal adviser and assistant.

The Amateurs' Garden.

THE GREENHOUSE.

Roof Climbers, such as Passion Flowers, Tacsonias, and others of that class that are of free growth, will require frequent looking over to keep them thinned and regulated, and not only that, but they must have plenty of water at the roots, which should be given in sufficient quantity, when it is administered, to soak the borders through, as though they may appear in a moist state above, it often happens that they become dry below, and this condition of the soil soon affects the health of the plants.

Lapagerias.—These are now making their summer shoots, some of the strongest of which spring from the base, and these the slugs or woodlice are almost sure to find out and devour. To keep the first-named insects off till they can be caught, there is nothing better than the broken chimney of a lamp put over each shoot, and the woodlice may be trapped by putting down small flower pots baited with boiled Potato, and thrusting a wisp of hay in at the top, under which they will lurk.

Fuchsias.—To have young plants of these early next year, cuttings must be put in now, the best shoots for the purpose being those that have but little bloom on them, which should be taken off about 3 ins. long, and then trimmed and inserted in sharp sandy soil, when if placed under a handlight in some shady situation, or stood and kept close in a cold rame, they will soon root.

Solanums.—These, when full of their bright berries, are among the most useful of decorative subjects during the winter, but they often fail to set through inattention in watering, which causes the flowers to fall, and to prevent this, the plants should be plunged and kept moist at the roots, as well as sprinkled or syringed overhead, which damping of the foliage will ward off red-spider and maintain the leaves healthy and clean.

Chrysanthemums.—It is time now that these had their last shift, which should be done by giving them good sized pots, and using rich loam, and after they are potted, the plants ought to be plunged in an open sunny position, as there the wood they make will be short jointed and firm, and such as is sure to produce fine heads of bloom; but to get them to do this, the shoots must not be stopped any more, but allowed to grow on as they may. As these will now be getting long, it is necessary for them to be tied and supported to stakes, and the points of the shoots will also need watching, as they are very subject to thrip and green-fly, which attack the tender leaves and soon cripple the plants. To prevent this, they should be dusted with tobacco-powder, or wetted with tobacco-water, and syringed soon after to wash the insects out and clear the foliage of any deposit they may have left on its surface.

Azaleas, Camellias, and other greenhouse plants stood out to harden and ripen their wood must be well looked to; see that the balls do not become dry, which they are apt to do by cracking away from the sides of the pots and letting the water pass without wetting the soil.

THE FLOWER GARDEN.

Staking and Training.—Although the rains have done an immense deal of good, they, and the wind, have also done much harm in weighing or breaking down the branches and heads of plants, most of which were getting heavy under the weight of their load of bloom, and to remedy this, all beds and borders should be looked over, and stakes and ties applied to such subjects as need their assistance, taking care when supporting the shoots not to bundle them up broom fashion, as is too often done, but to tie them neatly and loosely, that the plants may have an easy, natural appearance. For Sweet or Everlasting Peas, as well as such climbers as Nasturtiums, there is nothing that looks or answers better than tall brushy sticks, up which they run and attach themselves to, and show off in the greatest state of perfection.

If there are thin spare trees near any of the plants, it is a good plan to train the Tropæolums on them, and let these rapid-growing climbers clothe their bare stems and twine about among the branches' which they will soon do, and adorn them with beauty. Clematises also look remarkably well in the same way, and likewise on dead stumps, or rambling at their ease on trellised walls, associated with the Canary Creeper, which contrasts splendidly against such kinds as C. Jackmanii, and produces a striking effect. To have the Nasturtiums continuously in bloom it is necessary to pick off the seeds, and it is a great assistance to the Clematis if they now and then have a good soaking of liquid manure.

Bedding Plants have made quick progress of late, and to keep these gay as long as possible they should have every attention in the way of removing seed heads, thinning and pegging out the branches so as to make them cover the ground and be neat in appearance. Border flowers, such as Carnations and Pinks, may be propagated now, the last named being easily struck from cuttings made from the young growth, and the Carnations increase readily from layers, which root in a few weeks if the shoots are partly cut through before pegging them down. The way to make the Pink cuttings is to take them off just below a joint, and then insert them in sandy soil in a shady place under a handlight, which should be kept close till they strike.

PITS AND FRAMES.

Cucumbers and Melons.—In cases where frames are so built or placed that linings can be added, they will be a great help now in affording fresh bottom-heat to Cucumbers and Melons, the latter of which need such assistance to enable them to set freely, and Cucumbers are always much better and crisper when they swell rapidly than they are after slow growth, as then they are generally bitter and hard and unpleasant to eat. To prevent this, and aid the Melons, the pits or frames they are in should be shut up by three o'clock or so every afternoon, after syringing or sprinkling the plants, which will raise the temperature greatly, and the syringing cause a genial atmosphere that will keep the plants healthy and strong.

THE FRUIT GARDEN.

The Fruit Crop.—Although there was every promise of a great crop of fruit, the season has turned out very unfavourable, as Apples are blighted and the foliage curled, and affected with several kinds of insect pests, the worst being the maggot or caterpillar, and the other red-spider, the latter of which got on owing to the long spell of harsh winds and drought. Where the trees are small and a pressure can be obtained to force water on, the remedy is easy enough, as by a well-directed stream the parasites may be washed off and the leaves made clean, which will be a fine help towards swelling the fruit; but to get this to its full size, all that is deformed should be taken off, and a soaking of sewage given to the roots, as the soil is still dry in depth, and the same course ought to be pursued with Pears, but before the sewage is administered, it is necessary to mulch the ground round the trees, or the surface of the soil will crack and let the moisture out quickly, and make matters worse than before.

Peaches and Apricots on walls require precisely the same treatment, and the first-named should also be kept well syringed, or red-spider will get hold of the leaves and greatly injure the trees. If the shoots are not already nailed or tied close in, no time ought to be lost in carrying out the work, as they shade the fruit, and unless this is fully exposed to the influence of sun and light, both colour and flavour will be very deficient.

Strawberries.—Most of these are now over, and whether the plantations are to remain on for another season must depend on their age, and the vigour and fertility of the plants, but, as a rule, they should not be left longer than three years at most, as it is always better to have young beds than to trust to those that are old. If it is decided to keep them, the way to manage is to go over the rows and trim up the plants by cutting off every runner and the lower shabby leaves, but on no account ought the fresh foliage be taken away, as that is necessary in plumping up and forming the crowns, and its early removal is the most frequent cause of Strawberries failing to flower.

If fresh beds are to be made, the first preliminary towards success is to get good plants, and this can only be done by selecting the strongest and best runners and layering them in pots filled with rich soil, where, to hold the runners in their place, they should be pegged, or have a stone laid on each, after which, if kept watered daily, they will soon root and be ready for planting out in the bed, the necessary preparation for which will be written about later on.

THE VEGETABLE GARDEN.

Gathering Peas and Beans.—It has been pointed out again and again what a heavy tax seed-bearing is to plants, and therefore the necessity of relieving Peas and Broad and Scarlet Runner Beans of all their pods as soon as they are full enough or large enough for use will be plain to everyone, as the plants will then continue bearing, especially if attended to in the matter of watering, good soakings of which are requisite for both Scarlet Runners and Peas, if the weather keeps at all dry. The importance of mulching has also been urged, and the benefit of this on light soils can scarcely be overrated, as the shade it affords prevents the land from becoming heated, and by intercepting evaporation, maintains a uniform degree of moisture about the roots, which are then in a position to feed and nourish the plants.

Celery.—The same remarks apply to Celery, which should have short, fresh horse-dung, or something of that kind, scattered alongside of the roots, where it will not only act in the way referred to above, but prevent the wash that otherwise results from heavy and frequent watering, and the cracking and opening of the soil after. If there are any plants yet to go out, no time should be lost in getting them in the trenches, which ought to be made about 15 ins. wide and 6 ins. deep, when, after being manured and dug, the plants may be planted 10 ins. apart. In doing this it is necessary to lift them with good balls, so as to secure as many roots as possible, as then they suffer little or no check, but start off at once.

Lettuces.—To have a late supply of these, seed must be sown now, and it is a good plan to do this where they are to grow, a favourable situation being on ground between rows of Celery, where they get great depth of fresh earth and stand well in the autumn. The best kinds to depend on at this season are Hick's Hardy Green, and the old Bath Cos, both of which are very hardy, and turn in with fine close hearts without any tying.

Cabbage and Cauliflower.—A sowing of both these should also be made to come in early in the spring, the most desirable sorts of the first-named being Ellam's, and the latter Snowball and Early London, the latter being a very old favourite.

HOYA BELLA.

A month ago we received some cut blooms of this lovely East Indian species from Mr. Atkins, gardener at Tatton Park, Knutsford, Cheshire, accompanied by a note on its culture which we published at p. 682. Of all the species in cultivation, and there are only a few much known in gardens, Hoya bella is the best for growing in baskets, and for such work there are few better adapted. The flowers are waxy-white with a crimson centre, borne in umbels almost uniformly with seven pips in each, and deliciously scented. It flowers most freely from the axils of the leaves, and when suspended from the roof of a stove or intermediate house, produces a very fine effect. Mr. Atkins, who grows the plant so well, gives it a compost of peat, loam, sand, and leaf-soil, with a few pieces of charcoal to keep it open and sweet. It requires a warm temperature and full exposure to the sun.

Phylloxera in Algeria.—Phylloxera has appeared amongst the Vines at Mansourah, province of Oran, Algeria. No one knows how the pest has been imported, but the authorities have promptly taken vigorous measures. The destruction of the affected Vines began on July 8th, and disinfection by means of petroleum is actively carried on while waiting for the receipt of sulphur of carbon in sufficient quantities. The Governor-General of the country has issued a decree proclaiming the district infected for a radius of two kilometres beyond the actual spot. It is hoped these energetic measures will localize the evil, so much dreaded by the Vine-grower.

SALISBURY GREEN, EDINBURGH.

Salisbury Green is the residence of Wm. Nelson, Esq., a member of the well-known publishing firm of Messrs. T. Nelson & Sons. It is situated in the southern suburbs of Edinburgh, and a more delightful situation it would be difficult to find in or around the Scottish metropolis, secluded as it is from the busy city which forms its background, while in the foreground is presented a scene of picturesque beauty such as is seldom to be met with. A little to the north-east is the famous Arthur's Seat, towering above in all its majestic splendour, with the Salisbury Crags and "Samson's Ribs" at its base, while to the east are unbroken views for miles of the fertile plains of Duddingstone and Niddrie, greatly enhanced in beauty by the large sheet of water called Duddingstone Loch, which nestles under the eastern slope of Arthur's Seat, with the picturesque village of Duddingstone in the background. Conspicuous amongst the public buildings in this village is the romantic old church, where is yet to be seen attached to the wall at the entrance-gate the iron stock or chain used in olden times for the punishment of moral offenders; the punishment consisted in the culprit being secured to the wall by the neck on the Sunday. To the south-east is seen the village of Liberton, which also has a church of ancient date, and on the same rising ground can be seen the fine old Castle of Craig Millar, where Queen Mary resided after the murder of Darnley. The proprietor has lately expended a large sum in restoring broken walls, &c., so as to preserve this fine old relic of a bygone age.

The gardens at Salisbury Green have been under the able management of Mr. Laing for the last three and a half years, during which time the place has been entirely remodelled, and especially the interior of the glass structures. The entrance is from the Dalkeith Road, where there is a nice lodge and entrance gates of immense size and richly gilt. The approach is a broad one, and leads up to the house with a sweeping curve. The mansion-house is a fine-looking structure in the Scottish baronial style of architecture, and at present important additions are being made to it. The large conservatory adjoining is also under repair, necessitating the removal of most of the plants. In the centre bed is planted out a fine specimen of the Tree Fern Dicksonia antarctica, with a stem nearly 12 ft. in length, carrying a beautiful head of fronds. The lawn in front of the house is to a great extent planted with Apple and Pear trees, which act as a screen between the mansion and the glass houses, the main portion of which forms three sides of a square, the space between being occupied by Roses and a flower border in front planted on the carpet-bedding system, which has a very pleasing effect. The Roses are showing the effects of the shelter thus afforded them from the prevailing east winds of last spring and early summer, by giving forth such a profusion of bloom as I have seen nothing to compare with this season. Prominent amongst them is the new white Merveille de Lyon in grand form, with flowers 4 ins. across, Alphonse Soupert, Alfred K. Williams, John Hopper, and many others of like merit. Entering the houses from the west end we find the first devoted to cool Orchids, and here are some large plants of Cœlogyne cristata, which by their luxuriant growth give promise of a rich harvest of valuable white flowers. Amongst the plants in flower were a fine form of Oncidium macranthum, good plants of O. Hallii, O. Rogersii, and many good things in the Alexandræ section. Maxillarias and Masdevallias are well represented, amongst the latter being a small plant of M. chimæra with flowers from 18 ins. to 20 ins. measured from point to point of the tails; and splendid specimens of M. Harryana and M. Veitchiana. The next is the intermediate or Cattleya-house, which contains so many good things that it is difficult to know what to name that will give an idea of the wealth of the collection. All the leading species and varieties of Cattleya are, however, represented, and notable among them are fine plants of C. Dowiana auria, C. Trianæ, with a deep red lip, the flowers of which last year measured 9½ ins. across, C. Percivaliana, C. Gigas, a fine plant of C. Mendelii; several good Odontoglossum vexillarium, O. v. rubellum, a fine autumn-flowering variety, and O. Phalænopsis, a fine plant of Vanda Lowii, and several good forms of V. tricolor; large plants of Dendrobium thyrsiflorum and D. formosum giganteum. The arrangement of the Orchids here is perfection. A good many Orchids are not of a very prepossessing appearance when out of bloom, and what in some places is unsightly is here made very effective by the introduction amongst them of small foliage plants in the way of Crotons, Palms, and Ferns.

The next house is a large stove containing, principally, fine-foliage plants. The centre is filled with Palms of large dimensions, while on the side stages is a fine lot of Alocasias, beautifully coloured Anthurium andreanum, A. crystallinum, A. Warocqueanum and magnificum, Eucharis in great abundance, and the finest plant I have ever seen of the graceful Palm, Cocos Weddelliana. Overhead an Allamanda is flowering profusely. Next we have two vineries, span-roofed, all planted two years ago, with the exception of one side. Many of the canes are exceptionally strong for their age, and carrying heavy bunches; the one house is Muscats, the other Hamburghs and Lady Downes. The side of old canes is carrying a heavy crop. A few years ago they were given up as useless, and the change that has taken place goes a long way to show the high qualities of Thomson's Vine and Plant Manure, which has been so successfully applied to them. Mr. Laing uses it largely, not only for his Vines, but for all plants that are benefited by a stimulant, and the beneficial results of its use amongst potting material was at once seen on entering the greenhouse, 70 ft. by 20 ft. The Pelargoniums were all that could be desired; Liliums were quite a show in themselves, L. auratum having ten to twelve flowers on a single bulb in 6-in. pots; L. longiflorum Harrisii in great profusion, an invaluable variety where white flowers are in demand. Large plants of Azaleas occupied the centre stage, and at the back, in a recess filled with Ferns, is a Dicksonia similar to the one in the conservatory, but not quite so large. In this house also was a fine batch of Disa grandi-

HOYA BELLA: FLOWERS WHITE, WITH CRIMSON CENTRE.

flora in fine health. Passing into the open air we next enter a lean-too Peach-house planted three years ago, aud uow every bit of trellis is taken up and all in full bearing. Amongst the Peaches are some good examples of Royal George, Rivers' Early York, Barrington, and Noblesse, and amongst the Nectarines are Pine-apple, Violette Hâtive, and Pitmastou Orange.

A recently erected house is used as a feeder for the greenhouse and conservatory, and at the present time is filled with Zonals, to take the place of the show Pelargoniums, and the Zonals will be followed by a fine batch of Cinerarias and Primulas, at present in the cold frames. In the same house is also a fine lot of Tea Roses just coming into bloom, and many other useful things. Another house contains a mixed collection of plants and Orchids requiring a high temperature, amongst the latter beiug fine plants of Phalæuopsis amabilis, P. grandiflora, P. Sanderiana, P. Schilleriana, P. Stuartiana, P. violacea, and others; Cypripedium Spicerianum, C. concolor, C. Haynaldianum, and others; Vanda Hookerii, V. Sanderiana, V. Lowii, Angræcum eburneum, A. Ellisii, A. sesquipedale, and many others too numerous to mention. The next and last house is a span-roofed Melon-house, but only one side is devoted to the Melon, the other being filled with a miscellaneous lot of table plants, amongst them being some finely-coloured Crotons Chelsoni, C. Thomsoni, and C. Princess of Walcs, and a batch of seedling Gloxinias of the spotted strain, showing some flowers equal to any of the named sorts.

Vegetables are not largely grown, but what there is are well done. The same applies to bedding; there is no flower garden proper. Surrounding the lawns are well-arranged borders of shrubs and herbaceous plants, and mixed flower-beds on the terrace fronting the park; the arraugemeut of the whole shows that a master hand has been at work. The potting-shed is commodious and well equipped, aud a look into the stokehole, where two large terminal-end boilers have been recently set up, also bespeaks tidiness. The visitors to Salisbury Green will not proceed far in their inspection before they learn for themselves that Mr. Laing's gardening motto is "a place for everything, and everythiug in its place."—*R. C. F.*

FRUITS.

Fruit Culture under Glass.—Peaches: In order to assist the trees in late houses to swell large fine fruits they should be kept well supplied with liquid manure at the roots every eight or ten days until the fruit commence colouring, when supplies of clear water will be sufficient. The shoots should be kept tied up to the trellis, and all lateral growths be pinched clean out, aud in tying the young and best-placed shoots in their proper position to the trellis, those of last year's growth which have no fruit on them, and which in the ordinary way would be cut out at the winter pruning, may, with advantage to the tree, be removed forthwith with a sharp knife.

Anything approaching crowding of the shoots should be avoided, otherwise the very object which most gardeners have in view, the production of good well-ripened wood preparatory to bearing crops of fine large fruit, will be defeated. Houses in which the fruits are ripe and ripening should have a sufficient thickness of soft dry grass laid on the bed underneath the individual trees to prevent any of the fruits which may happen to fall from being bruised. Grass cut from under trees and partly made into hay is the best for this purpose, being, unlike the upland hay, soft. This is better than looping a piece of garden netting underneath the trees, unless it be fastened pretty close to the latter, and be made of some soft material, otherwise the ripe fruit would sustain injury in the fall by coming in contact with the net. These houses, almost needless to say, should have abundance of fresh air admitted to them day and night; and the trees, notwithstanding the fact of the fruit being ripe, should not be allowed to suffer for want of water at the roots—a condition which would cause them to drop their fruit sooner than they otherwise would do, and their leaves to become infested with red-spider.

Bearing this in miud, the border (if indoors) should be thoroughly watered prior to putting the material indicated above on it, and again as soon as the fruit has been gathered, and once during the interval should the weather be hot at the time, and the trees should be well syringed overhead morning and afternoon after the crop has been taken.

Fig-trees swelling their fruit should, in order that the latter may attain to large dimensions, have occasional waterings of liquid manure at the roots, and the points of strong-growing shoots should be pinched out prior to tying them in to the trellis, and all superfluous growths be removed forthwith. Syringe the trees and house generally morning and afternoon at shutting-up time—about half-past four o'clock, when the temperature may be run up to 90 degs.—*H. W. Ward, Longford Castle.*

Unripe Grapes.—It is to be desired that judges should in all cases set their faces against the giving of awards to Grapes that are distinctly unripe. Perhaps it is difficult to induce some men who for the time may be placed in the post of honour to carry out so drastic a rule, because they may under diverse conditious be offenders themselves. Still we may well hope that there exists sufficient virtue and courage in the general body of judges to take a course that is so obviously demanded. Our contention in this respect may apply with equal force to other fruits, but than in none other, perhaps (Pines excepted), is there such sacrifice made as when some two or three good bunches of Muscats, for instance, weighing in all some 5 lbs. or 6 lbs., are cut and staged whilst still so unripe that they cannot be further utilized. The only course judges should take when they find such exhibits before them is to refrain from awarding any prize, let the merits of the bunches otherwise be what they may, and also mark the exhibits as "unripe." Such a course would by thus publicly condemning the act of the exhibitor soon prevent that which so much deserves condemnation.

The evil is chiefly found in our summer sh ows In the autumn, Grapes are, as a rule, ripe, although. a glaring instance of staging not only badly finished but very unripe fruit is sometimes seen. To cut such bunches merely that a prize may be snapped up is too bad, and gardeners materially damage not only their employers' interests, but their own also, in so doing. There is still very much more diversity of opinion between judges than should be as to what should constitute merit in prize Grapes. Big bunches have their admirers, and big bunches if of high-class merit all round must win. But bad big bunches are sometimes placed before high-class small ones, and thus injury is done to good culture. We should very much like to hear from some of our Grape-growing readers their views on Grape judging, aud what they may think to be the proper points of prize bunches.

Fungoid Diseases in Fruit Trees.—At the last meeting of the Scientific Committee, a communication was received from Mr. T. Kirk, Wellington, New Zealand, asking for advice as to remedial measures. In some districts the fruit trees are being destroyed by the mycelium of a ground fungus—a small Puffball—though the author suspects that several Agarics affect them. When the ravages are most serious the reproductive state is but rarely developed. It first appears as a circular patch, in which all vegetation (as in fruit trees, Oaks, Waluuts, Grass, Sorrel, Strawberries, &c.) is more or less "blighted," the plants exhibiting a withered appearance, the leaves becoming slightly curled, droop and fall long before their time, and the plant dies. The roots are more or less covered with mycelium. The effects extend in a most singular fashion, travelling half-way across a garden or orchard from one side only, at others extending in all directions. It is most fatal to fruit trees. It is almost exclusively confined to light soils, on which Fern (Pteris aquilina) has grown. Damp or dry soils have no attractions for it. It occurs abundantly in the decaying rhizomes of the Fern, transferring its attentions to fruit trees whenever the opportunity is afforded. The first parts on which the affection shows itself is the juncture of root and stem. The bark becomes absolutely rotten when permeated by the mycelium, and emits a nauseous odour. Plum trees usually show but little mycelium as compared with Apples, but the trunk is more obviously affected, and exudes gum freely. Experiments are being carried out in the following directions:—(1) Soaking the soil with tar-water and dressing the affected parts with the same; (2) dressing the soil with soot; (3) with sulphur; (4) with mild brine washes, both for trees and soil. So far the tar-water seemed the most effective, but the author was inclined to think that sulphur will have the most permanent effect.

Peach Blight.—The author adds, that in all parts of the country the Peach is dying wholesale, but the cause is most obscure. The trees appear to flower with their accustomed luxuriance, and the fruit to set as usual. If a sudden change of temperature, or a severe frost, has been experienced during the flowering time, the fruit does not swell, the leaves make their appearance readily and fall quickly—minute orange-coloured blotches are seen on the twigs. These become confluent and black, and then the buds decay. At this stage the plant may die, or if the season prove favourable, a weak autumn growth may be made, and new leaves developed, tassel-like, at the tips of the branches; but a renewed attack the following spring proves fatal, and the plant dies. Plants one year from the seed are attacked as readily as the oldest. Occasionally a tree partially sheltered has suffered less than its neighbour or has escaped entirely; while two kinds appear to resist the disease more than others, viz., Coruet and Salway, but they are certainly not blight-proof by any means.

New Fruits Certificated.—At a meeting of the Fruit Committee, held at Chiswick on the 10th inst., the following Strawberries and Melon were certificated:—Waterloo (Mr. Bone, Latimers, Chesham), fruit large, cockscombed, very dark in colour, and of good quality, distinct; A. F. Barron (Mr. T. Laxton), a beautiful variety with even conical fruits of a bright scarlet colour, very firm and of good flavour, possessing a pleasant acidity. This was formerly named Admiral. Melon Longleat Perfection (Mr. Pratt, gardener, Longleat, Warminster), fruit large, round, smooth, pale greenish-yellow; flesh white, very melting, sweet. It is a seedling from Cashmere, which it much resembles.

FLOWERS.

Work in the Plant-houses.—A point of great importance in connection with the plant-house at this season of the year, when so many opportunities occur, is making selections of the best and most useful varieties of the various classes of plants grown. We do not recommend the discarding of old and well tried sorts for uew varieties that have not been fairly tested, yet it is a good plan to make a few additions every season. At the same time note should be taken of the inferior sorts, so that they may be discarded after their flowering season is over. We know from experience that it goes hard with some to discard old favourites, yet, to keep up a standard of excellence, it is absolutely necessary that some sacrifice should be made in this way.

Gloxinias.—The best varieties should be selected from the seedlings, and these should be labelled, and if there is anything special among them, a few leaves should be taken for propagating. Tuberous Begonias should also be gone through in the same way, though cuttings put in now require care to keep them through the winter, as they will not have time to form but very small corms. In sowing seed either from Gloxinias or Begonias, care should be taken that it is collected only from the best varieties. To ensure success it is a good plan to select a few of the best varieties and set them aside especialy for the purpose, and these should be fertilized by the aid of a camel's-hair brush; in making crosses, the pollen should be taken from the brightest colours and applied to flowers of superior form and substance. It is a great mistake to make haphazard crosses, that is, to cross the colours indiscriminately. We recommend to take any particular colour, say reds; perhaps a plant may be found with very bright-coloured flowers, but of inferior habit of growth, and another of good habit of growth but not so bright in colour. If the pollen is taken from the former and applied to the latter we shall probably get the good points combiued in the seedliugs obtained.

Dry-Weather Flowers.—There is much difference between flowers that will thrive well under ordinary conditions of culture—moisture in the soil, and sunshine overhead; but such a season as the present and last year also test severely the powers of many things, and we find great merit in some and little in others. Thus one of the very best dry, hot-weather plants, without doubt, is the Antirrhinum, for it blooms freely and grows almost luxuriantly even in soils that are as dry as a bone. A grand bed of these plants is in fine bloom at the Bedfont Seed Grounds, which from the time of planting out in April has scarcely had any moisture till lately. Snapdragons should be specially grown for July and August blooming, as they stand drought so well. Petunias are also capital dry-weather plants, for they flower profusely, and seem above all things to enjoy heat above and drought below. There is always danger with these, that should the soil be good and the season moist, they will grow too profusely and be less productive of bloom.

Seedling plants, especially of the striped strain as grown at Bedfont, show how they thrive and bloom in hot soil and sunshine. Balsams too seem to like fairly dry weather, as they are thus induced to flower early and far more pleasingly than if grown in moisture and on rich soil. Dibbled out in the month of May the plants received just a watering or two to give them a start, and have been taking their chance ever since and seem to like it, for they are stout and sturdy, and coming full of bloom, and that bloom of very fine quality. Then the Dwarf French Marigolds thrive admirably too in drought; indeed, these seem as if they almost abhorred wet. Perhaps they are floral abstainers. In any case they not only do admirably, making stout dwarf growth, but bloom superbly, and carry also flowers of the finest quality, striped-edged and self, in several colours. It is well to have plants in our gardens that like drought as others that do not.

Rogiera gratissima.—Some well-grown and well-flowered specimens in 5-in. pots of this much-neglected plant were exhibited in the collection contributed by Messrs. Fisher, Son & Sibray to the horticultural show held at Sheffield, last week. Some of them bore as many as a dozen trusses of its lovely rosy-white flowers. It is well worthy the attention of growers.

Hardy Flowers.—From Mr. H. Jones, Hope Nursery, Lewisham, we have received some blooms of the Maid of Essex Pink, and also of a German variety, which is considered a well-marked improvement on the dark-coloured Anne Boleyn. Both are good growers and very free bloomers. Mr. Jones also sends a very neat yellow Carnation named Miss Gladstone, in the way of Pride of Penshurst; and a seedling Fuchsia, with white tube and sepals and a red corolla, raised by Mr. G. Fry.

Rosa Lucida Rose Button.—What a lovely button-hole Rose this is. It was shown by Messrs. Veitch & Sons at the exhibition of the Chiswick and Turnham Green Horticultural Society, on the 15th inst.—a large box full of it, charming little fleshy Rose flowers, admirably adapted for button-holes and bouquets. It should be made a note of, and grown in this special purpose.

Chrysanthemum coronarium.—As there is a rage for Marguerites, let me commend this to your readers. We are familiar with the double forms of C. coronarium, but not with the single type. It is not common. It would be difficult to find it in a seed-list, but it is very pretty indeed, and well adapted for cutting from. Those who prefer single flowers will like this type; those who favour double blossoms will favour the double form; but both are very useful for cutting. I put the single form of Chrysanthemum coronarium a long way before any of the single varieties of Chrysanthemum carinatum, pretty as they are.—*R. D.*

Pelargonium, Queen of the Whites.—This new Zonal variety, of which we saw a good batch in Messrs. Veitch's Nursery the other day, promises to take high rank. It has a compact, robust habit of growth, and freely produces good trusses of pure white flowers, which individually are all that can be desired in shape.

VEGETABLES.

The Kitchen Gardener's Calendar. — Seed Sowing: Next week will be a good time to make sowings of the following kinds of seeds, viz., Ellam's Early Dwarf, or Wheeler's Imperial Cabbage for early spring use, Black-seeded Bath Cos, Hick's Hardy White Cos, and Lee's Immense Hardy Cabbage Lettuces, and Batavian and Curled Endive, to supply the autumn and winter salading. Another sowing of French Beans may still be made on a warm border, trusting to the chance of a fine autumn to complete their growth. Also a sowing of early Nantes Horn Carrots, for drawing young, should be made in a like situation.

I may remark here respecting seed-sowing in July and August, that the seed should be sown as soon as the ground is dug, and before the soil becomes dry. The ground should be trodden and raked, and the seed sown, covered, and watered (if necessary) in the ordinary way, and a mat or two be placed over each bed, which will prevent the soil and seed immediately under from being parched up. Moreover, the more equable temperature and condition of the soil thus ensured will be the means of hastening the vegetating of the seeds.

Planting, &c.—Further plantings of Broccoli, Savoys, Coleworts, Veitch's Autumn Giant Cauliflowers (good breadths for late use), Lettuce, Endive, and Cabbage should be made forthwith. The early plantings of Broccoli, Savoys, Borecoles, and Coleworts, will now require to be earthed up. Advancing crops of Cauliflowers, French and Broad Beans, will also require attention in the same direction. Neither must the destruction of weeds among crops and on walks in this department be forgotten, else they will quickly establish themselves, however distasteful their appearance may be to those who delight in the possession of a clean and neat garden. The hoe should indeed be kept going now as much as possible among all growing crops, as much to promote a free growth as to keep down weeds.—*H. W. Ward, Longford Castle, Salisbury.*

Propagating Lettuces.—It may be an object with some to propagate Lettuces without waiting for their more tedious production by seed. Everybody knows that when a Lettuce is cut the stump sends up a parcel of shoots; but it may not be known to everyone that each of these shoots possesses its own peculiar root, and that by slipping it off, with a portion of the skin and stalk below it, a perfect Lettuce plant will be obtained. It is said Cabbages are thus propagated in India. A Lettuce, however, has much the advantage of a Cabbage in this matter; for it is much easier to slip off with the Lettuce shoot a small portion of the old root, which may probably assist the rooting of the plant. We have frequently propagated Lettuces in this way, and the result has been most satisfactory. We proceed thus:—We take up the stump when the shoots are about an inch long; but we have often taken some even 3 ins. or 4 ins. long. We slice the stump for about an inch or so down, so as to form a small, triangular-shaped slice of old stem to each shoot, and tear this off so as to bring a small portion of the old root with it. We dibble them out on well-manured ground, about twice as thick as we propose them to stand, lest there should be any failure; and as we can transplant the spare ones afterwards, we put them in pretty deep, so as to have the entire stem slice below the surface, and give them plenty of water. Of those so treated not one will fail.—*Irish Farmers' Gazette.*

New Peas.—At a meeting of the Fruit Committee, held at Chiswick on the 10th inst., First-Class Certificates were awarded to the following new Peas:—Autocrat (Messrs. Veitch & Sons), a dwarf wrinkled blue Marrow; Prodigy (Messrs. Veitch & Sons), a tall green, wrinkled, very prolific, and handsome Pea; Shropshire Hero (Mr. H. Eckford), a dwarf white wrinkled variety; and Quality (Mr. H. Eckford), a tall green wrinkled Pea, of fine quality, and a most prolific bearer.

REVIEWS.

Greenhouse and Stove Plants, Flowering and Fine-leaved, Palms, Ferns, and Lycopodiums.—By Thomas Baines. London: John Murray, Albemarle Street.

Mr. Baines' work is one which was much needed and which will prove of inestimable benefit to the gardener and amateur as a reference and guide in all the more important details of culture and management of the occupants of our greenhouses, stoves, and conservatories. The author in his preface says: "Success in the cultivation of the large number of stove and greenhouse plants, now known in British gardens, to a great extent depends on an acquaintance with the particular wants of each individual kind, as not only do many allied species require different treatment, but it frequently happens that individual varieties of the same parentage want something in their management quite different from each other, without which they fail to thrive. With this view, in preparing the accompanying treatise, the intention has been, so far as possible, without resorting to unnecessary repetition, to avoid giving directions that are too general in their application, but rather to state fully the treatment which each species or variety has been found to do best with. In such cases, where several kinds of plants succeed under like conditions, the details are given to one, the others being referred thereto.

"In describing the general character and appearance of the plants treated of, botanical details have been omitted, but the purpose to which each is best adapted, whether for planting out, growing in pots, as roof climbers, or trained specimens, ordinary decorative use, the supply of cut flowers, &c., &c., is given, and this it is hoped will assist those but little acquainted with plants in the selection of the kinds best suited to their requirements.

"The best new plants that have appeared up to date are included, as well as the large numbers of older kinds possessing sterling merit. When any plant holds a relatively inferior position, this is stated in the description accompanying it. Notes are given of the particular kinds of insects each species is subject to, and instructions as to the safest means for their destruction; also hints on the form, construction, and heating of greenhouses and stoves."

Mr. Baines thus fairly and lucidly explains the plan of his book, and a careful perusal of it shows that he has most thoughtfully and intelligently carried it out. The work commences with general remarks on greenhouse plants, their treatment, and the management of the houses in which they are grown, potting, tying, watering, &c. Next, follows the general remarks on stove plants, which are given in a similarly able manner. Then comes a lengthy article on the culture of Ferns, which is followed by one on Palms. From this point the general collection of plants, whether greenhouse, stove, Ferns, Palms, or whatever they may be, are arranged alphabetically, so that by reference to the complete index at the end of the volume, any particular plant may be turned to in an instant and its requirements ascertained. Besides the cultural instructions given, Mr. Baines in most cases mentions what insect pests are liable to attack the subject under notice, and we regard these details as not the least important which the book contains. Throughout the whole book the best things have the greatest space given to them, and those of inferior merit are cut short, and this is done in such a discriminating manner that the intimate cultural knowledge of plants which the author is well known to possess is brought into play, for the benefit of his readers in innumerable instances. We venture to say that if all who ought to have Mr. Baines's book buy it, it will be a great success, and certainly every one gardening under glass ought to have it.

Exterminating Rats.—Baron von Baekhofen has discovered a cheap and simple method of exterminating rats. It consists of a mixture of two parts of well-bruised common squills and three parts of finely-chopped bacon made into a stiff mass, with as much meal as may be required, and then baked into small cakes; these are put down for the rats to eat, and are said to effect their complete extirpation.

THE

Orchid Growers' Calendar.

The Mexican Lælias, comprising L. anceps and its now numerous varieties (see p. 501), L. autumnalis, L. furfuracea, L. albida, L. acuminata, L. majalis, &c., although now generally done better than formerly in collections, are yet often to be found in a very unsatisfactory condition, owing to their being kept too close or too shady. Of all the Orchids none are more easily thrown out of flowering and rendered weak in their growth by coddling than these are, and few are more easily grown or more beautifnl when properly treated. Baskets or blocks are the best and safest for them all, both because of the free access of air thus admitted to the roots and by reason of the baskets or blocks being as a rule suspended near the glass, a position in which this class of Orchids thrives well, but recent importations have brought over so many large specimens not easy to find baskets for, and in many places the room for hanging baskets is limited, so that pans or half pots have greatly to be used, and in these, if potted well up in good fibry peat, they thrive admirably if otherwise well looked after.

Wherever this section of Lælias is grown in pots or in baskets not suspended, it is best to select a very light and tolerably airy situation in a cool part of the intermediate-house, or even in a vinery, and there to arrange for them an open woodwork stage, bringing them as near to the glass as convenient. Here they should be liberally watered while rooting, and until the growths mature and the flower-spikes appear. The Mexican Lælias require but the thinnest possible shade; indeed, in a house which is shaded by trees during the hottest part of the day, or in any situation where it can be made sure that they will not get caught by the sun's rays, they need not be shaded by blinds at all. They can even be grown in the full sun if the ventilation in the house is well attended to; but, for my own part, I always found them (like all other Orchids) do better, and be much easier to manage, with a thin shading available to let down in summer when the sun is powerful.

Cool-house Oncidiums.—There is a large section of Oncidiums which are in one place or another destroyed annually by being kept too warm at all seasons, and particularly from now throughout the remainder of the warm weather. They are Oncidium macranthum, O. superbiens, O. Loxense, O. serratum, and all the rest of this class; O. crispum, O. prætextum, O. Forbesii, O. præstans, O. curtum, O. Gardnerianum, O. dasytyle, O. concolor, O. Marshallianum, O. bicolor, O. varicosum, O. bifolium, O. holochrysum, O. cucullatum, O. phalænopsis, O. nubigenum, and others of this section; O. ornithorhynchum, O. incurvum, O. tigrinum, O. unguiculatum, O. cæsium, O. longipes (Jamieriense), O. Limminghei, O. Batemanni, O. cheirophorum, O. leucochilum, O. splendidum, O. zebrinum, O. Harrisonianum, O. phymatochilum, &c. These should all be placed in a light, airy part of the cold-house, and kept plump by being carefully watered until the growths are matured; indeed, they want no drying off, and are frequently killed by being subjected to it.—*James O'Brien.*

Odontoglossum crispum var.—Mr. F. Sander sends me a three-flowered twig of a probably larger inflorescence. It is a highly curious thing, but no information is given about it, as both information and packing are getting inferior from year to year, although exceptionally rich information comes when one grower has been deprived of his priority by another. The flowers have white and light mauve sepals, a cucullate convex short lip, exceedingly far from being fine, and looking rather teratologic, and petals of a deep purple-mauve hue, nearly as lobed as in Cattleya Massangeana and Nalderiana. There are, however, on the petals numerous cartilaginous teeth (!!) on the surface. That looks rather trilabelloid. Now there is the question whether it will come next year as it is now. It was grown by the Rev. Mr. Kinleside, Sunbury House, Tunbridge Wells.—*H. G. Rchb. f., in Gard. Chron.*

A FLOWER SHOW AT CHISWICK.

On the 16th inst. the Chiswick and Turnham Green Horticultural Society held its fifth annual exhibition, and it must be admitted the best the society has ever held. It was, as usual, held in the gardens of the Royal Horticultural Society, at Chiswick, and it was easy, by a stretch of fancy, to go back thirty years to the time when the gardens were intact, and at the very prime of their notoriety, and imagine that some remnant of the old glory remained until this day. As usual, Mr. Barron had set up a long tent on the piece of greensward south of the council chamber; another was in the frame ground, and the fruit and vegetables, together with the school children's bouquets, were accommodated in the conservatory.

What a charming effect the groups of plants arranged for effect had when set down on the smoothly shaven grass plot: their charms were considerably heightened in consequence. In the class for the large group, to fill a space of 100 ft., Messrs. Hooper & Co., Covent Garden and Twickenham, were placed first with one of the prettiest arrangements we have ever seen, done in true artistic fashion; and Messrs. Fromow & Sons, Sutton Court Nursery, Turnham Green, came in a good second; Mr. Wright, gardener to E. H. Watts, Esq., Devonhurst, Turnham Green, was third. Then in the class for a group to fill a space of 60 ft., there was a good competition also, the best coming from Mr. Tillswell, gardener to F. R. Geaver, Esq., Cambridge Park, Twickenham; but he was run very close for second place by Mr. E. Chadwick, gardener to E. M. Nelson, Esq., J.P., Hanger Hill House, Ealing, who is deservedly taking a high place among local exhibitors; Mr. H. Davis, gardener to H. G. Lake, Esq., Fairlawn House, Acton, was third.

Taking now the flowering stove and greenhouse plants, we commence with groups of six stove and greenhouse subjects. Here Mr. Bates, gardener to Mrs. Meek, Poulett Lodge, Twickenham, was first with nice fresh examples of Clerodendron Balfourianum, Bougainvillæa glabra, Allamanda Hendersoni, Stephanotis floribunda, Dracophyllum gracile, and Dipladenia hybrida; second, Mr. Wright, Devonhurst Gardens, with Allamanda Schottii, Stephanotis floribunda, Clerodendron Balfourianum, Dipladenia amabilis, and two Vincas; third, Mr. Chadwick. Mr. Wright had the best three specimen Fuchsias, staging good plants of Daniel Lambert, Rose of Castille, and Charming; second, Mr. H. Davis. This exhibitor had the best six Zonal Pelargoniums, nicely grown and flowered plants, Mr. Chadwick coming in a good second. In the class for three specimens, Mr. Wright, gardener to G. P. Greenfield, Esq., The Spring, Hanwell, was first; Mr. J. Hucklesby, gardener to B. Hardy, Esq., Gordon House, Chiswick, being second.

Tuberous-rooted Begonias, shown in sixes, were very good, and Mr. Barron appears to have taught a useful lesson to the local exhibitors. The best six came from Mr. J. Sallows, gardener to J. F. Flack, Esq., Hampton Road, Twickenham; Mr. H. Harding, gardener to J. R. Starling, Esq., The Chestnuts, Gunnersbury, being second. Mr. Bates had the best six Cockscombs; Mr. W. Stanton, gardener to Henry Smith, Esq., Chiswick, being second. Gloxinias shown in groups of twelve plants made a pretty display, and the varieties were good also. Mr. Wright, The Spring, Hanwell, was a good first; Mr. J. Sallows, second; and Mr. Milsom, gardener to W. Lindell, Esq., Drayton Green, Ealing, third. Mr. J. Sallows had the best six Achimenes we have seen this season, large and finely grown and flowered specimens; the varieties were Longiflora major, Longiflora alba, Mauve Queen, Ambrose Verschaffelt, Carl Wolforth, and Margaretta; second, Mr. J. Hudson, gardener to H. J. Atkinson, Esq., M.P., Gunnersbury House, Ealing, with good plants.

Foliage Plants.—Mr. Chadwick had the best six, staging good examples of Croton variegatium, C. augustifolium, Latania borbonica, Alocassia Lowii, Dracæna Youngi, and Areca lutescens; second, Mr. H. Norris, who had Croton Queen Victoria, C. variegatus, C. interruptus, Pandanus Veitchii, Latania borbonica, and one other; third, Messrs. Hooper & Co. Mr. Chadwick was also first with six Exotic Ferns, staging capital specimens of a golden Gymnogramma (seedling), Adiantum Sancto-Catherinæ, A. cuneatnm, Dicksonia antarctica, Davallia Mooreana, and Lygodium scandens; second, Mr. Wright, Devonhurst; third, Mr. H. Davis. Strange to say there were no Caladiums. Colens, however, were nicely represented, Mr. J. Sallows being a good first; Mr. C. J. Waite, Glenhurst Gardens, Esher, being second. Mr. Wright's six pots of Lycopods were perfection, and did him the highest credit; they were cone-shaped, and in the very best condition; Mr. Chadwick was second. Table plants were numeronsly shown; Mr. C. J. Waite had the best six, Mr. J. Hudson being second.

Cut Flowers. — Mr. W. Rumsey, nurseryman, Waltham Cross, had the best twenty-four Roses; T. W. Girdlestone, Snnningdale, being second; and Mr. W. Langdon, gardener to H. H. Hayward, Esq., Castle Bar, Ealing, being third. The leading flowers in Mr. Rumsey's box were A. K. Williams, A. Colomb, Merveille de Lyon, Charles Lefebvre, Marie Bauman, Duchesse de Vallambrosa, Camille Bernardin, Marquis of Salisbury, Madame F. Jamain, Innocenti Pirola, Pride of Waltham, S. R. Hole, Maréchal Niel, and Lord Fred. Cavendish. Mr. Girdlestone had fine blooms of the following Tea-scented varieties:—Jean Ducher, Catherine Mermet, Comtesse de Naidallac, Miss Edith Gifford, and Souvenir d'Elise Vardon. Mr. Wright, Hanwell, had the best six, Mr. Milsom being second.

Mr. J. Hudson, Gunnersbury, had the best twelve bunches of cut-flowers, staging good stove and greenhouse subjects; Mr. Chadwick being second. Mr. Stanton had the best twelve bunches of hardy flowers, Mr. Milsom taking second prize. Twenty-four blooms of Gloxinias, shown in pairs, made a pretty feature, and the varieties were good as well as tastefully set up. Mr. Hudson, Mr. Milsom, and Mr. C. J. Waite received prizes in the order of their names. Messrs. Wright, Milsom, and Harding took the prizes with twelve bunches of Zonal Pelargoniums in the order of their names; they were very bright and effective.

The best three bouquets (one bride's and two bridesmaids') came from Mr. W. Gardiner, 127, Queen's Road, Bayswater; Mr. J. Prewett, Swiss Nursery, Hammersmith, being second; and Mr. Geo. Phippen, Oxford Road Nursery, Reading, third. Mr. E. Chadwick had the best single bouqnet, Mr. A. Castle, Hammersmith, being second. Mr. Castle came in first with six button-holes; Mr. Baird, gardener to C. A. Daw, Esq., Castle Bar Hill, Ealing, being second.

The Show of Fruit was limited, but some good Grapes were present. Mr. Hudson had the best two bunches of Black Grapes, showing Madresfield Court, Mr. Wilson coming second with good Black Hamburgh. Mr. Baird had the best two bunches of White, showing excellent Duke of Buccleuch; Mr. T. J. Coombs, the Gardens, Sheen House, Richmond, being second. Strawberries, Cherries, Raspberries, Gooseberries, Currants, and Melons were also well shown.

Vegetables were numerous and good, and Mr. C. J. Waite won in all the leading classes, taking the first prizes for nine varieties, for six varieties, prizes offered by Messrs. Sutton & Sons for the same number, prizes offered by Messrs. Carter & Co. for three dishes of Potatos, &c.

Table Decorations. — These were a charming feature. The best three stands came from Mr. Hudson, Gunnersbury House Gardens, set up in his usual admirable style; Mr. Prewett, Swiss Nursery, Hammersmith, being third; the second prize going to Mr. J. P. Chard, Florist, Clapham Common, with simpler but very effective designs; Miss A. Fromow, Sutton Court Nursery, had the best single piece; Miss J. Prewett being second. The best arranged stand of Wild Flowers was that shown by Miss Barron, Sutton Court Road, Turnham, very prettily made up; Mr. J. Bullen, 2, Vine Cottages, Little Sutton, being second.

Miscellaneous exhibits were a fine group of plauts from Mr. May, Chiswick House Gardeus. W., some beautiful cut Roses from Messrs. Charles Lee & Sor, Messrs. Veitch & Sons, and a grand lot of ornameutal and variegated hardy plants from Messrs. C. Lee & Son's Arboretum at Iseleworth, staged with admirable effect by their manager, Mr. Dixon, and cut Roses from Mr. Turner, of Slough. These greatly helped the show, and all were very highly commended.

SITES AND SOILS, AND THEIR SUITABLE TREES.

Few districts in England offer within narrow limits more interesting and useful lessons on the sites and soils adapted to different kinds of trees than Sylva Evelyn's own district, the Homedale of Surrey. From Mr. Cubitt's residence, at Denbies, overlooking Dorking, or from the downs above Wotton, Evelyn's residence, a great variety of soils, seen at the same time over a wide landscape, occasion a great variety of trees; while from the same chalk ridge, known as the backbone of Surrey, extending the whole distance from Dorking to Guildford, the same varied landscape with the same diversity of timber is seen. A skilful forester will not fail to notice the appropriateness of the planting in this district, and he may well suspect that this must in some degree be due to the influence of Evelyn himself. It will be remembered that the great planter lived just 200 years ago, and the forester looking around him in this delightful paradise of Surrey, known as the Homedale, will observe that many of the most notable specimens of the planter's art, with several of the woods, and the salient features of some of the chief parks and gardens, are about 200 years old. He will notice Norbury in the valley of the Mole, a beautiful park sloping down the hillside to the river below, and the history of the place will inform him, what the age of the trees would indicate, that Evelyn himself directed the planting at Norbury. He had a hand, too, in the gardens at Albury, then belonging to the ducal Howards, now to the ducal Percies. The famous Yew tree hedge at Albury was all his own work; Wotton was his own property, and its noble woods of Beech, as might be guessed by their age, were created by his taste and judgment.

Our native Beech woods are found on chalks and sands and hard soils in the south and west, as on the Chilterns of Bucks, and the oolite rubble of Oxfordshire and Blenheim, and in the valley of the Severn, but not on the slate rocks of Wales, or any other part of the Principality, except as an introduced tree. Along the Surrey backbone, in many a wood, and on the hard sand of Wotton—lower greensand, an outcrop from below the chalk—the Beech finds its place on its appropriate sites. Great Yew trees grow, too, on the chalk, and are scattered here and there on the better sand loams of the Homedale, Surrey being one of its native habitats, the site of some of the largest Yews in the country, as in the case of those grand old Yews of the "Pilgrim's Way" on the Albury Downs. The Holly is another native tree growing abundantly in this district, both on the patches of tertiary sand that cover the chalk in many wild secluded spots where the indigenous wood or waste of Gorse and Heather has not been disturbed, or at Wotton, where Evelyn's Hollies were enthusiastically described by himself as forming an "exquisite viretum."

Such lesser subjects as the native Cornel and Euonymus, Aspen, Travellers' Joy, Butchers' Broom, and Hazel, or imported Box, crowning Box Hill, or pyramidal Jupiter, frequent on sand and chalk, need not detain us. We desire to notice the more important timber trees which seem to present an unusual variety in this district, and to occupy generally the soils and sites best adapted for them. In the few remaining patches of primeval forest the Oak is always found even on the poor and proverbial Surrey sands, where it covers the ground in the form of scrub, proving that Nature's list of timber trees at her disposal was far more limited than the profitable cultivation of the ground with this kind of crop required. She had probably the Scotch Fir, but that is a tree of very short duration, and all the lineal descendants of the original plantations of Fir in the sand district appear to have become extinct, although the enduring Oak scrub remains, as well as several native shrubberies, both of White Thorn and Black Thorn, such as that near Newland's Corner and another where Thorns are mixed with Hollies at Holmwood, near Dorking. But Nature, pure and simple, cannot long reign even over the most limited spaces, nor is her rule desirable, in proximity to the highly cultured properties of those fortunate wealthy gentlefolk who, having settled thick in Homedale in recent times, and who must all have been, as we maintain, more or less influenced in matters of taste and propriety in regard to planting and landscape gardening by the example of Mr. Evelyn. Mr. Gladstone remarked in the House of Commons on the general absence of a good "custom" in the management of woods, and spoke of the "superstition" of ignorance, which, unfortunately, is too prevalent. Some such custom, handed down through 200 years by the influence of the greatest English teacher of forestry, we claim for this part of Surrey.

To confirm this contention, look at the Scotch Fir plantations clinging to the steep sides and brows of the sandhills, where no other tree would yield so much profit, or lend so much beauty to the landscape. Look at the old English Elm, an introduced tree constantly found in its favourite sites in the watered valleys, growing by the streamlets, feeders of the Mole and Wey, or near the villages, to a great size, with the Ash on a stiffer soil generally, both trees yielding timber much sought after by country wheelwrights and carpenters now as in past times.

Are not the trees and shrubs at Deepdene—from the great Spanish Chestnuts on the richer loams to the modern Conifers and Rhododendrons near the house, planted respectively by the Howards and their successors, the Hopes—are not they appropriately placed?

Several Lime avenues of noble size might be named as growing on the same warm loam, especially when the roots are not very distant from water. But those who know the Homedale are aware that while its poorest lands will yield only the Birch, the better loams produce every kind of forest tree, giving to the neighbourhood exquisite variety both in the hues and the forms of the leaves.

Other characteristic trees of this district consist of ponderous Oaks and occasional Walnuts, growing in a narrow belting beneath the chalk ridge. We spoke of the lower greensand and its timber, but between it and the chalk is a strip of strong soil formed by the outcrop of the upper greensand, and commingling with it is another and much poorer clay belonging to the cretaceous series, and known as the gault. These, too, have their appropriate timber trees—the Oak, Ash, and Walnut—both in planted woods and isolated specimens. In naming the Willows and Alders that affect the waterside, the latter supplying the charcoal of the Albury powder-mills, we shall have completed our list of the trees appropriate to the various soils of this well-known district, though no doubt many kinds have been omitted.—*H. E., in Gardeners' Chronicle.*

SEQUOIA (WELLINGTONIA) GIGANTEA.

To the Editor of this magazine (*American Gardeners' Monthly*) one of the most interesting lessons learned in California was one which only one experienced in the culture of trees could learn; namely, that the Sequoia gigantea is by nature a swamp tree. The places where they grow now are comparatively dry; but two or three thousand years ago they followed the track of receding glaciers, and they received the melting snows from the tops of mountains that have no summer snows now. The ground on which these mammoth trees stand, once very wet or even swampy, has become drier through the long ages. Horticulturists know that swamp trees generally grow very well in ground that is comparatively dry, but seeds of such trees will not sprout in anything but the moist, oozy moss on the top of a swamp or damp ground. Hence, the only young trees we find in the mammoth tree locations, are where a chance seed happens to fall on a moist rock, or other damp situation. Young trees are common only in one location where clouds condense against a mountain side, and the whole situation abounds with springs and oozy spots. Here in the east hundreds of trees have been planted during the past quarter of a century, but rarely has one lived more than a few years. They do not mind the winters. We have known them stand 20 degs. below zero uninjured, but some fungus, favoured by a dry atmosphere, carries them off gradually during the summer season.

Profiting by these facts, the writer brought three strong plants from California and set them in a swamp. Usually, when we set swamp trees in a swamp, they will not grow unless they are suffered to grow into the swamp themselves. We make a mound and plant them in the mound, from whence they root down as suits themselves. These three plants have had two winters and one summer; the past winter being a terribly severe one. To-day they look perfectly sound and flourishing, and the Editor believes that he has at last discovered how to make the great tree of California thrive in eastern gardens.

ROCKWORK FOR GARDENS.

Most people in designing and forming rockwork for gardens have their own notions on the subject, and as tastes differ, so do the different kinds of rockwork. Nothing may appear easier than the construction of rockwork, but, as a matter of fact, there are few things in a garden that it is more difficult to carry out successfully. If the body of the rock is intended to be raised much above the ground level a quantity of soil and rubbish should be placed in the centre of the space. This soil, besides serving to support the rockwork, will also form a border for the plants to grow in. Lay in a store of large, rough stones, broken bricks, or stony rubbish of any kind or colour; proceed with these so as to imitate the form of natural rock as nearly as possible. Rough, bold, angular projections and deeply formed chasms are the principal features in natural scenery which please us most. A rock with a flat, unbroken surface, whether horizontal or perpendicular, presents too much sameness to the eye; therefore, in imitating nature, the projections should be varied and bold, and, unless raggedness and intricacy form principal features in the composition of rockwork, it will lose much of its effect. If on a large scale it should not be one continued line, but broken at intervals, in one part lost beneath the surface of the ground, then rising and resuming its varied forms. When this purely constructive part has been completed, the work is generally considered to have come to an end. So far as momentary effect goes this may be so, but when a really good and permanent result is wished for the following additional measures are recommended:—

When the stone has been arranged to suit the eye, the interstices should be filled up with any kind of rough mortar. Of course, fissures intended for the plants which are to cover the rocks must be left open, so that the roots may reach the soil beneath the stones. Next, go over the whole mass with Roman cement, which must be mixed with water until it is of the consistence of thick paint. Apply it with a large painter's brush. The spaces between the stones having been filled with rough mortar prevents the cement being wasted. The thickness of this on the stones need not be more than the eighth of an inch. It will unite the whole into one mass, and rockwork thus constructed is beyond all comparison better than that made in the usual way. It has none of the disjointed appearance which usually accompanies rockwork made without cement. After a few months' exposure to the weather, rockwork made in this way, if the work has been skilfully done, cannot well be distinguished from a natural mass. When the cement of itself is too light, a little colouring matter, such as lamp black or soot, may be incorporated with it. In erecting the rockwork, be careful that no absorbent material is used on the surface to which the cement has to be applied, otherwise it will peel off after frost In using the cement, moisten only a small quantity at a time, otherwise it will set before it can be applied to the work, which will, of course, render it useless.—*D. T. Y., in The Field.*

Tanners' Refuse as Manure.—M. Baudinfils, of Bron, advocates the utilization for fertilizing purposes of the water which has been used in the rinsing of skins. He also recommends the preservation of the refuse products of tanning by means of layers of used tan. He further recommends the so-called animalized tan being treated with water in which bones have been dissolved by a special process. This admixture completes the manure. It is remarked that such a method of treating animal refuse is in strict accordance with fundamental principles of natural economy, as the earth thereby receives back elements which it has indirectly furnished through the medium of the plants on which the animals in question have been fed.

SNAILS AND SLUGS.

Of all the enemies the garde ner has to encounter there are scarcely any more difficult to overcome than slugs. The insidious nature of their attacks almost forbid any attempts at capture, for they do not commence their ravages till after nightfall, and it is a strange fact, that the neater a garden is kept, and the fiercer the war we wage against weeds of all kinds, the more vigorously will this enemy attack us, so much so, in fact, that frequently in the case of small seedling plants, after we have carefully removed every weed from their beds, these troublesome pests will step in and complete the operation of cleaning the soil by removing every sign of vegetation from it. When we can find our foes, the best and surest remedy is *Lynch law;* but the finding of them is the difficulty. Although we may be "up with the lark in the morning," we shall be too late for them, as they will already have gone back to their retreats, for the slug is probably endued with sufficient common sense to understand that if the early bird cannot catch the worm, he will look elsewhere for diet, and what is more luscious to his taste than the slimy slug?

The most effectual means of destroying them is a free use of lime water. This is prepared in the following manner. First, take fresh, unslaked lime in any desired quantity and add water to it at the rate of two gallons to each pound of lime, and let it stand still, till effervescence has ceased and the water becomes clear and limpid again, the lime having sunk to the bottom. Give a liberal dressing of this solution over the whole surface of the beds infected, and the results will be as amazing as they are gratifying. For it will not only promote a more vigorous growth of the plants, but will completely demolish the slugs, as by day they bury themselves in the beds that they devastate by night, and the lime water follows them into their holes and destroys them completely. Let any of our readers who are troubled with slugs, try this plan when young seedlings are just appearing above the surface, and see the benefits derived from it. For ordinary garden purposes, an occasional drenching of the whole surface with lime water will not only prove a powerful stimulant to vegetation, but will also keep slugs and many of our other enemies in check.

If, however, we are determined to effect their capture, baiting them with bran is probably the surest method of doing so. The easiest way to proceed is to take some pieces of slate, or flat stones, or pieces of tin, and lay them about in the garden among the plants, distributing them very liberally. Just at sundown go out and place a teaspoonful of bran on each piece of slate or tin, and the slugs will soon become aware of it and begin to gather and feed on it. In about two hours, when it is dark, go out again with a lantern and a pail containing salt and water; pick up each piece on which the slugs are found feeding and throw them into the brine. This will soon make an end of them. Although we believe it is almost impossible to entirely extirpate these pests from any garden where they have once become firmly established (and what garden is entirely free from them), still from our experience we are convinced that the remedies described above, if persevered in, are the surest means we can employ to reduce their ravages to a minimum. An immense number of other methods, either for destroying them or preventing their attacks, have been recommended by various writers on the subject, a very complete list of which is given in Quin's *Garden Receipts*, whose remarks on the subject we append :—

"All who have ever had a garden or grown a Cabbage or a Cauliflower, have had to contend with snails and slugs. Dryness favours the movements of most vegetable destroyers, but the opposite holds good in the case of snails and slugs, whose greatest depredations are committed during damp weather and in early spring. The damage sustained by seedling Cabbage, Cauliflower, and Lettuce plants through their ravages is incalculable; and it is not the seed-bed alone that suffers, for even after the plants are established in their permanent quarters, they are often eaten over near the surface of the ground and destroyed, a bed of well-grown, crisp Lettuce, Cabbage, or a row of winter Celery being a favourite feeding ground with them. They are equally at home in the plant-stove or Cucumber-house, with a winter temperature of 70 degs., or under a handlight of Lettuce or Cauliflower plants, silently doing their work of destruction, unless prevented by hard frost. There are few Orchid-growers who have not had cause to lament their presence, in the shape of young growths, flower-spikes, and roots eaten off, for here their operations are not interrupted by excessive droughts or pinching frosts. The wonderful powers of instinct possessed by even such pests as these are scarcely known to those even who make their habits a life study. In the open air, where slugs and snails are more numerous, and where their food abounds in greater quantity than in plant and fruit-houses, we have not an opportunity of fully seeing how they are attracted to a given spot where food suited to their taste exists. Slugs do serious harm in the Orchid-house by eating indiscriminately whatever young roots are made above the surface of the soil, as well as young growth and flower-spikes. They do not often exist here in great numbers; but a few continually get in, often in the shape of eggs, in the potting materials, or they find their way in under the doors. In the Cucumber and Melon-house, and in pits and frames devoted to the cultivation of these plants, slugs are generally troublesome, being introduced by means of the fresh soil, which is frequently required in such houses. They are very troublesome, too, in Fern-houses, destroying the young fronds of some Ferns as they appear, such as Adiantums, Thamnopteris, some Polypodiums, &c. They have such facilities here for hiding and breeding that it is difficult to eradicate them if once they are allowed to get to a head; continual trapping with materials such as above advised, and frequent hunting for them by candle-light will, if persevered in, clear the house of them. The means required for the destruction of these, like many other garden pests, are almost as varied as the different plants and situations to which their depredations are extended. Preventives, however, are the best remedies.—*Indian Gardener.*

HORTICULTURAL SOCIETIES.

Sheffield Botanical and Horticultural.—The annual show of this society was held on the 17th and 18th inst., in the Botanical Gardens, an excellent place for exhibitions of this character. The society, we regret to say, has been most unfortunate; last year it rained incessantly the whole time the exhibition was open, this year the opening day was fine, but Saturday's proceedings were marred by inclement weather, involving a great loss to the society. The arrangements this year were perfect, the committee having done well in taking the advice, given them last year, to procure the services of a thorough practical gentleman to superintend the arrangement of the show. This they did, to the great benefit of all concerned. The show in merit was far superior to that of last year, one of the principal features being the groups arranged for effect, both in the nurserymen and amateur's or gentlemen's gardeners divisions, in which good groups were shown, but in most cases they were far too crowded. Table plants were shown in great quantity, and some good plants adapted for that purpose were exhibited. Fine foliage and ornamental plants were fairly represented, but Orchids poorly, and what were shown the judging of was very much commented upon. Those awarded the second prize, and afterwards made equal first, should have held the premier place. Florists' flowers were poor, but cut-flowers were well shown, especially Roses, those from the Cranston Nursery Company being simply grand, and easily carrying away the principal prize. Herbaceous flowers also were well shown, and attracted great attention, as also did the competition for cut stove and greenhouse flowers. Bouquets and button-holes were nicely shown the principal honours falling to Messrs. Perkins & Son, of Coventry, for an exquisite wedding and ball-room bouquet, also for button-holes.

The fruit was not quite up to the average, though some good Grapes, Peaches, and Pines were shown. The first prize for a collection of eight distinct sorts was awarded to Mr. Ward, gardener, Reddings House, Alfreton. The classes for cut-flowers and plants for amateurs were well represented, the competition in most cases being very keen, and the entries numerous.

Mr. B. S. Williams, Victoria and Paradise Nurseries, London, showed a grand collection of miscellaneous plants, splendidly arranged at one end of the pavilion, and which were greatly admired. Messrs. Fisher, Son & Sibray, sent a very extensive collection of hardy trees and shrubs, stove and greenhouse, foliage and flowering plants, cut Roses, and herbaceous plants; these occupied one of the large tents, forming an exhibition in itself. This firm also took the leading prizes in the nurserymen's classes for a group arranged for effect, Roses in pots, Pelargoniums, Orchids, foliage plants, &c., &c.

A word of praise is due to Mr. Ewing, the enthusiastic curator, for the admirable condition the gardens are in. The houses are very gay with flowering and foliage plants, and the bedding-out, which is very extensive, is first rate, both carpet and ordinary bedding showing that Mr. Ewing has studied well the plants likely to best suit the fickle climate of Sheffield, where he labours under great difficulties as regards smoke, &c.

Woodbridge Horticultural.—This society held its summer meeting on the 16th, in the Abbey Grounds, immediately adjacent to the town, under the usual favourable auspices, as the weather was fine, and a large company attended, besides which the tents were well filled with highly meritorious productions, the most noteworthy being the splendid collection of eight dishes of fruit contributed by Mr. Mill, gardener to Lord Rendlesham, consisting of large bunches of highly-coloured Black Hamburgh and Golden Champion Grapes, very fine Peaches and Pitmaston Orange Nectarines, White Marseilles Figs, a handsome Melon, Cherries, and British Queen Strawberries; Mr. Fisher, gardener to Lord Waveney, coming in second. Peaches were unusually large and good, Mr. Mill again taking first with Sterling Castle, but this order was reversed in the class for Nectarines, Mr. Fisher being first, and Mr. Mill second. Grapes were well represented, Mr. Best, gardener to the Duke of Hamilton, taking the lead in the class for two bunches of White and two of Black, while the honours for the best three bunches of Black went to Mr. Fisher, the second prize being taken by Mr. Tebbenham, gardener to Lady North, who came in first for the White, in which class Mr. Whitmore was second, and Mr. Spall third. For the heaviest two bunches Mr. Mill took the lead, and an extra was awarded Mr. Best. In the class for Figs, Mr. Fisher came in first, and Mr. Catlin second. Melons were well shown, and of high flavour, and all out-door fruit was exhibited in great abundance, the Cherries, Raspberries, and Currants being unusually fine.

The same remarks apply to Vegetables, the Potatos being very clear, and the many dishes of Peas clean and young and full in the pod, the prevailing kinds being Telegraph, Telephone, Stratagem, and Ne Plus Ultra. A good feature in the Woodbridge Show is the class for cottagers, who always exhibit strong there, and on this occasion there was no falling off, their productions being of a high order of merit.

Cut Flowers.—Though late for Roses, what there were were good for the season, the best twenty-four in the open class coming from Mr. Cant, of Colchester, Mr. Wood, of Woodbridge, being a good second; Mr. Palmer, of Drinkstone, third; while an extra was awarded to Miss Penrice, of Witton House, Norwich. In the twelve, for amateurs only, Mr. Palmer was first, the Rev. A. Foster Melliar second, and Miss Penrice third. In the class for six, the same order was followed, but in the collection of twelve Teas the above-named gentlemen had their positions reversed. Next to the Roses the herbaceous cut-flowers attracted the greatest share of attention, and these were shown in the usual grand style by the Messrs. Gilbert, of St. Margaret's Nursery, Ipswich, who had the best twenty-four, Mr. Buxton, of Onehouse, coming in second with a very meritorious lot. For twelve, Mr. Cooper, gardener to Colonel Long, of Saxmundham, was first, and Mr. Cox second.

The stands of wild flowers were put up with exquisite taste, and elicited much admiration, as they were light and elegantly arranged, the second prize lot, contributed by Miss Stidolph, being considered by many the best in the tent, and this lady took first in

the other class, for table decoration, Miss Gross coming in second, and the Misses Morley third and forth. In the class for flowers and fruit combined, Mr. Palmer, of Drinkstone, had a fine stand, Odontoglossum vexillarium and other Orchids figuring largely in it, and Mr. Mill, gardener to Lord Rendlesham, was second, the two being very close in point of merit and finish.

In the classes for stove and greenhouse plants the competition was not at all strong, the Messrs. Gilbert, of St. Margaret's, Ipswich, taking the lead for six, their finest plants being an Allamanda, and the good old Erythrina Crista-galli, Mr. Jones and Mr. Greenwood coming in second and third. For the best specimen, the Messrs. Gilbert were again to the fore with a grandly-bloomed Erica Cavendishii, but the feature in the great plant tent was the groups in the class where the space to place and exhibit them was limited to 12 ft. by 4 ft., and for this prize there were eight competitors, the first being deservedly awarded to Mr. Best, gardener to the Duke of Hamilton, the second to the Messrs. Gilbert, and the third to E. B. Rouse, Esq. For the best six foliage plants the Messrs. Gilbert were first, and Mr. Jones second, the first-named gentlemen taking the lead again for those for table decoration, and Mr. Best second. The show of Fuchsias at the Woodbridge fête is always a good one, as the plants are well grown and bloomed; but, unfortunately, the sorts are mostly old, and will bear no comparison now with the new.

The minor classes were fairly represented, but call for no special remarks, except to note the thorough manner with which the leading gentry around support and contribute to the show, which is one of the most successful held in the provinces.

ANSWERS TO CORRESPONDENTS.

Finchley Show.—We are informed that the Messrs. Cutbush & Son did not exhibit any Roses in competition at this show, and consequently did not take the second prize, as stated in our last. The firm, however, gave the first prize in the class in question, and for eight years it has been won by Mr. Pitson.

Travelling Flower Pot.—*Amateur.*—Messrs. Blake & Mackenzie, School Lane, Liverpool, are the manufacturers.

Books.—*Rose Claughton.*—Canon Hale's *Book about Roses* is published by Messrs. Blackwood.

Grapes.—*J. B.*—The berries are, as gardeners term it, scalded, that is to say, they have been caught by bright sunshine while covered with condensed moisture. You cannot undo the mischief now, but you can prevent its happening again by giving air earlier in the morning.

Name of Fruit.—*T. O. C.*—Your Peach is the Early York. The Gooseberry we do not recognize.

Florists' Gum.—*S. Brown.*—It is made of white shellac pounded fine, and dissolved in spirits of wine.

Soot-water.—*Novice.*—The best plan is to put the soot in a piece of coarse canvas or sacking, and sink it with a stone in the tank. If not applied too strong all soft-wooded plants are benefited by its use.

Names of Plants.—*H. Marks.*—Oncidium pulveruleutum. —*T. W.*—1. Lycaste aromatica; 2. Epidendrum vitellinum majus; 3. Epidendrum prismatocarpum; 4. Brassia verrucosa. —*W. T. F.*—1. Periploca græca; 2. Hydrangea quercifolia; 3. Carrya, probably C. microcarpa.—*H. M.*—Hemerocallis fulva. *W. Smith.*—1. Nerium oleander var.; 3. Santolina incana; 5. Veronica incana; 7. Rhus Cotinus, the Whig-plant; 11. Abies lasiocarpa; 12. Adiantum Capillus-Veneris. The others next week. *R. M.*—1. Acer negundo variegata; 2. Not recognizable without flowers; 3. Forsythia viridissima, probably; 4. Hypericum sp., send when in flower; 5. Campanula pumila alba.

Communications Received.—C. G.—E. J. R.—A. O.—R. D.—H. W. W.—J. C.—T. S.—S. L.—W. B.—J. V. & S.—T. B. S.—J. C.—T. Jones.—Albrighton.—F. C.

NOTICES TO CORRESPONDENTS.

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's bona fides. No notice whatever will be taken of anonymous letters.

LONDON SEED TRADE.

July 22nd, 1885.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small attendance and little trade at to-day's market. New English Trifolium is now offering, and, although the quality is good and the price moderate, the demand is slow, and we expect sellers will have to take less money to induce buyers to operate. New Rape Seed is offering, but prices are not established. Mustard is selling more freely, value unchanged. White Clover moves off slowly at full rates. Linseed is firmer, and Canary and Hemp unchanged.

COVENT GARDEN MARKET.

July 23rd.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Grapes, per lb.	0 9- 1 0	Pine-apples, Eng., lb.	2 0- 3 0
Melons, each	2 0- 3 0	—St. Michaols, each	3 0- 5 0
Peaches, per doz.	2 0- 8 0	Strawberries, per lb.	0 3- 0 9

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globo, per dozen	1 0-	Herbs, per bunch	0 2- 0 4
Asparagus, English, per bundle	-	Horse Radish, bundle	3 0- 5 0
Beans, French, per lb.	- 1 0	Lettuces, Cabbage, per dozen	2 0-
Beet, per dozen	2 0- 3 0	— Cos, each	0 1-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
Garlic, per lb.	0 6-	Tomatos, per lb.	1 0-
		Turnips, per bunch	0 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lily of the Valley, 12 bunches	-
Anemone, 12 bun.	-	Marguerites, 12 bun.	2 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Mignonette, 12 bun.	1 6- 3 0
Azalea, 12 sprays	-	Moss Roses, 12 bun.	6 0- 9 0
Bourvardias, per bun.	0 9- 1 0	Narcissus, various, doz. bun.	-
Camellias, 12 blooms	-	Pæony, 12 bunches	-
Carnations, 12 blooms	1 0- 3 0	Pelargoniums, per 12 sprays	0 6- 1 0
Carnations, 12 bun.	2 0- 4 0	—scarlet, per 12 sprays	0 4- 0 6
Chrysanthemums, 12 bunches	-	Pinks, various, 12 bunches	1 0- 4 0
— large, 12 blooms	-	Primula, double bun.	0 6- 1 0
Cornflower, 12 bun.	2 0- 4 0	Primulas, Chinese, bun.	-
Cyclamen, doz. blooms	-	Pyrethrum, 12 bun.	2 0- 4 0
Cineraria, per bunch	-	Rhodanthe, 12 bun.	6 0- 9 0
Day Lily, 12 bunches	-	Roses (coloured)	2 0- 4 0
Epiphyllums, 12 blms.	-	Roses, indoors, p. doz.	1 0- 3 0
Eschscholtzia, 12 bun.	2 0- 4 0	Roses, per dozen bunches	2 0- 6 0
Eucharis, per dozen	3 0- 6 0	Spiræa, 12 bun.	6 0- 9 0
Gardenias, 12 blms.	2 0- 5 0	Stephanotis, 12 spr.	2 0- 4 0
Heliotropes, 12 sprays	0 6- 1 0	Stocks, 12 bunches	2 0- 4 0
Hyacinths, Roman, doz. sprays	-	Sweet Peas, 12 bun.	2 0- 4 0
Iris, 12 bunches	-	Sweet Sultan, 12 bun.	4 0- 6 0
Lapageria, white, 12 blooms	2 0- 3 0	Tuberoses, per dozen	0 4- 0 6
Lapageria, red, 12 blms.	1 0- 2 0	Tulips, per doz.	-
Lilium candidum, 12 blooms	0 6- 1 0	Violets, doz. bun.	-
— 12 bunches	9 0-12 0	— French, per. bun.	-
— Longiflorum, 12 blooms	2 6- 6 0	— Parma, per. bun.	-
Lily of the Valley, doz. sprays	-	White Jasmine, bun.	0 6- 0 9
		Woodroffe, 12 bunches	-

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, doz.	6 0-24 0	Heaths or Erica, var., per doz.	-
Arum Lilies, per doz.	6 0-18 0	Hyacinths, doz.	-
Azalea, per doz.	-	Hydrangea, per doz.	9 0-18 0
Balsams, per doz.	3 0- 6 0	Ivy Geraniums, per dozen	3 0- 6 0
Begonias, per doz.	4 0-12 0	Lilium longiflorum, per doz.	18 0-36 0
Bouvardias, dozen	9 0-18 0	Lilium lancifolium, per doz.	9 0-12 0
Calceolarias, per doz.	6 0- 9 0	Lobelias, per doz.	3 0- 6 0
Cineraria, per dozen	-	Marguerites, per doz.	9 0-18 0
Cockscombs, dozen	3 0- 6 0	Mignonette, per doz.	4 0- 6 0
Cyclamens, doz.	-	Palms in variety, each	2 6-21 0
Cyperus, per dozon	4 0-12 0	Pelargonium, per doz.	6 0-18 0
Deutzia, per dozen	-	Pelargoniums, scarlet per dozen	3 0- 9 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	4 0- 6 0
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	-	Rhodanthe, per doz.	6 0- 9 0
Evergreens, in var., per dozen	6 0-24 0	Spiræa, per dozen	9 0-12 0
Ferns, in var., dozen	4 0-18 0	Stocks, per dozen	-
Ficus elastica, each	1 6- 7 0	Tropæolums, per doz.	2 0- 4 0
Fuchsias, per doz.	4 0- 9 0		
Foliage Plants, various, each	2 0-10 0		
Genista, per dozen	-		

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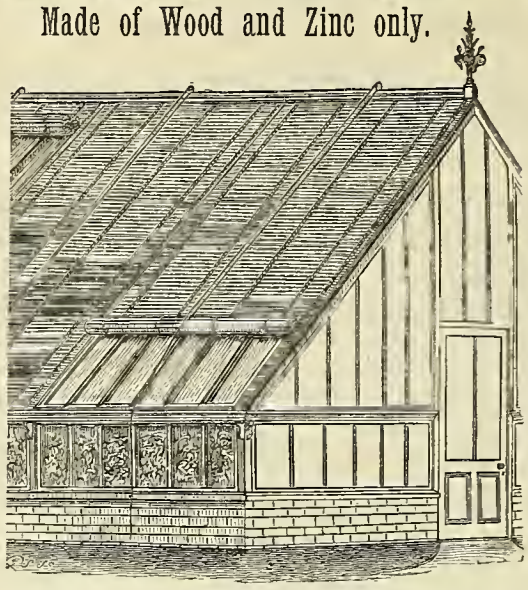

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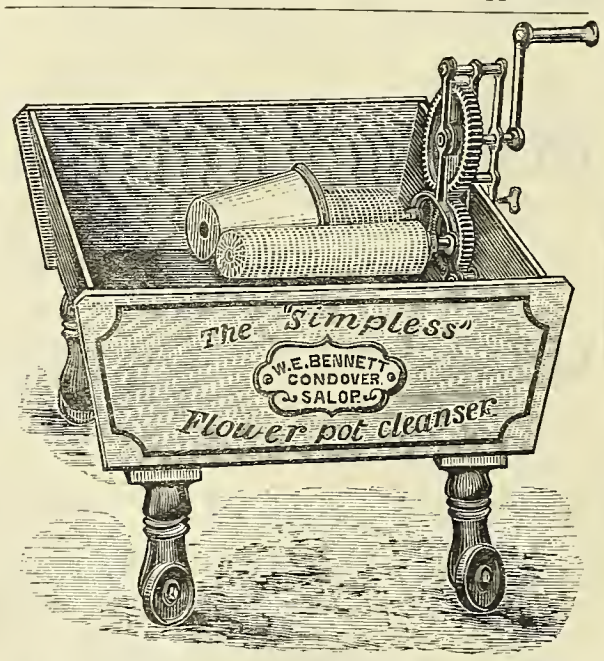

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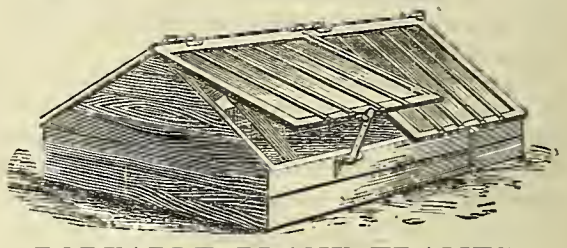

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THE GARDENING ILLUSTRATED WORLD

No. 48.—1885. SATURDAY, AUGUST 1st. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

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MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY next, August 6th, at half-past twelve precisely, by order of Mr. F. SANDER, a very grand importation of Cattleya superba splendens, the dark-flowered Rio Negro variety, in splendid order; also many large and specially fine masses of Cattleya Eldorado, with fine leaves and in specially grand condition; Paphinia cristata grandis and Sanderiana, a blue-flowered new Orchid of merit; Galeandra Devoniana in splendid masses; Zygopetalum Gautieri, Cattleya intermedia, Lælia purpurata, many Mexican and other Orchids.

On view the morning of Sale, and Catalogues had.

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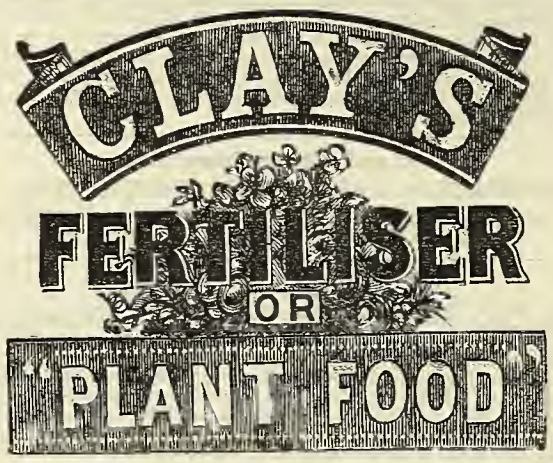

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, AUGUST 1st, 1885.

Cottagers' Shows.—It was by an odd chance that we very recently found in a southern portion of the great Metropolis an exhibition of garden and window produce which will probably stand out this remarkably hot season as specially fresh and pleasing. Flower gardens in several aspects, windows dressed with flowers and shrubs in truly beautiful form, creepers on house fronts not merely blooming but growing in great luxuriance, even Grape Vines bearing good crops of fruit, with Virginian Creepers, Clematises, Tropæolums, &c. in exceeding beauty. All this we found in the hot, parched streets, broiling as it were under the fierce rays of the summer sunshine. The exhibition gave a medley of plants, Fuchsias, Begonias, Zonal and Ivy-leaf Pelargoniums, hardy window shrubs, foliage plants in variety, Musk, Creeping Jenny, and not least, long trailing plants of the pale mauve-flowered Campanula fragilis, which oddly enough seems more popular as a town plant, and better grown there than in country districts.

But away in the country the most distressful complaints are heard in all directions of the withering effects of the heat and drought under which Potatos, Peas, Beans, Cabbages, and other ordinary garden crops are failing, indeed almost dying, and the cottagers have to look helplessly on, utterly incapable of counteracting the evil which the drought is doing. Throughout the rural districts the best cottager exhibitions of garden produce are usually in the autumn, a season when samples of the main crops which have been grown for the winter's consumption may usually be found in abundance. Such shows, as a rule, afford remarkable evidence of the capacity of the ordinary rural cottage gardener and allotment holder to produce samples of crops which often vie in excellence with those of the gentleman's gardener, who perhaps shows in other classes, or simply places a collection of garden products in the show to assist in creating an effective display.

We fear this year that cottagers will enter upon their competitions with heavy hearts. Potatos, usually their strong feature, must be very small, especially where the soil lacks holding power. Turnips seem impossibilities, for no seed can germinate in the exceeding drought, and other produce must be scarce and small. Even hardy fruits are suffering also, for the comparative absence of heavy rainfall during the winter, following upon the long drought of the preceding year, is now telling upon large trees with distressing effect; the fruits are falling, and what remains refuse to swell. St. Swithin's season has indeed been a droughty one, and even a shower would be welcomed to wash the foliage and cool the scorched fruits. Mere showers, however, will be of little service to vegetation of any sort. Trees and vegetables alike need thorough soakings, if any good is to follow, and unless supplied in the form of thunder-storms, which are ofttimes as much to be dreaded as desired, we see no present prospect of improvement.

A fortnight longer of such drought will do infinite mischief—a month will destroy almost everything. Such being the case, it is not possible to feel other than commiseration with cottagers who see not so much their customary prizes fading away as the garden crops that usually form for them and their families food of an exceedingly useful and healthful kind. Under these circumstances, exhibitions of cottagers' garden produce can hardly be looked for this season with hope or satisfaction. Having regard to these considerations, we shall look forward to the show of cottage garden produce which is to take place at South Kensington, on the 25th inst., with more than usual interest. The show of similar produce held in the conservatory last year about the same time proved to be one of unusual excellence, and was indeed a surprise to all who saw it. But we may well express doubt whether the present season can show such good results. Then cottagers rivalled private gardeners in the excellence of their productions, so much so, in fact, as to raise doubts in the minds of some of the *bonâ fides* of many of the exhibitors.

In such shows in the rural districts where every exhibitor is personally known, and his garden is an open book to all his neighbours, it is barely possible for cottagers to impose, even assuming that they were anxious to commit fraudulent acts. In that respect we cannot admit for a moment that cottagers are any worse nor indeed any better than any other class of exhibitors. Probably, to put the matter parenthetically, all are as honest as they can be, just so much and no more. In the case of this South Kensington Show, it is obvious, however, that exhibitors should be proved to be what they represent themselves to be, inasmuch as there can be no fairness in the competitions if all are not placed on the same footing as regards position in life, and garden advantages. To ensure this it is desirable that all competitors should give for reference the name of some secretary or other officer of the local horticultural society to which he may be attached, and thus enable the South Kensington authorities, if they feel a warranty to be desirable, to obtain it.

As at this show there are many classes and numerous good prizes, and as farther, competing gives admission to the Inventions Exhibition, &c., some considerable inducement is offered to cottagers in remote places to try their fortune, especially if they have really good exhibits. It is, of course, very desirable that a good show should result, but it is certainly not less desirable that the competition should be conducted with entire fairness on the part of exhibitors.

Paying Flower Shows.—A great deal of the financial success attending on flower shows depends upon the manner in which they are managed. If the popular support is to be secured it must be bid for in a liberal manner, and efforts must be put forth to enlist the active support of all classes resident in the locality. Recently the Ealing, Acton, and Hanwell Horticultural Society held a two days' exhibition in Gunnersbury Park, Ealing, by way of celebrating the twenty-first anniversary of the society. The sum taken at the gates amounted to just over £90, and that derived from the sale of tickets amounted to £94, a large proportion of the latter sum being derived from sixpenny admission tickets sold the day before at fourpence each. Despite the large attendance, it is gratifying to know that not a single cause for complaint arose; and not a particle of damage was done to any part of the grounds. There is a great future for suburban flower shows, if rightly managed. The sum of £250 is annually received by the Ealing Society in the form of annual subscriptions; and special prizes to the amount of £75. Two exhibitions are held annually—one in July, and one in November.

Gardening Miscellany.

Flower Shows for Next Week.—*Monday:* Great Horticultural Exhibition and Botanical Congress at Antwerp. Northampton Horticultural Society's Show.—*Tuesday:* Oxford Union Carnation and Picotee Show.

Mr. Harry Veitch had the honour of presenting Princess Beatrice with her bridal bouquet, which was composed of the choicest white flowers in season, and in the centre was placed a sprig of myrtle from a tree at the Swiss Cottage at Osborne, which was struck from a similar sprig in the bouquet also presented by Mr. Veitch to the Crown Princess of Germany on her marriage in 1858.

The report of Peter Lawson & Son, Lim., Edinburgh, states that after paying all the expenses incurred in the formation of the Company, and allowing for bad debts, the accounts show a surplus of £5,880 11*s.* 11*d.* A dividend at the rate of 10 per cent. per annum is declared, and a balance of £5,233 0*s.* 3*d.* is carried forward.

On Tuesday next the Provisional Committee of the Oxford Union Carnation and Picotee Society will lay out a feast of Carnations in Mr. E. S. Dodwell's garden at The Cottage, Stanley Road, Iffley Road, Oxford, of which all lovers of the flower are invited to partake. At 3 o'clock a luncheon, presided over by the Mayor of Oxford, will be provided in the Hall of Cowley S. John's High School, Iffley Road.

We understand that the tender of Messrs. James Veitch & Sons for supplying the London parks with bulbs has again been accepted by H.M. Office of Works.

Mr. Cove, for the last five years gardener at Stowford Lodge, Ivybridge, has been engaged as gardener to Col. Coryton, Pentillie Castle, Saltash, Cornwall.

The total number of visitors to the Glasnevin Botanic Gardens, Dublin, during 1884, was 326,914.

Horticulturalists will be busy next week at Antwerp. According to the programme Monday will be devoted to meetings of the Congress, and at half-past eight p.m. an official reception by the Burgomaster in the Town Hall. On Tuesday the Congress meetings will be resumed, and in the evening there will be a banquet at the Cercle Artistique Littéraire et Scientifique; Wednesday, excursion to Ghent; Thursday, botanising excursion in the Campine; and Friday, excursion to Brussels.

At a meeting of the Royal Horticultural Society, held on Tuesday, the following gentlemen were elected Foreign and Corresponding Members, viz.:—H.M. the King of the Hellenes, K.G.; His Majesty the King of the Belgians, K.G.; H.S.H. the Duke of Saxe-Coburg Gotha, K.G.; H.S.H. the Grand Duke Nicholas of Russia; Rev. M. J. Berkeley, F.R.S.; Edmond Boissier; Alphonse de Candolle; Professor Asa Gray; Lieut.-Gen. H. E. de Greig; Sir J. D. Hooker, K.C.S.I., C.B., F.R.S.; George King, M.B., F.L.S.; Sir Ferdinand von Mueller, K.C.M.G.; Charles Naudin, Sc. D.; Professor J. E. Planchon; Dr. E. de Regal; Professor H. G. Reichenbach; Dr. Richard Schomburgk; Lewis A. Bernays, Professor Maxime Cornu; Casimir de Candolle; Count Oswald de Kerchove de Denterghem; A. De la Devansaye; Professor Du Breuil; Dr. A. W. Eichler; O. Fenzi; Count Francis von Hohenstein; Fr. de Cannaert d'Hamale; Dr. A. J. Keiner; Professor Peter Macowan, B.A.; Max Leichtlin; Charles Moore, F.L.S.; Dr. Edouard Morren; Baron Edward Oppenheim; Professor C. S. Sargent; Henry L. de Vilmorin; Sereno Watson; H. Wendland.

Grand National Dahlia Show.—We are requested to announce that, at a recent meeting of the subscribers to the prize fund for the show to be held in September next, at the Crystal Palace, it was decided to offer a prize, to be called the Turner Memorial Prize, as a memento of the late Mr. Charles Turner, of Slough, who laboured so assiduously towards the establishment of these exhibitions. Several subscriptions, varying in amount from 2*s.* 6*d.* to 21*s.*, have been received for this object. Those who desire to contribute either to this or the general fund are requested to send their subscriptions within the next few days to the Hon. Treasurer, Mr. Thomas Moore, Botanic Gardens, Chelsea, S.W., in order that the conditions of the prize may be settled at the next meeting of the Committee, which will take place shortly.

GREENHOUSE AZALEAS.

Those who were in the habit of seeing the Azaleas that used to be exhibited at the principal horticultural shows some years ago, often make the remark that these plants are not now nearly so well brought out as they used to be. And few, I think, who are in a position to give an opinion in the matter, will question the correctness of the assertion. Why it should be so seems difficult to determine; for although the present race of hybrid Azaleas that have sprung from the Indian species have been sometimes represented as the plants best calculated to test the skill of the hard-wooded plant-grower, still I do not think they have any claim to be such. Not only are they much less liable to get into an unhealthy condition than many other things that might be named; but, in addition, they are naturally much longer lived than the majority of hard-wooded subjects that are cultivated in pots; that is, providing they receive treatment such as is requisite to their well-being. It is to the absence of this treatment that I think is traceable the indifferent condition which Azaleas are often seen in, alike when grown for ordinary decorative purposes as on the exhibition stage.

In determining the course of cultivation that any plant is to be subjected to, it is necessary to give some consideration to the conditions that it exists under in a state of nature, for though the hybrid Azaleas in question are, like most other plants that have originated from crossing natural species, stronger in constitution than their progenitors, still their nature is little changed. Coming, as the original kinds do from the hill districts of India, where they are subject' to a long summer and a good deal of heat and moisture, it follows that to have them in a satisfactory state something similar in the line of treatment must be pursued; in place of which it oftener than not happens that they have to submit to something widely different. Take, for instance, such as have to be kept quite cool so as not to allow them to flower until May or June, in the way exhibition plants to come in for the principal shows must be. Plants kept back as late as this, to do them justice, require afterwards to be kept the summer, and well into the autumn, in a house that is warm enough by economising all the sun-heat possible, and the use of a little fire in cool, dull weather, to enable them to make growth and plump up the buds as they require to be, and without which the next season's flowers will be both much fewer and much smaller individually than they should be. One of the principal causes of Azaleas that are used for late blooming, either for decorative use or exhibiting, flowering indifferently, is through the wood and buds not getting hardened up before the cool autumn weather comes on, when there is not enough warmth to admit of this. Where the plants are in this state, when the season for further maturing them is past, quantities of the then half-ripened buds go blind before spring, whereas, when they are plump and hard, nothing less than bad treatment will cause them to fail in this way.

Regarding Azaleas that have bloomed as late as the middle of April and later, and that are turned out in the open air in the summer with their young shoots soft and the buds not set, in the way that great numbers are treated it is no wonder that the flowers the following spring, if even they are numerous enough, do not come more than half the size they should do. With plants that have been forced to come into bloom early in the winter, and that consequently are afterwards kept in a temperature more or less calculated to promote growth, the buds have time to set and get matured early, in which case, turning them out-of-doors will not be much detriment, although, for my own part, unless where the growth had been so accelerated that there was reason to suppose the plants would come into flower before they were wanted, I would rather have them under cover.

Another matter of equal importance in the cultivation of Azaleas to that of getting the buds full sized before winter, is that the leaves are never allowed to suffer through the attacks of insects—thrips and red-spider. If these pests are allowed to remain even for a short time on the plants they weaken them, through the injury they do to the leaves, in a way that always shows itself in the bloom the season following, especially in the colour of the flowers, which, when the plants have suffered in this manner, are always deficient in colour.

The immense plants of old kinds of Azaleas which several of the market-growers of cut-flowers have—some of which are fifty years old—and so large that they cannot be got out of the houses in which they are grown, and although forced every year to bloom early do not get to coming in too soon, are sufficient evidence that, with right management, early forced Azaleas do not require to be turned out-of-doors to prevent their coming into bloom sooner than wanted the season following.—*T. Baines.*

CROXBY HOUSE GARDENS, HOUNSLOW.

Until that very highly esteemed member of the nursery trade, the late Mr. Charles Lee, of the famous Hammersmith firm of that name, took up his residence in the High Street, Hounslow, and possession of the large expanse of enclosed garden behind, few perhaps had heard of the gardens above named. But Mr. Lee, who was not merely an able and successful tradesman, but also an enthusiastic horticulturalist, resolved to utilize these gardens for many experimental purposes, and being favoured with what is unquestionably a good natural soil, proceeded to plant numerous kinds of fruit and other trees, especially in standard form, his object being, living then in a market garden district, to discover how far certain kinds of hardy fruits, not common in market orchards, might be found suitable for that purpose, and thus aid the introduction into that section of fruit culture of kinds superior to and more profitable than are many now in common cultivation.

How far Mr. Lee was successful it would be difficult to say in his lamented absence; but the present season seems so far to have favoured fruit production on the numerous fine trees he has left behind, that some tangible information may well be looked for later in the season. In any case we shall have in this quest the assistance of Mr. Thompson, for many years Mr. Lee's able gardener, and who happily still conducts the gardens now that Messrs. W. & E. Wells, market gardeners, have them in occupation. One thing certain is that very many assumed good kinds, especially of Pears, were found wanting in the needful requirements, and soon had their heads removed, to be replaced by others of more value, for happily there is this divergence between vegetable and animal life, that if in the latter case a bad head, which it is well for the benefit of society should be taken off, is usually allied to a vicious body, and both are best out of the way, the body of some fruit tree which has a bad head may have a better one put on to it by the simple process of grafting, and thus combination is obtained, which is almost always productive of excellent results. If the same process could be carried out in the human family it would not be difficult to find many a walking tree that would greatly benefit by grafting.

But leaving the hardy fruits for the present, and until the produce is in a more advanced condition, we are content to allude just now to the very successful efforts made by the Messrs. Wells through Mr. Thompson to introduce the culture of market fruits and vegetables under glass, as seen in Strawberries, Peaches, Grapes, Tomatos, and Cucumbers; also Chrysanthemums in the autumn. The chief Grape grown for market is Madresfield Court, and admirably it is done. The bunches are large, and in almost all cases of the correct tapering order, the berries very fine indeed and richly coloured; the crop is good, and there is no cracking. Worked on the Black Hamburgh, which seems to make a capital stock for the Madresfield, the finest berries and of course bunches are found, whilst on its own roots, though the berries are rather smaller the colour is deeper. The Vines are somewhat heavily cropped, as is the wont of market growers, and it may interest some to learn that good samples of this grand Grape always secure a much higher price in the market than do the abundantly grown Hamburgh.

The roots are in outside borders, and it is well such is the case, for Mr. Thompson holds that the primary cause of cracking with this Grape is found in not merely excessive but in even slight moisture. For that reason not only is air given both above and below night and day during the ripening period, but that also every effort is made to keep down moisture, and nothing requiring water is left in the house, the floor being kept as dry as possible. Mr. Thompson mentioned that on the Sunday preceding our visit, heavy rain fell somewhat suddenly, and the top lights were hurriedly closed to prevent any moisture entering the house. Yet in spite of this precaution, enough entered to cause several berries on a bunch to crack, just where the moisture was felt. It is obvious that with inside borders water must be liberally given during the ripening period as at other times, and that would act injuriously on the berries. The vinery is not overdone with heating power, but the Vines are started early, and at the time of our visit the crop had been largely thinned and sold.

A large lean-to Peach-house, having originally a front elevation of only 4 ft. in height, had a year or two since its roof bodily lifted 3 ft. higher, that extent of erect frontage being let in. Thus we find a house 60 ft. long and now with vertical training-room for the trees some 15 ft. in height, and the house is practically filled by three splendid trees, each about 19 ft. in length, which have been planted eight years. One is Gross Mignonne and two Violet Hative. There is not an atom of decaying or dubious wood about them, all is luxuriant — growth and leafage. The crop at the time of our visit had been marketed, but we could well accept the assurance that it had been a grand one. Market growers do not as a rule thin so hard as private gardeners, hence their fruits are not always so large, indeed good sound Peaches of fair size find a more ready sale than do very big ones.

A long lean-to house 100 ft. by 13 ft. full of Tomatos in full growth and bearing is a very interesting sight. This house was started early in the spring, being then planted for the first time. A slightly raised ridge of soil runs along the front, on which are planted at intervals of about 13 ins. plants of one of the old forms of Tomatos, the name of which is not known, but it is a marvellous cropper, plants during the season carrying 20 lbs. of fruit each, fruit large, rich in colour, and somewhat sutured. Many fruits resemble those of Trophy, but always show a full and slightly raised centre, whilst those of Trophy almost always show a hollow centre. These plants are all rigidly pruned hard to a single stem, and the robust growth and grand crops of fruit testify to the excellence of the method. Each plant is tied to a stake fastened to the wires above, and has reached an height of 5 ft. Standing on the floor of the house are three rows of Trophy in 11-in. pots, all trained to single stems also, and fruiting marvellously. The best price is always obtained for good, even-sized fruits, well coloured, and from 5 ozs. to 6 ozs. each. Mr. Thompson once gathered a fruit weighing 20 ozs.

Two adjoining span-roof houses of the same length and width, and which were in the spring and early summer filled with pot Strawberries, now have growing finely Tomatos in the one, and Cucumbers in the other. In both cases a ridge of soil has been laid up on the shelves on either side, and in this the plants root freely, and are growing luxuriantly. The Cucumbers are Telegraph, and full of fruit, very long samples are not favoured, neither are they in the market: from 13 ins. to 14 ins. with short handles suit the popular taste best. Curiously enough, Mr. Thompson finds in Viscomtesse Hericart de Thury the very best early forcing Strawberry, to his taste, and fruits it grandly. It is followed by Sir Charles Napier, of which kind superb fruits are obtained. We shall make a point, if possible, of seeing these Strawberry-houses next May.

Aster diplostephioides.—The genus Aster includes within its limits many plants of great value, but none of them are likely to exceed in interest the present species, should it prove to be perfectly hardy, of which there is little doubt. This opinion will scarcely be called in question when we state on the authority of M. Max Leichtlin that the flower-heads are nearly 4 ins. across. The plant is said to grow about 18 ins. high, the stems arising from a tuft of oblong lanceolate entire strongly-nerved foliage. The flower-heads are borne singly at the summit of the stems, which in a strong plant are numerous, the ray florets being of a bright violet-blue, those of the disc or centre deep yellow. It appears to be somewhat Alpine in character, and succeeds best in somewhat cool soils in preference to those of a light or burning nature. The plant has however been in cultivation so short a time that further trials are needed to determine its requirements. It is easily raised from seed, which will probably give flowering plants the second season. A native of the Himalaya.—*W. Thompson.*

STEPHANOTIS FLORIBUNDA.

This, the sweetest and most useful of all climbers, is by no means difficult to grow. The soil most suitable for its culture is equal parts of peat and loam, with a dash of well-decomposed cow-manure and a liberal admixture of coarse, sharp silver sand. It enjoys a high temperature, from 70 degs. to 80 degs., when growing and flowering, although it will consent to flower and do well in a much lower one, as may be seen in the nurseries of Messrs. Fisher, Son & Sibray, Handsworth, near Sheffield, where it is planted out and trained along the roof of a house in which the temperature ranges from 50 degs. to 55 degs., and in the autumn I have seen it smothered with its snowy-white, wax-like flowers.

STEPHANOTIS FLORIBUNDA, ELVASTON VARIETY.

Strictly speaking, however, the Stephanotis is a stove plant, a native of Madagascar, and consequently it flourishes best in a high temperature and in an atmosphere loaded with moisture. Whether planted out or grown in pots the Stephanotis should be well drained, as in the growing season it requires an abundant supply of water and it is also very sensitive of stagnant moisture at the roots; therefore, if inefficiently drained, the plants cannot be kept in good health. During the growing season weekly waterings of clear, liquid manure-water are very beneficial, as also is an occasional dusting of Clay's or Standen's Manure.

The Stephanotis should always be trained in a position where it can get as much light as possible, training across the roof at right angles with the rafters being preferable to training up or down the rafters, as one frequently sees them. The leading shoots should be kept a foot or more apart, as it is only by thoroughly ripening the young wood that you can fully develop the floriferousness of this lovely and deservedly popular plant. After flowering and when the wood is ripe is the proper time for pruning, and various modes are adopted by different cultivators, some pruning them almost as close as the Grape Vine. My practice is to cut out all the weak and exhausted growths and lay in thinly a few of the strongest as leading shoots each year.

Another important and indispensable aid to this plant is cleanliness, and much can be done to secure this by daily attention with the syringe. The Stephanotis is subject to all pests that infest the stove, more especially mealy-bug, and the better the cultural conditions the faster they increase, unless water is daily dashed on their mealy coats with all possible force through the syringe or garden-engine, so as to disturb them. They cannot thrive or live long if frequently moved in this way; but, unfortunately, when planted out and trained on the roof, all cannot be attacked by this means, those on the upper side next the glass being out of the reach of the syringe. I have Stephanotis planted out in a house with movable lights, and to get at the mealy-bug or scale that may have escaped, I lift the lights off and give the growths a good dressing with Hughes' Fir-tree Oil, at the rate of a quarter of a pint to the gallon of tepid water, a never failing remedy for both bug and scale; but care must be taken to apply it in the evening. This I have done when the plant has been full of growth and in bloom, without discolouring the latter or damaging the former.

After flowering, the Stephanotis should be rested for several months by withholding water by degrees, and keeping them in a lower temperature; thus, by having several plants, and varying the growing and resting season, it is possible to have Stephanotis bloom throughout the greater part of the year. There are several varieties of Stephanotis floribunda, but the most floriferous one that I have met with is the Elvaston Castle variety, which Mr. B. S. Williams sent out. I have frequently seen batches of this from the cutting-box, whereon it would be almost impossible to find a single joint without a truss of bloom.—*Wm. Elphinstone, Shipley.*—[We are indebted to Mr. B. S. Williams for the use of the accompanying illustration of the Elvaston Castle variety, which flowers with greater freedom than any other variety of this plant that we know of.—*Ed.*]

ON JUDGING GRAPES.

The remarks on this subject at p. 746 appeared at an opportune moment, and I should think the writer must have had in his mind, at the time he penned his practical and much-called for comments, the awards of the judges in the class for Muscats at the recent Fruit Show at South Kensington, in which case three large unripe bunches of Muscat of Alexandria (the berries being quite green) were placed before two lots of average sized and fairly well coloured bunches of the same variety. Before and after the judges had made their awards, it was the general opinion of gardeners—Grape growers—that those exhibits which were placed second and third would and should have been placed first and second respectively, and that the three bunches of green berries (which, had they been left on the Vines six weeks longer would have been fine examples of good culture) should have been marked, as you very properly state, "unripe." This would—as you also truly point out—have a wholesome effect on exhibitors, in so far that the staging of large bunches—or small ones for that matter—of unripe Grapes would soon become a thing of the past, as it justly deserves to be.

Exhibits of any kind, but particularly fruit, should receive no consideration from the judges as to what the individual exhibits had been a few weeks earlier, or what they would become a few weeks hence. The judges should simply be guided by what the exhibits are or ought to be at the time the awards are being made. Such awards as those indicated above, made, too, in the Gardens of the Royal Horticultural Society of London, and I think I am right also in saying by members of the "Fruit Committee" of that Society, who invariably award the prizes on such occasions, and whose opinion or verdict on the subjects brought under their notice should be such as can be accepted by fruit-growers throughout the country as the "standard" and "collective points" of excellence, such awards, I say, and coming from "head-quarters," too, are calculated to mislead as regards the points by which Grapes should be judged, and of which ripeness is not the least. Moreover, whatever class of bunch or bunches the judges select for first prize should be adhered to in making the second and third award, and the judges, too, should be noted growers, practically acquainted with the points of excellence which together constitute a good bunch of Grapes, as well as possessing a knowledge of the characteristics peculiar to certain varieties, the development or non-development of which should have due weight with the judges in making their awards.

A show-bunch of Grapes should be what is known amongst gardeners as a "single" bunch. This should be symmetrical, the berries large, well coloured to the foot-stalks, and having a good bloom, and of course the larger the bunch or bunches possessing all the above-named points, the more credit is due to the grower, who undoubtedly would, or at least should, be placed before exhibitors having smaller but in every other respect equally good bunches, at least, such is the opinion of "*A Grower and Exhibitor.*"

Mikania apiifolia.—This is a recently introduced ornamental-leaved climber. It is a native of Brazil, and hence requires a stove temperature. The plant figured in *The Illustration Horticole* is represented as twining round a stake, and has somewhat of the general habit of a small Clematis. The leaves are dull green, and composed of five coarsely-toothed leaflets. It is a member of the large composite family, and said to be of comparatively simple cultivation. The flowers are not represented, but other species of the genus vary from white to rose-colour, with the structure almost of Eupatorium, to which it is closely allied.

SCOTTISH GARDENING.

Pea Growing.—Notwithstanding the supposed advancement which has been made in raising "new kinds" of Peas, and the frequent references made to the cultivation of this favourite vegetable, I am inclined to believe that the great improvement on the varieties with which we were well acquainted in our youth is more fancied than real; and so far as success in producing quantity goes, we feel bound to admit, most reluctantly, that our fathers had the advantage. While it is easier to grow Peas in northern districts under ordinary circumstances, yet in the south, by special cultivation, one need not fear the drought to the extent which some dread sun-heat with absence of rain. In those districts where Peas are largely grown for market and for seed to supply the trade, means must be adopted to prevent a failure of the crop, which also means a loss of capital. Where the cultivation has been of a high order the crop realized is correspondingly good, and if well marketed is a very remunerative item in garden farming; indeed, we know of one case in which the Pea crop saved the tenant from giving up his farm; his crop being excellent, and the farm situated in close proximity to a thriving town, gave ready sales and quick returns, and the cost of transit was nominal. The cultivation of that farm generally was discreditable in the extreme, even in that part of England, where little in the way of farming seemed to be understood by farmers, except the requirements of cattle and sheep; but the preparation of the land for Peas was special, being ploughed and reploughed, harrowed and reharrowed, but the portion of labour and expense devoted to manuring the land was the chief thing which led to success—farmyard manure and artificial manure was applied with no stinted hand.

In gardens where the crop is propped up, weeded, surface stirred, and may be watered, it often collapses before much more than the value of the seed has been realized in the shape of Green Peas. If a thorough preparation at the beginning is made, results need not give much concern. It is sometimes argued that rich land gives a profusion of haulm, but not of Peas, but this is only experienced under certain conditions. Were we in charge of low-lying ground with damp subsoil and deficient drainage, the manuring would have due consideration, and we think that strong cow-manure would not be used—probably leaf-mould, rotted straw, old turf, burnt soil, or whatever comeatable material could be had which would keep the land open and sweet if possible, but at the earliest opportunity such land would undergo manipulation which would affect its irriguous condition. But with land in fairly healthy condition we would imitate the liberal portion of our old friend the farmer's practice, by allowing unstinted quantities of farmyard manure to be incorporated with the soil. In deeply trenched ground, where the roots can go down away from the burning sun and be safe from extremes of wet, good Peas can in most cases be gathered, even if the manure supply has been limited, and watering not practised; except watering can be done in a manner to soak the soil right to the extreme points of the roots, it is labour lost, and something worse—it is a positive injury.

An evil not uncommon is sowing too thickly—the straw of strong growers smothers the blossoms. All kinds of Peas do not require to be sown alike, and as a rule those which are to supply the first crops may be sown more thickly than such strong growers as British Queen, Champion of England, Ne Plus Ultra, or other later kinds. We have often drawn wide drills and planted as one would Broad Beans and Scarlet Runners, and when as high as the stakes would support them they would receive a general topping. We may note here a salutary lesson we once received in "topping." A not very handy labourer was put to clean and hoe the soil about a number of fine rows of Peas, and instructed to top the strongest stems; but his love of economy of labour, or some other commendable virtue, prompted him to seize a pair of hedge shears and make a quick and thoroughly neat job by clipping every stem as close as the stakes would allow. Anger and vexation we were soon compelled to turn to mirth at the grotesque appearance of the poor Peas denuded of their fine foliage. To save the Peas seemed at first impossible, but repeated soakings of water, succeeded by careful and effectual mulching, and the influence of a hot sun, soon caused a second growth, and never in our recollection did we ever have such an abundant supply (to the end of October) of excellent Green Peas; thus real good emanated from what appeared at first to be a decided evil.

It has been a practice, commonly adopted in Scotland, to sow the earliest Peas in November, in preference to the general system of sowing in boxes, &c. later, using at bottom leafy soil or turf, and we know where success (in most cases) has attended the system of autumn and early winter sowing. By the precaution of keeping the seed well to the surface, covering with healthy dry soil, and using means to keep vermin in check, Peas are thus often had equal to the best grown by any other means, and many who have plenty of glass at their disposal prefer the older method of autumn sowing in the open grounds. These autumn sowings are succeeded by others sown during January, February, March, and so on. The checking of rats and mice is generally accomplished by using red lead dusted over the seed. Barley chaff, chopped Furze, hedge trimmings, and such like placed in the rows, after sowing, and nicely covered, acts as a preventive, and, we think, is advantageous to the seed; such coverings must be conducive to warmth. When raising Peas under glass for early supplies there is often much unnecessary work which affords no tangible advantage over more simple means. Small pots, strips of turf, drain tiles, narrow boxes, and so on, we think, are not equal to sowing the seed in wide boxes, using soil which the roots can cling to and which will be carried by the fibres to the ground at planting time during March.

Our earliest recollections of good Pea growing by simple means was by Mr. Thomson (now of Clovenfords), who made a simple matter of all garden work. In the early part of the year Mr. Thomson had a goodly number of boxes arranged for the different kinds of Peas to be sown. Two or three coming in at different periods, when sown simultaneously, give useful successions. A thin layer of open rough soil was placed on the bottom of each box; over this the Peas were spread thickly, watered, then covered with charcoal dust, plenty of such useful material being always at hand: the young Pea tops grow through such material unimpeded. The boxes were placed in a vinery or Peach-house (not coddled) till the Peas came up, and then were kept airy, with plenty of light, till they were ready to plant out. A border was well trenched and manured, and the Peas were planted out (on a fine day), lifting them in tufts from the boxes, all the soil clinging to the roots. The work being carefully done, they never seemed to get a check, but grew on and fruited abundantly. Staking was carefully done for protection immediately after planting. The chief cause of success seemed to be from having the soil thoroughly prepared beforehand. The roots of the Peas had free access downwards, and neither mildew nor any other evil resulting from drought was experienced.

The favourite early Pea in those days was Sangster's No. 1. It has many aliases, but is an excellent Pea to-day. Old kinds, such as Veitch's Perfection, Ne Plus Ultra, Champion of England, and British Queen, still retain their admirers, and are hard to beat. A nurseryman in Surrey told us, when discussing the merits of Peas, old and new, that he always grew Ne Plus Ultra because of its productiveness and excellent flavour. By sowing in the usual manner during November and December he was able to gather good crops early in June, and kept up successions of the one kind till the end of the season. There is often a difficulty with stakes by those living near towns. A careful selection of dwarfs grown well gives a large quantity of good Peas, more in proportion to taller kinds. The "Pea-trainers" which are destined to take the place of the old-fashioned stakes answer the purpose well, but to get a stock to stake all one's Peas is a costly item in garden expenditure. We have invested this year in these trainers, and find them neat and useful, but the expense is formidable; £20 does not go far towards meeting the wants of a moderate place with "trainers."

We notice that in some nursery catalogues kinds of Peas are recommended to give supplies during May from the open ground, but I fear few Peas are gathered during May in northern counties in England or in any part of Scotland; doing our best we cannot manage a picking before the second week of June, and this year (one of the latest seasons on record) we got no Peas before the third week of June, and these grown in borders where large quantities of turf were added; the addition of such material almost renders crops drought proof. Watering or mulching we have not used yet, and the Peas are green and promising, but no rain has fallen since May to reach the roots of Peas. We advise leaving watering alone except it can be done in a thorough manner, moistening the soil below the roots, then applying mulching efficiently; but those who object to trenching, I fear, will not have their difficulties with Pea-growing to seek in seasons dry and parching like the present.—*M. T.*

SELECT HARDY PERENNIALS.

(*Continued from p. 743.*)

Erodium Manescavi.—This is probably the showiest species of this genus and certainly one of the best. It is adapted for either the rockwork or border, and is a most profuse bloomer; the tufts of leaves are very graceful, and attain a height of 1 ft. or thereabouts, from which issue numerous flower stems, each bearing an umbel of flowers of a purple-red colour. It commences flowering about the beginning of July, and continues till quite late in the autumn. It is best propagated by division of the root-stock and also by seeds; and the former operation is best performed in the early part of the year, not later than the first week in April, unless there are conveniences for potting the plants and placing them in cold frames, keeping them close till well established, and then after due preparation again planting them out. This may seem a good deal of trouble at first sight, but it is as naught compared with the losses and failures that have come under our notice consequent upon plants having been divided late in the season, and not having sufficient time to establish themselves before hot weather sets in.

Eryngiums.—In these we have a group of picturesque plants holding among perennials a position equivalent to the genus Pandanus among stove plants, very interesting and beautiful in their way, but unfortunately not altogether hardy in all soils. Where high and dry positions on the rockery can be afforded them, they form quite a feature, and are always admired when seen in good condition, and where the soil is of a sandy or stony nature they are well suited for isolated positions on the lawn. The best kinds are E. amethystinum, height 3 ft., and having very spiny leaves; the upper part of the flower stems and also the flower heads and bracts are of a pleasing amethystine-blue. In positions near the sea it makes an exceedingly handsome plant, and it may be used with good effect as a pot plant for conservatory decoration. E. pandanifolium is a very fine species, particularly spiny; it is a conspicuous plant when in flower, the flower stem often attaining a height of 8 ft. or 10ft. and having somewhat branching heads of reddish-purple flowers. E. serra is a distinct and handsome plant, though less hardy than the two species just named.

Francoa ramosa.—Till quite recently the value of this good old plant was not discovered, and in consequence it fell into neglect, but now its merits are so fully realized that in many large plant-growing establishments its culture is made somewhat of a speciality, and it is grown by hundreds for the sake of its long branching spikes of pure white flowers, which are so abundantly produced from August to October. Strictly speaking, it is like the last group to which attention has been drawn—not thoroughly hardy in all localities; indeed, it is more generally met with in the greenhouse, and not regarded as being anything approaching hardy, though in light warm soils or near the sea it withstands our severest winters without injury. Its special or greatest value is when specially grown for autumn and winter blooming in pots, at which time it is almost, if not quite, unique. For this purpose cuttings should be inserted singly in small pots in the early part of the year, and grown liberally through the summer, or the old plants may be divided and

potted on as required, according to size; it is very easily grown, and all who possess a cool greenhouse should possess this plant too; it also comes freely from seed. F. sonchifolia is in general appearance similar, but having rose-coloured flowers.

Funkias or Plantain Lilies.—These constitute a beautiful genus of handsome foliage plants, specially adapted for isolated positions, for massing, or for exhibition purposes. Commencing with the small, though extremely beautiful variegated form of F. undulata, we have in early spring an exceedingly attractive plant, growing only a few inches high; this is specially adapted for pot-culture under glass for the sake of its foliage; the flowers are blue, though not attractive. There are two other kinds which are good for forcing, and for this purpose are strongly recommended; these are F. speciosa and F. grandiflora. In the case of the former the spikes are slender, and the flowers pure white, and abundantly produced. In the latter case we have an exceedingly handsome summer foliage plant, and a fine plant for late autumn flowering, too late, in fact, to come to perfection out-of-doors, so that it is well to lift it, and place it in a cool-house till required for use; the pendant blossoms are large, pure white, and, as an additional point in their favour, are sweetly scented. This plant cannot be too highly recommended. Then, among the finest for general effect are Fortunei, and its variegated form, with broad handsome foliage, and Sieboldi, a noble plant, with large, broadly-ovate glaucous leaves. This is probably the best for producing a subtropical effect. The whole of the members of this genus delight in a deep rich, rather stiff soil, for they make a great quantity of roots, and all are readily increased by division.

Gaillardias.—In the whole host of hardy-flowering perennials we have none which produce a more brilliant display than these. They attain a height of from 2 ft. to 3 ft., and are of compact habit of growth; the flowers, which in colour are exceedingly varied, range from 2 ins. to 4 ins. across, and are exceedingly effective, with their crimson, orange, and yellow flowers; these are produced in great profusion from the early part of July till checked by autumn frosts. They are well adapted for cut-flowers, and last a long time in a cut state. Their culture is simple in the extreme, being reproduced from seed, in freedom equalling many annuals. As might be expected, the seedlings vary considerably, and many very fine forms are now in commerce, the following being the best:—Grandiflora, 3 ft., with large handsome flowers, 2 ins. to 3 ins. across, of crimson, orange, and yellow; this makes a most splendid bed. Some two or three years since, I planted two or three beds of seedlings, which were alike remarkable for the great variety of colour, as well as for general effect. The largest-flowered kind I know is grandiflora maxima, the individual flowers being 4 ins. across, a grand plant. G. hybrida splendida, too, is very fine, growing 2 ft. high, producing in great profusion effective flowers 3 ins. across, the colour being bright red and golden-yellow. Some other fine kinds are Hybrida Telemæquei and Loiseli, both sufficiently distinct for garden purposes. Seeing that single flowers of the Marguerite type are now so much in public favour, these plants should be among the most popular, for I know of no others calculated to produce such a brilliant effect during the autumn months.—*J.*

NOTES FROM GARDENS.

Summerhill, Pendleton, the residence of W. Agnew, Esq., M.P., although so near the smoke of Salford, Pendleton, and Manchester, is a pretty sight just now. The house is most pleasantly situated upon a rising sand bank, and fronts the S.S.E., overlooking a fine stretch of lawn, beds of shrubs, herbaceous borders and Rose beds, and the whole is well enclosed and sheltered with trees. The house is of a more modern date than many of those to be seen along the old road to Eccles, but there is much from a gardening point of view that is interesting about the place, which reflects great credit on Mr. J. Bradley, the head gardener, whose first charge this is of a garden of any pretensions. Mr. Bradley has evidently learned much from his former teacher, Mr. Elkin, who will have to look out or he will be overtaken by his late foreman. There is a nice collection of hardy flowers here as well as shrubs, and from early spring till late in autumn there is always something of interest to be seen out-of-doors here; just now the Roses are grand, the colours bright and clear, even the Baroness Rothschild and Duke of Edinburgh have not a speck of soot or smoke stain upon them. The garden is all aglow with such things as Lilies, Delphiniums, Sweet Peas, Columbines, and many others, and redolent of the odours of sweet-smelling plants.

Of houses there are several, and some of them new ones. In one there had been a grand crop of Melons, and a second crop is running over the wires very strong. In the same house are some Cucumbers, which have been in bearing several months. In the next house is a grand lot of young Show and Zonal Pelargoniums and other things in bloom, and some standard Heliotropes, which have a good effect. Another structure contains a collection of cool Orchids, which are doing well, some good Maiden-hair Ferns of various kinds, chiefly used for cutting, and on some shelves are a number of Primulas which will render a good account of themselves by-and-bye. Next we come to the Rose-house, in which the plants have been in flower since February last, and are still throwing flowers from every lateral. Formerly there was great complaint of mildew in this house, but we saw no signs of any, neither has Mr. Bradley been troubled with it this year. In front of these houses are numerous frames heated with hot water, in which are grown a number of useful plants.

Passing through the potting-shed we enter the Orchid-house, on the roof of which we noted grand baskets of Calanthes, while in pots were numbers of vigorous Pleiones, fine plants of Vanda tricolor and V. insignis superba, with good spikes of flower, Angræcums, Dendrobiums and others, while overhead Stephanotis is trained on wires; the plants are pictures of good health. In another house is a miscellaneous collection of stove plants, and from here we are suddenly introduced to a pretty piece of natural rustic work, which comes as a surprise. Imagine a house, perhaps 20 ft. long, three-quarter span, with a walk under the apex. On the right hand the house is a deep hollow, to reach the bottom of which you descend some steps. In this hollow are growing variegated Begonias, Ferns, dwarf Tree Ferns, with their stems clothed with Hypnum and other British Mosses, while on the left hand are growing, in Nature's own way, Ferns, Lycopodiums, Begonias, &c. On the pillars of the house is Ficus repens, hanging as naturally as if untouched by the hands of the man-milliner gardener; and to complete the picture, and harmonize the whole, the walls are clothed with Ampelopsis tricuspidata. This is one of the prettiest pieces of gardening we have seen for some time.

In another house are some pans of Cœlogynes, making a fine growth, and also a lot of Bouvardias, including the double white one, a most useful plant. Two of the vineries had only been planted some three months, yet the canes had run the length of the rafters.

The last house is an old-fashioned conservatory, containing some large Camellias, wonderfully well set with flower-buds. From the doorway of this house runs a walk to the mansion, with some good Ivy arches over it, and on either hand beds of Roses, yellow Paris Daisy, "Etoile d'Or," a plant in great favour here for cutting.

The kitchen garden is small but well cropped. Chrysanthemums, Roses, and other things for winter flowering are standing about in various places in great quantities, and when one looked at the houses as they are at present, one could but wonder wherever all were to be housed during winter. One thing seemed to strike us as very strange round this district—no one seems at present to be able to grow Violets successfully, for what reason we cannot tell, as they would most certainly prove an exceedingly useful adjunct to the flower-basket, and we hope some day to be able to report that this difficulty has been overcome.

Gloxinias are found to be very useful for cutting for vase decoration in the house during the winter months, and a good number of them are grown for the purpose. They come in with the Chrysanthemums, and last till spring here.—*N. J. D.*

BULB CULTURE.

The season is close at hand for potting and planting bulbs intended for early forcing, or for culture under glass between now and next May, and the subject, says a writer in *The Field*, that first engages the attention of cultivators is the selection of sorts, and how to procure them. For early forcing—that is, to have flowers from November till March—certain species and varieties only are suitable. Great mistakes are often made by injudicious selection. Among Hyacinths, only the single varieties are fit for early forcing. Double sorts never develop their flowers or spikes half so well as the single kinds do, and it is waste of time and material to try them. Besides, single Hyacinths are just as attractive as the double, and in the matter of size of flower and spike they are superior. For the first batch, then, we recommend single kinds, and to insure an early start they should be had and potted early in September. This is of far more importance and far better than pushing the plants forward in a high temperature afterwards. Bulbs to force must first have roots; to have roots they must be potted in time; and to be potted in time they must be ordered early. After potting, the bulbs should be covered over with sifted ashes or dry soil, out-of-doors, behind a wall or in some sheltered corner, and left there till the leaves push up about 2 ins., by which time roots will also have grown; and they should then be transferred to a perfectly cold frame, gradually exposed to the light, and after that gently forced as required in a temperature of from 55 degs. to 60 degs., till they come into flower. The compost for Hyacinths should consist of loam as the staple, leaf-mould, and sand. Any ordinary light soil will answer. In forcing, it may just be mentioned that many Hyacinths are spoiled by too much heat, which causes the leaves to grow too long, at the expense of the flower spike, which requires more time, and hence, under such circumstances, never pushes out of the socket. Whenever the leaves are noticed to be growing too fast, the temperature should be moderated. In a properly developed Hyacinth the leaves stand up stiffly, and do not reach above the middle of the flower-spike, which should always project well above the foliage.

Tulips.—As in the case of Hyacinths, the single varieties of these force earlier and better than the double ones. Tulips require the same soil and treatment as Hyacinths, only that several roots should be potted together in one small pot, in order to form a good group. Roman Hyacinths are valuable on account of their earliness, as they can, if potted in September or August, be easily had in flower in November. They are useful for decorative purposes if potted or planted pretty thickly, but being scentless, and otherwise much inferior to the common Hyacinth, they are seldom grown after the latter comes in. Both Snowdrops and Crocuses force early and freely, and should be potted thickly in pots or pans, in about 4 ins. of soil, and forced very gently as soon as rooted, under the same treatment as Hyacinths before potting. They make an effective display in a cool-house between Christmas and April, during which period they may be had in flower, by introducing batches from the cool-frame every ten days or so.

The Polyanthus Narcissus of different sorts have always been favourites for forcing, but of late the Daffodil section has become popular for this purpose, and very handsome pot plants they make; and the beautiful N. bulbocodium, or small Hoop-petticoat Daffodil, is one of the best. It does better in pots than out-of-doors, as a rule, and stands a good while in perfection. There are no neater subjects for pot-culture, and those who grow it once will grow it always. The small bulbs should be potted early in the autumn—say August or September—kept cool till rooted, and then forced into flower in a gentle heat. The whole of the Daffodils force in this way. N. Horsfieldi is one of the best large-flowered sorts for the purpose, as it flowers very freely, does not grow tall, and is one of the very best of its class. The large-flowered single N. maximus is also good, so is the common double Daffodil; and the little N. nanus makes almost as neat a specimen as N. bulbocodium. The larger kinds must have pots of from 6 ins. to 8 ins. in size, and the small varieties will succeed well in 4 in. to 5 in. ones, and in any common soil that is light and sandy.

The Amateurs' Garden.

THE GREENHOUSE.

Roof Climbers will still require attention to keep them thinned, and the shoots regulated, as at this season their growth is rapid, and if left to themselves only for a short time they become entangled and have a wild appearance, especially in the case of such things as Passion Flowers and Tacsonias, which are of rampant habit if they have much room at the roots. Roses of the Gloire de Dijon and Maréchal Niel kinds, both of which are grand for furnishing the roofs of greenhouses, only need free watering and plenty of air to prevent mildew and ripen and harden the young wood, a condition that is necessary for them to do well.

Zonal Pelargoniums.—For making a display during summer and autumn, few plants surpass the Zonal Pelargoniums, but to get them to flower freely they must have full light and sun, which, for those to come in late, is best secured by standing or plunging them outdoors, where the shoots they form become firm, and these, when the plants are taken inside again, yield fine trusses of bloom. To encourage them to do this, and to keep the others flowering, liquid manure will be a great help; but this should not be given strong, the better plan being to apply it weak and often, as then there is no danger of injuring the soil or the roots.

Show and Fancy Pelargoniums that have been exposed for some time ought now to have their wood sufficiently ripened for cutting the plants back, which may be done as soon as the bark looks a little brown, after which the plants should be stood under glass in a cold frame and be damped overhead now and then to help them to break and start again, when they must be shaken out from the old soil and repotted in fresh, that which is most suitable being loam, with a little sand to keep it open and porous. The shoots taken off in shortening back will come in admirably for cuttings, and if these are made in the ordinary way and put in anywhere on a half shady border, or in pots in a frame, they will soon strike, and may be grown on for next year, by which time they will make nice little plants.

Primulas and Cinerarias will now require shifting, which should be done in a mixture of equal parts of loam and leaf-mould; the best position for them after being a cold frame stood in a shady place, where, with plenty of air, their growth will be healthy and strong.

Mignonette.—To have this early and good, seed must soon be sown, the way to have nice pots being to fill 32's with rich soil and to sow on that, thinning out the plants to five or six when they come up, and leaving them outdoors till the autumn, at which time they should be stood on light airy shelves near the glass, and receive careful attention in the matter of watering—an important consideration with this plant.

PITS AND FRAMES.

These will still be taken up with Cucumbers and Melons, which should have plenty of heat afforded them by closing the lights early in the afternoon; but before this is done the plants should be sprinkled overhead with tepid water applied through a rose, which will keep up the necessary atmospheric moisture, and prevent red-spider, an insect that is sure to get on the leaves if the air remains dry. As Melons are so much improved in flavour by being exposed to the sun, the fruit should be carefully lifted up and placed on inverted pots or pans, or anything that will raise them above the foliage, and when it is ripening, the plants should have little or no water at the roots, but plenty when it is growing and swelling, at which time liquid manure is a great help, and the same with Cucumbers, which need thinning out frequently so as to give room for the young shoots and leaves. If there are any frames out of use, they may be profitably occupied by using them for a sowing of dwarf French Beans, which will come in after those outdoors are destroyed by the frost; but it should not be forgotten that soon pits and frames will be required for propagating bedding stuff, as cuttings cannot well be got in too early, especially those of Pelargoniums, the first being those which are sure to strike and do well.

THE FLOWER GARDEN.

The Weather has been highly favourable for all bedding plants, but to keep them flowering steadily on they must be well attended to with water, which, where it can be avoided, should not be given overhead, as it wets and knocks off the bloom, especially that of Calceolarias, which fills and falls wholesale, leaving the plants naked and bare. To prevent this the way to manage is to carefully pour in the water among the plants, and if the ground is mulched, as it ought to be, there will be little or no washing of the soil, as it will soak in as fast as it is given, and quickly find its way down. To have the beds regular and uniform, it will be necessary to go over and thin out such things as Pelargoniums, which, owing to their fast growth, soon get bunchy, or so thick as to draw each other up, and when they do this they run to leaf and fail to flower in the free way they otherwise would.

In taking out the superfluous shoots they should be snipped off long enough for cuttings, which strike well now if put in on an open border in the full sun, and kept sprinkled during the evenings of hot days to maintain the leaves fresh. Border plants will need to be staked and tied securely, especially such things as Dahlias, Phloxes, and others that have heavy heads to support, and all will be benefited by a good soaking of water or liquid manure, which will be a great help to them in expanding and carrying their bloom. Delphiniums and others that have done flowering ought to have their seeds removed, and the same with single Dahlias, as then they continue to branch out and blossom freely till late in the autumn.

Roses.—The first flush of beauty on Roses is now over, but by cutting back the strong shoots a bit, and giving the plants liquid manure now and then, they will break freely and be gay again by-and-bye, but to have the plants in this desirable condition they must be kept free from mildew, which may easily be done by syringing the foliage with water in which sulphide of potassium has been dissolved at the rate of 2 ozs. to the gallon.

THE FRUIT GARDEN.

Pears and Apples may now be considered safe from falling, and should, in all cases where they are at all thick, be thinned out at once by taking off all that are undersized or deformed, as they only rob the others, and will be of little or no use for gathering and storing, besides which it is more satisfactory to have a fair crop, fine and good, than a heavier one of inferior fruit. It often happens that Pears crack, at and after this season, the cause of which is the check they receive through extreme dryness of the soil, followed by a glut of rain, the dryness bringing about a hardening and tightening of the skin, and the sudden soaking of wet such a rapid swelling of the flesh that the rind has to give way, and the Pears then split open or become woody within.

To prevent this unsatisfactory state of things, the only remedy is to water, or, better still, to apply liquid manure to the trees, which will be a great help if given in sufficient quantity to wet the whole of the soil as far as the roots penetrate, but before it is done the thing is to mulch. If the trees have any shoots on that are not wanted for filling gaps, and do not form leaders to the branches, the whole should be taken off by stopping them back to within the last three joints, by doing which, not only will the fruit be benefited by a more full and free exposure, but the base buds will plump up and ripen thoroughly before winter sets in.

Cherries.—Dessert kinds of these will now be over, and as aphis are very prevalent, the trees should be looked to and have these insects washed off, which may be done with soap suds driven on with force through a syringe. Morellos, if securely netted, will hang a long time, and be all the better for the keeping, and as they are so useful in so many ways, the wonder is that they are not more grown, especially as they do well either against north walls or planted and treated in the bush form or as standards.

Peaches and Nectarines.—These, outdoors, are very late this season, but as they have got through the process of stoning they will soon begin to swell quickly, and should be assisted by giving the trees a good soaking, which will help to keep off red-spider and assist in maintaining the foliage in a fresh and healthy condition, but to insure having it in this state, syringing must be pursued for some time to come.

Plums.—All that can be done for these is to continue to pinch back the shoots, so as to have the trees well spurred, and to keep them free from green-fly, which are more than usually troublesome this year, and are everywhere, like a blight.

THE VEGETABLE GARDEN.

Ridge Cucumbers and Vegetable Marrows.—These, like everything else, are attacked with green-fly, and unless seen to by thinning out the shoots and leaves that are affected, and then syringing the plants with strong soap suds, mixed with a little tobacco-water, driving it under the foliage, will soon go off, but if assisted in the way referred to, and well watered with tepid water or liquid manure, they will pull through, and be of great use in the autumn.

Tomatos.—The weather has been all in favour of these, as they like great heat, but with it they must have moisture, as though they may grow freely, and look well, the blossoms fall if the plants get dry at the roots. This being so, they should be mulched with half rotten dung and then heavily watered, after which, and all through the season, it will be necessary to keep the shoots thinned out by removing any laterals or leaves that cover or overshadow the fruit, but the main branches should have every encouragement by being led on and tied up or nailed securely to the wall, fence, or stakes, on which they may be trained.

Peas and Scarlet Runners.—It has been a trying time for Peas, and it is only in deep, well-manured soils that they can be kept going, and then they must have water to enable them to set their bloom and swell their pods, all of which should be gathered close as soon as they are fit, as leaving them on distresses the plants. The same remarks apply to Scarlet Runners, which cease to bear if allowed to carry seed, the maturing of it being a great tax, and as it is cheap it is not worth saving to ripen.

Potatos.—The early kinds of these, such as the Ashleaf and others of that class, are now ripe enough for taking up, and the sooner they are out of the ground the better, as they escape disease, and there is no gain in leaving them after the skins are set, but those for seed will be improved by letting them be out a day or two before being put in a shed. The land set free after lifting the crop may be profitably utilized by sowing it with Turnips of two or three kinds to come in for succession, the best for the purpose being the Milan, White Stone, and Veitch's Red-topped Globe, the latter being a good one for standing the winter.

Cauliflowers.—To have these late, a planting of Walcheren or Early London should be made now, the best way being to put them in in drills drawn with a hoe, as then they may be watered readily, and the gradual filling in around the stems is a great help in steadying and improving the growth of the plants.

SHIPLEY HALL, DERBY.

A charming place, is the impression left on the minds of visitors to the residence of A. M. Munday, Esq. The mansion is situated on an elevation north-west of the town of Ilkeston; and from this busy town to the lodge entrance in the Ilkeston Road there is a drive from the town of a mile and a half; then turning into the grounds, a winding road through the park leads upwards to the elevation on which the mansion stands. There are two pleasing aspects of the park: its rising character from the level around it, and its fine trees. Then, at the circumference of the base of the elevation on which the house rests, there are five pieces of water, forming a ring, with patches of grassland and woodland between them; and were these several pieces of water connected, then Shipley Hall and grounds would form an island, and a picturesque island too.

Round about the mansion and offices are gigantic specimens of Beech and other trees; they are an indispensable protection on this elevated spot. The specimens of Beech are worth going miles to see. On

one side of the mansion there is a grove of tall Beech-trees that is one of the arboreal features of the place, and there are individual specimens of great altitude standing up tall and strong against the sky. Such protection is necessary, for here the high winds come sweeping up from the valley with tremendous force. Almost all round Shipley are extensive mining operations. It is almost in the heart of the Derbyshire colliery works, but they are in the valley below; and no din, and but little, if any, smoke, rises up to disturb the serenity that prevails above. Conducted by Mr. William Elphinstone, the clever gardener at Shipley, whose kind hospitality and genial companionship cannot be too highly estimated, we take a tour of the grounds, and in doing so we set down a few particulars by way of illustrating the high order of gardening carried on here. But what a charming residence Mr. Elphinstone inhabits! It is a gardener's cottage worthy of the name, replete with every convenience, near the gardens, and most pleasantly situated. If a man can live a contented, peaceful life, away from the roar and bustle of the town, then here is the very place where he should reside.

But to our tour of inspection. Here is a Lapageria-house in two divisions, with the plants doing well, and here are some plants of one of Mr. Cannell's dwarf double Tropæolums, very free and good, and a useful decorative plant. Outside, under a north wall, are some very fine plants of Humea elegans, for summer decoration, in admirable condition at the end of May, on the occasion of our visit, raised from seeds sown in August. Here, too, is a collection of Gilbert's double forms of the Chinese Primrose. Mr. Elphinstone makes a great hit every year with these, and exhibits at the Chrysanthemum show at Manchester specimens 2 ft. through, grandly grown and flowered. His method of propagation differs in some respects from that usually followed. After the plants have done blooming they are dried off, and some fine charcoal is laid on the surface of the soil to absorb the damp. Then by means of a sharp knife, the side shoots are cut half through in a downward direction; they fall down and rest upon the charcoal, and in a day or two the plants are placed in a temperature of 55 degs. to 60 degs., where the half-severed shoots put forth roots; they are then taken off, potted into small pots, and plunged in a temperature of some 80 degs., and then shifted, hardened off, and grown on coldly, until they are in their blooming-pots. That is a wrinkle worth making a note of. Here are some plants of the Elvaston variety of Stephanotis floribunda, very free, producing flowers at every point, planted out in a pit, and doing admirably. [See p. 757.] Imantophyllum mimatum is admirably grown here; the plants are divided once in three years, and when growing are treated to liberal supplies of manure-water. Next we come to a curvilinear range of houses, three of them devoted to Peaches and Nectarines, then a stove-house, and a wing of three vineries beyond. These houses appear admirably adapted for Peach-culture; there is good foliage and free crops of fruit. The early-house has trees on a front trellis, and also at the back. Early Louise Peach is an admirable early variety, the first crop gathered on May 4th. Royal George Peach is here also, carrying an admirable crop, and Lord Napier Nectarine is very fine and most useful for early or late work. Hale's Early, very fine; Belle Bauce are noticeable, very fine healthy trees of them carrying excellent crops.

VIEW IN THE FERNERY AT SHIPLEY HALL, DERBY.

Then there are some Peaches in pots, pyramids, 8 ft. in height, among them the Salway, which does well in pots, Early Alfred, Bellegarde, and Lord Palmerston. Then comes a vinery planted this season with Hamburgh and Duke of Buccleuch Grapes. In a late vinery are Gros Colmar, Barbarossa, Gros Maroc, Lady Downes, and Alicante.

In the stove could be seen a pair of very fine plants of Kentia Fosteriana, also Thrinax rupicola, an excellent subject for table decoration; also Dracænas, Crotons, &c., for the same purpose; and indeed a host of useful decorative stuff, all in the best condition.

Next follows a lean-to range, the first portion used as a Strawberry-house, the sorts President and James Veitch for main crop, commencing with Vicomtesse H. de Thury; Tomatos in pots are grown at the back. Then comes a Fig-house with the trees planted out. Brown Turkey is relied upon for a main crop, while Bourjassotte Noire and Negro Largo are also grown with success, but in order to drive the latter into fruiting, it is spaded round three times in the year, when it fruits with remarkable freedom. The trees of Brown Turkey have their branches laid in at the full length. Tomatos are grown at the back of this house also.

Then follows a range of curvilinear plant-houses, with span roofs. In the first portion is a collection of Orchids, among them some fine plants of Zygopetalum Mackayi, Cymbidium eburneum, and some splendid pans of Lælia anceps, in fine variety; there are also some bits of the fine Cattleya Sanderiana. Then came two Melon-houses in fine fruit; the sorts Hero of Lockinge, Eastnor Castle, and Cox's Golden Gem. Lastly came a house of Gardenias in pots, with Stephanotis floribunda overhead.

Then followed a pair of ridge and furrow vineries, the first a mixed house, planted with Golden Queen, Muscat Hamburgh, &c. Here too, temporarily housed, were some very fine specimen Azaleas. The second is a Muscat-house, planted in January 1883; the occupants Muscat of Alexandria, Cannon Hall Muscat, and Trebbiano. Cannon Hall sets perfectly, and averages 4 lbs. a bunch; Muscat of Alexandria the same; Trebbiano reaches 7 lbs. a bunch. These Vines have made a wonderful growth, and are in admirable condition.

Next came some lean-to houses, one employed for the growth of Tree Carnations, Fuchsias, &c.; the other contained a good collection of Orchids, such as Masdevallia tovarense, Ada aurantiaca, Odontoglossum cirrhosum, O. grande, O. citrosmum, &c., with a good lot of Pancratiums and other useful plants. Then followed a house of Calanthes in admirable condition, principally Veitchii, together with Palms, &c. Next came a house of cool Orchids, including Odontoglossum Alexandræ and O. Pescatorei, Masdevallia Veitchii, M. Harryana, and some fine Pleiones. From this point the visitor passes into a charming fernery, the walls formed of Tufa, and the Ferns planted against them, ornamental-leaved Begonias being mingled with them. Overhead was a dense growth of Ficus repens. Here can be cut large quantities of Fern fronds for table decoration all the year round. Adiantum amabilis is seen to make an admirable basket Fern. The house is glazed with Hartley's rough plate-glass, shaded beneath on the sunny side. Here are some fine Tree Ferns. In the centre is a fine piece of Cyathea Smithiana, some admirable pieces of Lomaria Gibba, &c. Next came the conservatory, a spacious building, in which are planted out Palms, Cycads, Ficus, Bamboos, &c. On the side stages are various Palms, &c., in pots; growing against the wall at the sides are very fine plants of Asparagus plumosus scandens and nanus in slate tubs, the leading shoots trained to the walls, where they make a prodigious growth. These plants are of great value to cut from.

Then some descending steps lead to a corridor with an arched glass roof and walls of Tufa on the right. Against the side walls and growing up overhead are Habrothamnus, Fuchsias, Brugmansias, &c.; and at the end, glass sides with stages for plants. Ferns grow here in plenty, and the corridor makes a charming adjunct to the mansion. This is the record of a hasty run through the plant-houses. It could be noted that everything was in capital condition, suggestive of intelligent oversight.

The kitchen-garden, or, as it should be more properly termed, the walled-in fruit garden, is close by, and as the dimensions of this have proved too contracted to grow an adequate supply of vegetables, a new kitchen-garden has recently been formed in the lower grounds. In walking round we note an extensive herb garden; at various points come in useful decorative flowers, such as a border of Gladiolus, the bulbs having been left in the ground all the winter, and now through again with scarcely a failure. Here are to be seen good kitchen-garden crops, and we regret that larger space cannot be devoted to them.

In the pleasure grounds surrounding the mansion, Hollies have been extensively planted and do well, besides, they furnish excellent shelter from winds. The leading variegated forms are Milkmaid, Golden Queen, Elegantissima, and Waterer's; the green types, Shepherd's, Hodgin's, Maderensis, and the old green, which is in the form of huge bushes.

A very large bed near the mansion is devoted to Japanese plants, and they form an interesting and instructive feature. Here are good specimens of Retinospora lycopodioides, and R. squarrosa, Cupressus Nutkæensis, and Lawsoniana pygmea, Retinospora obtusa, filicoides, leptoclada, filifera, pisifera, all green forms. Those with variegated foliage are Cupressus Lawsoniana lutea, 8 ft., ditto Compacta, Retinospora plumosa aurea and argentea, Young's pisifera aurea, very fine; tetragona aurea, 3 ft., Biota elegantissima, Ilex ornata aurea, a fine specimen, 4 ft. in height; Young's Golden Juniper, a very fine specimen of Retinospora obtusa aurea nana, fully 10 ft. in height, &c.

Of specimen Coniferæ there is a good collection, including Araucaria imbricata, 30 ft. high; Abies Alcoquiana, 15 ft.; A. polita, 10 ft.; A. concolor, 5 ft.; A. Engelmanni glauca, 8 ft.; Cupressus Lasiocarpa, 15 ft.; Fisher's Golden Yellow Holly, in fine specimen, 10 ft. in height; Taxus Dovastoni, 8 ft.; Picea nobilis glauca, 18 ft.

On the west and north-west sides of the mansion especially, one realizes the fine proportions of the trees forming a protecting line about it; there are huge Beech, Elm, Oak, Ash, &c., and they all appear to do well, having a firm grip of the sandstone, which appears to abound here.

In this hasty and imperfect way we have endeavoured to give a rapid outline of the main features of this interesting place; under the able management of Mr. W. Elphistone, every department flourishes. The garden offices, &c., are commodious and convenient, the comfort of the toilers who reside in them being well cared for.

FRUITS.

Fruit Culture under Glass.—Vines: These in every stage of growth should have abundance of water at the roots every week or ten days, following the clear water with good supplies of liquid manure, irrespective of the Grapes having commenced colouring, or the fruit of them having approached maturity; the result will be the same in every case—beneficial. In short, Vines should never be allowed to get dry at the roots until they have shed their leaves, and then only moderately so, but always inclining to the moist side, which is but their natural condition.

As soon as the Grapes are cut from early and second-early Vines syringe the latter thoroughly overhead morning and afternoon, with a view to washing off any red-spider that may happen to be on the leaves, leaving the ventilators—in the absence of stormy weather—fully open day and night, so as to get the wood well ripened, and at the same time to prevent the Vines in the early house from pushing into growth, as they frequently show a tendency to do when the atmosphere of the house is kept close and moist instead of moist and airy—moist so far as the syringing of the Vines morning and afternoon, and damping the pathways, &c., about mid-day goes.

Vines cropped light rather than otherwise, and kept well supplied with moisture at the roots, and a free circulation of fresh air maintained from the time the berries begin to colour, are sure to finish their crops well.

During the present intensely hot weather the vineries containing ripe and ripening Grapes should have the pathways and surface borders damped over with the syringe about eleven o'clock in the morning, and again at one and half-past four o'clock in the afternoon, so as to render the atmosphere more congenial to the requirements of the Grapes and foliage alike.—*H. W. Ward.*

Strawberry Culture.—After trying every method of culture that has suggested itself to me, as well as those advocated by others, I am convinced that there is none to surpass that of planting annually and destroying the plants as soon as the fruit is gathered. This plan is particularly adapted for light or gravelly soils, of which I had substantial proof when practising near London. When I took charge of the garden, which was of a sandy nature, the Strawberry season was just coming on, and from about ten rows about 20 yards long we were not able to pick more than 1 lb. of fruit a day, and that only of third-rate quality. The plants looked healthy, and were of great size but they only produced puny runners, and they were late. The best, however, were selected and layered in 3-in. pots, and to make up the stock more were procured from a nursery that had been similarly treated. The best plants were planted the usual distance apart of 2 ft. each way, and the smaller ones in clumps of three, forming a triangle. The following year, as soon as the fruit was picked, two of these were cut out, leaving the others 2 ft. apart to bear the second year, which they did after a fashion.

But the first season, though the plants were small, the three yielded as good a crop as the best single plants of any age could do, besides giving a greater percentage of large fruit than is produced by old plants. I had practised this plan of triple planting in Kent some years previously, and there the plants bore fairly well the third time.

It is the practice with the Kentish Strawberry growers to clear the plants the fourth year after planting. But it must be understood that the plants are so small that they produce no fruit the first year, as planting is not performed till autumn, and sometimes very late. This is not because the growers ignore the advantage of early planting, but because other work is pressing and labour is much more expensive at that season than later on; and, lastly, land is cheaper than labour, and the former is frequently cropped with an early vegetable, so that the growers work matters the most economical way in the end.

Those, however, in charge of small or moderate sized gardens will find it worth their while to make a little effort at this season of the year, and layer all the runners they can in 3-in. or 4-in. pots, and when thoroughly established plant them in clumps of three's, or in single rows 2 ft. distant and 1 ft. from plant to plant in the row. I have found the latter to answer very well, and as we cannot find time to layer enough plants at the right period, we cut out every other plant and allow the others to carry another crop. Plants in their third year do not pay for their room; but as land is more abundant than labour, we are tempted to allow a few to remain and confine our annual planting to half of what we should like. As young plants are more fruitful than old ones, with the double or triple system of planting little more than half the ground now occupied would be required for Strawberries, and in early districts they could be cleared away and the ground cropped with something else. I yearly plant out a few forced plants, but beyond that they produce a few late fruit, I see nothing commendable in the practice, and those growers who so strongly advocate that plan must have had better success than I have had, or they would not persist in urging its claims as the season comes round. If health and vigour have anything to do with fertility in a Strawberry plant, then I should say we may reasonably conclude that a plant which has had the life forced out of it has very little chance against a well-grown yearling. We grow several sorts here, and I will reserve the few remarks I have to make on their behaviour for a future time.—*W. P. R.*

Who is the Largest Strawberry Grower in Kent?—Such was the nature of a query which came to hand a few days ago, with a request that we would furnish the most reliable information. Our old friend, Mr. Henry Cannell, who resides at Swanley, in the very midst of the Strawberry-gardens, tell us that Messrs. H. & E. Vinson, Swanley, are unquestionably, the largest growers of Strawberries in the world, and they are at present much too busy to know the exact

quantities they have sent away this year, but they despatched 15,000 peck sieves to commence with. It is computed that they grow 500 acres of Strawberries, and probably pick something like 1,000 tons. Mr. Cannell states that he has often seen ten and twelve Midland and Great Northern vans in Swanley Station loading fruit, most of which goes to the great northern towns. These vans take the pickings of the early part of the day, and they are despatched early in the afternoon. They employ about 300 pickers resident in the parish of Swanley, and they employ about 1,000 altogether. Anyone walking through the Strawberry-fields at the time picking is in full swing, will find the pickers living in tents set up round the sides of the fields, making a journey to the localities for the purpose, just as the hop-pickers do in the autumn. At the present time a good deal of the fruit is made into jam on the spot. What a prodigious industry is the Strawberry trade while it lasts! and it is singular to note that so much of it is comprised in that fertile part of Kent known as the Cray Valley.

FLOWERS.

Work in the Plant-houses. — Schizanthus retusus: This is a very useful spring-flowering plant and will well repay for a little extra care and attention, which it requires to have it in good condition. The seed should be sown at once. We like to raise the seedlings in a cold frame, as they come much stronger than when raised in a warmer position. As soon as the plants are large enough to handle they should be potted off singly and potted on as they require it. Owing to the roots being extremely delicate, they require some care in handling. If in potting the ball is broken the plants will be almost sure to die off. Any good light compost will suit them. The plants may be grown on through the winter in any position where they can have sufficient protection to keep the frost from them, but they should be as much exposed as possible during mild weather.

Intermediate Stocks.—Where a good strain of these can be procured and are well grown there are few plants that are more useful for early spring work. The scarlet and white varieties are the most useful; the purple variety is also very pretty, but not bright enough in colour for many purposes. The first week in August is a good time to sow the seed. The best position for sowing the seed is under a north wall, with a handlight or frame as a protection. If the seed is sown thinly the plants may remain in the seed-bed until they are large enough for potting into small 60-size pots. They may remain in these pots until about the middle or end of January, when they should be potted on into 48-size pots, which is a good size for flowering them in. To succeed well with Intermediate Stocks it is essential that they should have careful attention with regard to watering, as, like most other fine-rooted plants, they suffer equally from being allowed to become too dry in the pots as from being over watered; and to keep them dwarf and sturdy they should be grown in a position where they get the full benefit of the sun and be well exposed during mild weather.

Hoya carnosa.—As you have illustrated Hoya bella as a basket plant (p. 745) let me say a word in favour of the old H. carnosa as a climber for a back wall on which anything else will scarcely grow. There is a plant at Park House, the residence of Mrs. J. Walker, adjoining this place, which was planted when my present employer resided there, and which covers a back wall of a small vinery and flowers with wondrous freedom every year. It covers a space of 24 ft. by 14 ft., and would occupy much more if it had the chance. But little notice is taken of it, the plant being allowed to grow at will providing it does not interfere with the terminal ends of the Vines. It is planted in a border which runs under a latticed walk, which was made of maiden loam, peat, and sand, but a top-dressing of garden soil and grit has been added since. Last year it bore upwards of 2,000 of its showy waxy blooms, and was especially admired by a London merchant who annually visits here. It is not showing so heavy a crop this season, but when not in flower the plant, with its dark green, fleshy leaves, makes a fine screen for a back wall.—*B. Lockwood, Lindley, Huddersfield.*

Zonal Pelargoniums. — Having received last spring from Messrs. Pearson, of Chilwell, through our seedsman, Mr. G. Kershaw, a collection of fifty varieties, the best as I thought which their catalogue contained, including the set of 1883 and 1884, I have been agreeably surprised and pleased to find that in last year's set there are some grand additions to this showy class. It is well known that the Chilwell firm is noted for the excellence of the dark crimson and magenta shades of colour which they send out, but during the last few years they seem to have had an eye to other shades, with results that are alike creditable to the raisers and to the conservatory or greenhouse they may happen to be the occupants of. The following are worthy of especial notice, and ought to be in any collection, however select:—Plutarch, beautiful bright scarlet, with a white eye, flowers large, with broad overlapping petals, fine trusses, good habit and free; Ajax, reddish-scarlet, like the preceding in size and shape of flower and truss; Tristram, crimson-scarlet, white eye, flowers of good size and quality, trusses large, good habit and free; Mrs. Norris, scarlet, with small white eye, a fine-shaped flower, good trusses, and dwarf branching habit, and free; Lady Chesterfield, deep salmon suffused orange, flowers large, with broad overlapping petals, equal to the scarlet section, fine truss and habit, a beautiful variety; Norah, soft blush, of splendid form, and size of flower large, trusses large and free, with foliage of the Madame Vaucher type (I have had flowers on some of the trusses on my plants nearly 2½ ins. across); Lord Chesterfield, magenta; this is a hybrid nosegay, but at times the flowers are quite round, a fine variety for pot culture. I consider these are the cream of the set; the other remaining five which composed the set of twelve are —Mrs. Johnson, rose; James Douglas, very dark crimson; Aline, white; Caroline, crimson-scarlet; and Mrs. Holford, salmon. The flowers of these are of good size and fine form and substance, and are remarkable for their neat dwarf habit and free-flowering qualities. No doubt some of these will make their way as bedders in their respective classes. —*B. L., Lindley.*

Gloxinias.—Messrs. Sutton & Sons' splendid strain of Gloxinias was admirably represented at South Kensington on Tuesday by a collection of plants sent up by the Reading firm, which, judged by their splendid cultivation, the remarkable size and substance of the blooms, or their varied and brilliant colours, it is hard to say that anything finer can be desired. The seeds were sown in January, and the plants grown on and for the most part exhibited in large 60-sized pots, in which they had developed broad, robust, and healthy leaves, and flowers of unusually fine quality. In this size pot they are undoubtedly more useful for table decoration than if grown to a larger size, and if liberally fed with liquid cow-manure will yield almost as large a crop of flowers. The Messrs. Sutton were awarded a Silver-Gilt Banksian Medal, and it was well deserved.

Primula floribunda.—What a charming summer-flowering species this is. Some seedling plants were sent to me in March last; they were potted in small pots, and when they had filled them with roots shifted into 5-in. pots, placing some stones round the collar of the plants on the surface of the soil. They grew into strong plants, and are now flowering merrily, throwing up compound trusses of bright golden-yellow flowers. This and P. obconica are two of the most useful species ofPrimulas grown.—*R. D.*

Hybrid Begonias.—At the last meeting of the Floral Committee, Messrs. Sutton & Sons exhibited flowering plants of two singularly interesting Begonias, both being true hybrids, or we would rather say mules. B. Princess Beatrice promises to make a valuable bedding plant, growing only to the height of about 9 ins., and freely producing its small flowers, which are nearly white. It is the result of a cross between B. semperflorens rosea and B. Schmidti (both fibrous-rooted forms), and possesses the green leaves and sturdy habit of the first-named parent, the leaves being smooth on one side and hairy on the other; and it has the merit for bedding purposes that it can be propagated by division. Begonia Prince Henry is a hybrid between a tuberous-rooted variety, a seedling from B. Davisii, with light scarlet flowers, and a shrubby variety, having green leaves spotted with white, selected from several seedlings obtained from Begonia Rex. The last-named was the seed-bearing parent. The plant is of a dwarf compact habit, and the flowers small, of a bright red colour. It blooms with great freedom, and having no organs of reproduction, the flowers are valuable for cutting, as they last well in this state. B. Prince Henry was awarded a First-Class Certificate.

VEGETABLES.

The Kitchen Gardener's Calendar.—Watering: Without an almost incessant use of the watering-pot, and a good supply of water at command, it is next to impossible during such a long spell of tropical heat as that which we have experienced during the present season to keep vegetables which are growing in light and, it may be, shallow soils in a sufficiently moist state at the roots to maintain anything like a healthy, not to say uninterrupted, head-growth. This insufficiency of moisture at the roots is more manifest in the rows of Peas, Beans, Cauliflower, Celery, and Lettuce plants, than is the case with less important vegetables, consequently any falling off in the supply of these as regards quantity and quality of the produce at this comparatively early date is all the more keenly felt by the grower and consumer alike.

Therefore, whatever other work may get behind in consequence of the monopoly of labour involved in the hauling and application of water to the roots of the various crops in the kitchen-garden, those indicated above should receive first attention in this direction. And the watering, if it can be conveniently managed, should be done late in the afternoon—better still in the evening—so that as little as possible of the now precious fluid may be wasted through evaporation, which, if the water is given in the heat of the day, is very rapid. However, notwithstanding this indisputable fact, we, like many others, are obliged to water pretty well all day long—indeed, as I write (8 p.m.), the water-tubs are still at work. Plantings of Cauliflowers, Savoys, Broccolis, &c. which have been deferred from day to day in the hope that rain would come, are now being pushed on to completion, and therefore the plants require and will receive frequent supplies of water at the roots until the latter have taken to the soil, or a downpour of rain puts an end to our labour in that direction, but until then, water without ceasing should be the order of the day.—*H. W. Ward.*

The Sun.—Professor Langley, who recently gave an account at the Royal Institution of his ascent of Mount Whitney in Southern California, for the purpose of making investigations as to the nature of sunlight and the earth's atmosphere, concludes that the sun is blue. The apparent yellow colour is due to the fact that the atmosphere through which the light passes has absorbed or sifted out the other colours to a greater extent than the yellow. The solar heat is calculated to be capable of melting a shell of ice 60 yds. thick annually over the whole earth. The total loss by absorption from the atmosphere is nearly double what has been heretofore supposed, and the human race owes its existence and preservation to the heat-storing of the atmosphere even more than has been believed, for if the planet were allowed to radiate freely into space without any protecting atmospheric veil, its sunlit surface would probably fall, even in the Tropics, below the temperature of freezing mercury. The apparently limpid aërial sea above our heads and about us is carrying on a wonderfully intricate work on the sunbeam and on the heat returned from the soil, picking and sorting out selected parts in hundreds of places, and as one result changing the sunbeam on its way down to us in the manner indicated.—*Gardeners' Chronicle.*

THE

Orchid Growers' Calendar.

Work of the Month.—Most of the Dendrobiums, Saccolabiums, and other East-Indian Orchids are now making active growth, and many of the occupants of the other houses are in the same condition. A great portion of the work in the houses consists in looking well after the plants that they do not want for water, and in keeping them free from insects, which attack them more particularly when forming tender young growth, causing damage, which in many cases does not seem very serious at the time, but which, on the growths maturing, result in twisted pseudo-bulbs and curled and blackened leaves. Nothing, therefore, pays better than employing every spare half-hour in the Orchid houses, hunting after insect pests and destroying them.

Where plants are making young growths, their presence is most easily detected, for most of them, and the aphis in particular, are fond of congregating on the tops of the tender leaves and growths, and here they readily meet the eye, and are to be quickly disposed of by a sponge dipped in weak tobacco-water. Those who are constantly on the watch never let troublesome insects get ahead of them, but keep them down by simple means, but those who wait until the thrips, aphides, &c., have thoroughly established themselves, have a tedious task before them.

Watering growing plants should not be done unsparingly, but with all Orchids, whilst rooting and growing freely, a thorough saturation of the material in which they are should be given, and then wait for one, two, or three days, or any longer period necessary, for the effects of the thorough moistening to pass off, but not for the plant to become dry before giving more. Nothing induces miserable growths and poor flowers more than the dribbling manner some have of applying water to their plants; if such persons were to reflect, that out of the water-pot, in a very great measure, will have to come that stout growth which they wish for they would not be so stinting with the supply of the wherewithal to form it. Young growths, when pushing strongly, should not be tied or have sticks placed to them. When allowed to grow unrestrained, many of them, and particularly the Dendrobes, naturally incline forward, so that moisture dropping into the heart runs off at the tips of the leaves. If tied upright, the moisture settles in the centre, and if the temperature gets a little low, the heart of the growth is often lost.

Shading wants carefully attending to. Those blinds which run on supports which keep them off the glass, allow of a much cooler temperature in the houses, so much so, that wherever I had blinds which were not so arranged, but ran flat on the glass, in hot weather I used to have the rollers lifted after the blinds were down and 8-in. or 12-in. flower-pots placed at intervals, to raise them and allow the air to pass between the blind and the glass, a course which was certainly productive of an improvement in the atmosphere in the houses.

The Temperatures for the month of August should be:

Warm-house, East-Indian.—75 degs. to 85 degs. by day; 70 degs. at night.

Cattleya or Intermediate-house.—70 degs. to 80 degs. by day; 65 degs. at night.

Cool or Odontoglossum-house.—60 degs. to 70 degs. by day; 55 degs. at night. Degrees Fahrenheit.

Of course, during the hot weather these will often be exceeded, but that is of little consequence so long as the houses are well shaded, ventilated, and kept moist.—*James O'Brien.*

Orchids at Messrs. Sander & Co.'s.—While on a visit to St. Albans the other day, I derived much pleasure in having a peep through what is, perhaps, the most unique establishment for the cultivation of Orchids to be found in the country. Although late in the season, I saw some good things in flower. A fine batch of Disa grandiflora was just in full glory; many of the flowers were exceedingly bright in colour. In the Cattleya-house I noticed a very fine variety of C. Dowiana, and a fine lot of C. Mossiæ. Among the Odontoglossums were some fine varieties of O. Alexandræ, a fine dark-lipped variety of O. dasytile, O. citrosmum roseum, and O. Coradinei. Among other Orchids I noted Anguloa Ruckerii sanguinea, Oncidium macranthum, O. phalænopsis, and Miltonia Reginellæ.—*A.*

Orchids at Holloway.—Mr. B. S. Williams has now in bloom, in his large collection, Cattleya labiata Roezlii, a very distinct variety in the way of C. Warneri, with rich rosy sepals and petals, and a brightly-coloured lip, with a fine orange blotch; the scarce C. calummata, a hybrid between C. Acklandiæ and C. intermedia, with very showy blossoms, the lip being of a very bright shade of magenta, and the sepals and petals white, heavily spotted with rosy-purple. Vanda tricolor planilabris, a beautifully-coloured variety, with several others in this section, are also blooming freely again.

NATIONAL PEAR CONFERENCE.

The following circular has been issued this week by the Council of the Royal Horticultural Society:—The crop of Pears this present season being generally abundant and good, an extremely favourable opportunity is presented for the examination of the numerous varieties cultivated throughout the country. The Council of the Royal Horticultural Society has therefore decided to hold a Conference on Pears (of a similar character to that so successfully adopted in regard to Apples in 1883), in the great Conservatory at Chiswick, commencing on the 21st October next.

This Conference will not assume the form of an ordinary exhibition—there will be no competition and no prizes—the objects being the dissemination of useful knowledge on the varieties most suitable for cultivation, to compare their merits and to correct their nomenclature, and generally to render the meeting instructive to fruit-growers. The collection of Pears grown in the gardens, which contains many typical varieties, will be available for comparison.

Growers of fruit will have in this exhibition an opportunity of correcting or verifying the nomenclature of their own fruits, by bringing specimens with them and making a personal examination. Every possible assistance will be given by members of the committee to such inquirers.

All fruit-growers are invited to contribute, and the more widely the collections are procured the greater will be the interest created. No limit will be placed on the number of varieties anyone may see fit to send, and it is not necessary that they should be the products of his own grounds. The Council desires that an effort be made to procure representatives of all the varieties that are grown in the various districts, and that all should be *distinctly labelled with the name or names under which they may be grown in their respective localities.*

It is very desirable that every collection should be accompanied with as much information as can be furnished, with regard to soil, stocks, exposure, and physical conditions of the districts from which they are gathered, &c., &c., to aid the Committee, if necessary, in drawing up their report. Cards and forms for this purpose will be supplied by the Secretary to all exhibitors on application.

The specimens being strictly for examination, they must necessarily be at the disposal of the Committee where required.

As the earlier varieties of Pears will be over before the time fixed for the Conference, it is desirable that specimens of these be sent to any of the meetings of the Fruit Committee preceding the Conference. These should be addressed to the Secretary, Fruit Committee, Royal Horticultural Society, South Kensington.

Exhibitors are requested to send not less than two or more than six fruits of a kind for the purposes of comparison.

Notice of intention to exhibit must be given to the Secretary, Mr. Barron, not later than Wednesday, the 14th of October, stating the number of varieties to be exhibited and the amount of space that will be required. Consignments of fruit—to be staged by the Committee—should be addressed to the Secretary, for delivery on or before Monday, October 19th. The carriage will be paid by the Society. Heavy packages to be sent per goods train.

Exhibitors staging their own fruit may do so on Tuesday, the 20th, or on the morning of the 21st, so as to be ready for the inspection of the Committee at 1 o'clock p.m., when the exhibition will be opened.

All exhibitors will be admitted to the Gardens free, and will receive tickets in proportion to the extent of their exhibits for the admission of friends.

The following gentlemen have been appointed a Committee to carry out the objects of the Conference in various parts of the country; those marked * forming the Executive:—

Anderson, A., Oxenford Castle, Dalkeith.
Bashford, —, Guernsey.
Blackmore, R. D., Teddington.
Breese, G., Petworth Park, Petworth.
Brotherston, R. P., Tynninghame, Prestonkirk.
Browne, Colville, The Paddocks, Swaffham, Norfolk.
Bulmer, Rev. C. H., Credenhill Rectory, Hereford.
Bull, Dr., Hereford.
*Bunyard, George, Nurseries, Maidstone.
Burnett, J., The Gardens, The Deepdene, Dorking.
Cathcart, Robert, Pitcairlie, Auchtermuchty, Fife.
Cheal, J., Nurseries, Crawley, Sussex.
Chesterfield, The Earl of, Holme Lacy, Hereford.
Coleman, W., Eastnor Castle Gardens, Ledbury.
Cummins, G. W., The Gardens, The Grange, Wallington.
Cranston, John, The Nurseries, Hereford.
Dalrymple, The Hon. G., Elliston House, St. Boswell's, N.B.
Dean, A., Bedfont, Hounslow.
Dickson, F., 106, Eastgate Street, Chester.
Dickson, J., 108, Eastgate Street, Chester.
Draper, J. W., Covent Garden.
Dunn, M., The Gardens, Dalkeith Palace, N.B.
Ford, S., The Gardens, Leonardslee, Horsham.
Garland, J., The Gardens, Killerton, Exeter.
Gilbert, R., The Gardens, Burghley, Stamford.
Goldsmith, G., Tonbridge.
Graham, J., Cranford, Hounslow.
Harrison, J., The Nurseries, Leicester.
Haycock, C., The Gardens, Barham Court, Maidstone.
Hibberd, S., 1, Priory Road, Kew Green, Kew.
*Hogg, Dr. R., 171, Fleet Street.
Hathaway, J., The Gardens, Lathom House, Ormskirk.
Ingram, W., The Gardens, Belvoir Castle, Grantham.
Jefferies, W. J., The Nurseries, Cirencester.
Jefferies, J. E., The Nurseries, Oxford.
Jenkins, W., The Willows, Abergavenny.
Jones, T., Royal Gardens, Frogmore.
Kingsley, Rev. W., South Kilvington Rectory, Thirsk.
Lane, J. E., The Nurseries, Great Berkhamstead.
Laxton, T., Bedford.
Lee, W., The Nurseries, Hammersmith.
*Lee, J., 78, Warwick Gardens, W.
Mansell, J. L., St. Peter's Terrace, Guernsey.
Masters, Dr., 41, Wellington Street, Strand.
Miles, G. T., The Gardens, Wycombe Abbey, High Wycombe.
Miller, W., Coombe Abbey, Coventry.
Muir, J., The Gardens, Margam Castle, Taibach, S. Wales.
Paul, G., The Nurseries, Cheshunt.
Paul, W., The Nurseries, Waltham Cross.
Pearson, J. R., The Nurseries, Chilwell, Notts.
Penny, C., The Gardens, Sandringham, King's Lynn.
Poynter, R., The Nurseries, Taunton.
Pragnell, W. G., The Gardens, Sherborne Castle, Dorset.
Renwick, J., The Nurseries, Melrose, N.B.
Ritchie, H., Eardiston Gardens, Worcester.
*Rivers, T. F., The Nurseries, Sawbridgeworth.
*Roberts, J., The Gardens, Gunnersbury Park, Acton.
Robertson, Dr., Errol, N.B.
Robinson, W., 37, Southampton Street, Strand.
Ross, C., The Gardens, Welford Park, Newbury.
Rust, J., The Gardens, Eridge Castle, Tunbridge Wells.
Rutland, F., The Gardens, Goodwood, Chichester.
Saltmarsh, T. J., The Nurseries, Chelmsford.
Saunders, C. B., The Nurseries, St. Heliers, Jersey.
Shingles, T., The Gardens, Tortworth Court, Gloucester.
Smith, J., The Gardens, Mentmore, Leighton Buzzard.
Smith, R., The Nurseries, Worcester.
Stevens, Z., The Gardens, Trentham Hall, Stoke-on-Trent.
Strickland, Sir C., Bart., Hildenley, Malton.
Thomas, O., The Gardens, Chatsworth, Chesterfield.
Thomson, D., The Gardens, Drumlanrig Castle, N.B.
Thomson, W., The Vineyard, Clovenfords, Galashiels, N.B.
Thurston, Rev. J., Guernsey.
Turner, A., Royal Nurseries, Slough.
Unthank, Rev. G. R., Templeville, Limerick.
*Veitch, H. J., The Nurseries, Chelsea, S.W.
Veitch, P., The Nurseries, Exeter.
Webber, J., Covent Garden, W.C.
Webster, J., The Gardens, Gordon Castle, Fochabers, N.B.
Wheeler, A. C., The Nurseries, Gloucester.
*Woodbridge, J., The Gardens, Syon House, Brentford.
Wildsmith, W., The Gardens, Heckfield Place, Winchfield.
Wynne, B., 17, Catherine Street, Strand.

FLORICULTURE.

The National Carnation and Picotee Society's Show, which was held at South Kensington on Tuesday, though somewhat smaller than usual, owing to causes which we need not now discuss, was anything but the small affair that some anticipated. We cannot say that the flowers were as fine as usual, being generally small in size, owing to the excessive heat and drought which growers have had to contend against. This remark, however, does not apply to the blooms sent from Slough, which for size, purity, and high finish, have never been beaten, we imagine, by any of Mr. Turner's previous exhibits.

For twenty-four Carnations, not less than twelve dissimilar varieties, Mr. Turner was easily first, with splendid blooms of Master Fred, Robert Lord, Sarah

Payne, John Ball, Sir Garnet Wolseley, Rob Roy, H. K. Mayor, E. S. Dodwell, A. Medhurst, J. Douglas, Jessica, John Harland, W. Skirving, James Tayler, Henry Cannell, Sybil, and H. Matthews. Mr. Douglas, gardener to F. Whitbourn, Esq., Great Gearies, came in second; Mr. J. Hines, 81, Bramford Road, Ipswich, third; Mr. H. Hooper, Bath, fourth; and Mr. T. Garrett, South Mill, Bishop's Stortford, fifth. For twelve dissimilar Carnations the first prize went to Mr. J. Lakin, Temple Cowley, Oxford, who had a fine stand composed of J. Douglas, Capt. Owen, Ranger Johnson, Sarah Payne, R. Lord, Dolly Varden, Thomas Moore, Fred, Admiral Curzon, T. Anstiss, and two seedlings, and it may be noted as a matter of interest to some that nine of the varieties on this stand were raised by Mr. Dodwell. Mr. Douglas was again second; Mr. J. Buxton, Manor Street, Clapham, third; Mr. Hines, fourth; and Mr. Garrett, fifth. For six blooms the first prize went to M. Rowan, Esq., Manor Street, Clapham, who staged blooms of George, W. Skirving, Jessica, E. S. Dodwell, Florence Nightingale, and Clipper; Mr. T. Anstiss, Brill, Bucks, was second; Hudson Morris, Esq., The Nest, Hayes, Kent, third; Aubrey Sperling, Esq., The Nest, Blackheath, fourth; and Mr. Glasscock, South Street, Bishops Stortford, fifth. The single bloom classes were not nearly so well contested as usual, and the prizes were pretty evenly divided between Mr. Turner and Mr. Douglas, the awards made being as follows: Crimson Bizarres:—Mr. Douglas first and second, with A. Medhurst; Mr. Turner third and fourth, with Robert Lord; and Mr. J. Lakin fifth, with the same variety. Scarlet Bizarres:—Mr. Turner first, with J. Harland; Mr. Douglas second, with a seedling; Mr. J. Lakin third, with Master Fred; fourth, Mr. Douglas, with Master Fred; fifth, Mr. Lakin, with T. Anstiss. Pink and Purple Bizarres:—first, Mr. Turner, with Sarah Payne; second and third, Mr. Douglas, with William Skirving; fourth, Mr. Turner, with J. Taylor; fifth, Mr. T. Anstiss, with Dr. Symonds. Purple Flakes:—Mr. Turner first and second, and Mr. Douglas third and fourth, with James Douglas. Scarlet Flakes:—Mr. Turner first, with Matador; Mr. Douglas second, with H. Cannell, and third with Sportsman; fourth, Mr. Lakin, with Tom Lord. Rose Flakes:—Mr. Turner first and second, and Mr. Douglas third and fourth with Rob Roy, and Mr. Lakin fifth, with Sybil. The premier Carnation was Rob Roy—a splendid bloom in Mr. Turner's collection of twenty-four blooms.

Picotees.—Here Mr. Douglas turned the tables on his victor in the Carnation class for twenty-four, showing blooms which, though smaller than those from Slough, were remarkably pure and fresh, and this point carried him through. Mr. Douglas's varieties were:—Brunette, Jessie, Liddington's Favourite, Her Majesty, Mrs. Bowers, Mrs. Gorton, Muriel, Princess of Wales, Mrs. Payne, Mrs. Chancellor, Constance Heron, Royal Visit, Baroness B. Coutts, and Violet Douglas. Mr. Turner was a close second with a seedling, Juliette, Robt. Scott, Liddington's Favourite, Lucy, Dr. Epps, a seedling, Muriel, Constance Heron, Juliette, Ricardo, Thomas Williams, Baroness B. Coutts, Dr. Abercrombie, and Brunette; Mr. Hooper was third. For twelve blooms, Mr. Douglas was again first with Brunette, Her Majesty, Liddington's Favourite, Mrs. Chancellor, Mrs. Gorton, Constance Heron, Jessie, Violet Douglas, Zerlina, Miss Wood, Mrs. Payne, and Princess of Wales. Mr. Lakin was second, Mr. T. Hines third, Mr. T. Buxton fourth, and Mr. T. Garrett fifth. For six blooms, Mr. Thos. Anstiss came in first, with Clara Penson, Favourite, Purple Prince, Jessie, Mary, and John Smith; second, M. Rowan, Esq.; third, Mr. Glasscock; fourth, Mr. H. Cattley, 16, Claverton Buildings, Bath; and fifth, Mr. H. Startup, Bromley. In the class for single specimens there was a better competition. Heavy-edged Red:—First, Mr. Douglas, with Brunette and second with Princess of Wales; third, Mr. Sanders, with Dr. Epps, and fourth with J. B. Bryant; fifth, Mr. Turner with Brunette. Light Red-edged:—Mr. Douglas, first and second with Thomas Williams, and Mr. Turner third with the same variety, and fifth with Violet Douglas. Purple Heavy-edged:—Mr. Douglas first and fourth with Muriel, Mr. Turner second and third with Muriel, Mr. Sanders fifth with Zerlina. Light-edged Purple:—Mr. Douglas first and second with Her Majesty, Mr. Turner third and fourth with Juliette, and Mr. Sanders fifth with Her Majesty. The Premier Picotee was a very fine specimen of Liddington's Favourite, in Mr. Douglas's stand of twelve blooms.

Selfs, Fancies, or Yellow Grounds.—Mr. Turner was invincible in this section, showing a splendid lot of blooms. For twenty-four, he secured the highest honours easily with The Governor, Prince Henry of Battenburg, Lady Stamford, Guardsman, Florence, Harry Matthews, Grandiflora, Edith, E. Adams, W. Skirving, Rosa Bonheur, R. Lord, Janira, Mary Morris, Jupiter, Col. Wood, Polly Cheetham, Mrs. Logan, and Chromatella. Mr. Douglas came in second, Mr. F. Hooper third, Mr. Cattley fourth, and Mr. G. Maddick fifth. For twelve dissimilar blooms Mr. Lakin was well first with Sir Toby Belch, The Queen, John Soper, Mrs. Medhurst, Mrs. Owen, Dean Wood, Ruby May, Huson Morris, Mrs. Morris, and three seedlings; second, H. Morris, Esq.; third, Mr. T. Anstiss; fourth, A. Spurling, Esq.; fifth, Mr. Maddick. For twelve Yellow Ground Picotees Mr. Turner was again first, and Mr. Douglas second, and the same exhibitors in the same order secured the awards for nine plants in pots.

The exhibition was greatly strengthened by a number of miscellaneous contributions, first among which must be named a remarkably fine set of eight boxes of blooms of Carnations and Picotees from Messrs. Veitch & Sons; most of the varieties were represented by three blooms of each, and the whole were neatly arranged on a surface of green Moss. This collection was awarded a Silver Banksian Medal. Mr. T. S. Ware contributed several fine boxes of blooms, including a dozen flowers of a new white Clove named M. T. Walker, of great size and purity, and which was greatly admired. Messrs. H. Cannell & Sons also sent some admirable stands from Swanley. Mr. James Douglas showed several very promising seedlings, and received First-Class Certificates for Carnation Margaret, rose flake; Carnation Rosamount, crimson bizarre; Carnation Thalia, rose flake; Carnation Grace, pink and purple bizarre; and Picotee Dr. Horner (F. D. Horner), a light-edged red of excellent quality.

HORTICULTURAL SOCIETIES.

Royal Horticultural, *July 28th.*—Carnations and Picotees and tuberous-rooted Begonias were the special subjects invited in the schedule for this meeting, the public interest in which, however, was greatly heightened by a splendid collection of Gloxinias from Messrs. Sutton & Sons, Reading, a striking display of hardy plants from Mr. T. S. Ware, several fine collections of vegetables, an admirable exhibit of Smooth Cayenne Pines, a goodly number of new and rare plants, &c., from other exhibitors. The Begonia classes proved the quality of Messrs. John Laing & Co.'s strain of these exceedingly showy and popular flowers, and their cultivation also, for they secured the first prizes easily in the three classes open to them, while Mr. W. Bealby, The Laurels, Roehampton, came in second for nine single and six double-flowered varieties, and a very good second too for an amateur who does not employ a gardener, and whose business keeps him in town all day. In the amateurs' class, the first prize went to Mr. Monk, gardener to W. N. Cheesman, Esq., The Hall, North Dulwich, who had some well-grown plants about 3 ft. in diameter, Mr. Bealby being again second, and Mr. W. H. Apethorpe, Cambridge, third. The Messrs. Laing's plants ranged from 2 ft. to 4 ft. in height, and, needless to say, were well bloomed. Mr. Waite, gardener to Col. Talbot, won the first prize for nine Gloxinias, and Mr. James, Castle Nursery, Lower Norwood, secured the leading awards for a group of miscellaneous plants, and a collection of carnivorous plants, while Mr. T. S. Ware was first for Liliums. Mr. Ware, besides a superb collection of hardy plants, exhibited some very showy Gaillardias, and Messrs. John Laing & Co. an exceedingly fine assortment of cut blooms of Begonias. From the Hon. and Rev. J. T. Boscawen came a large, vigorously-grown specimen of Lælia purpurata, with six spikes of large flowers. The New Plant & Bulb Co., Colchester, contributed a number of fine cut spikes of Lilium auratum, and some dwarf plants of the variegated form of Lilium longifolium. Besides several new plants, Messrs. James Veitch & Sons had some cut spikes of several beautiful seedling varieties of Gladiolus Lemoinei, and excellent examples of that truly useful summer-flowering shrub, Olearia Haastii. Messrs. Hooper & Son, Covent Garden, showed a beautiful group of Gloxinias, mostly spotted varieties, and were awarded a Silver Banksian Medal.

The new plants certificated were Dracocephalum virginicum album, with dense compact spikes of white flowers; Campanula Hendersoni, a dwarf-growing, free-flowering plant, with large, light, porcelain-blue flowers; and Helenium pumillum, a good old-fashioned yellow-flowering composite, all from Mr. T. S. Ware. Rhododendron incarnatum floribundum, one of the hybrid greenhouse varieties, with flesh-coloured flowers; and Begonia Thwaitesii, a dwarf, ornamental-leaved species from Ceylon, with the leaves green, blotched or marked with greenish-white, and the flowers white, both from Messrs. James Veitch & Sons. Ivy-leaved Pelargonium Josephine von Hohenzollern, a free-growing variety, with large flowers of a rich crimson colour, shaded with purple; and Zonal Pelargonium Paul Charbonnier, a dwarf-growing, double-flowered scarlet, from Mr. W. Bealby. Marigold Miniature Orange African, a dwarf and compact-habited plant, with fine orange flowers, from Messrs. James Carter & Co. Begonia Marquis of Stafford, a dwarf, free-flowering variety with large double cherry-red blossoms, from Messrs. John Laing & Co.; Begonia Prince Henry, noticed in another column, from Messrs. Sutton & Sons; Begonia Marchioness of Lothian, a variety, with very large, full, double pendant flowers of a creamy-white colour; and Begonia Picotee, a large full double, of a pleasing shade of rose-pink, with the margins of the petals clear white, from Messrs. Cannell & Sons.

At the meeting of the Fruit Committee, Mr. Nicholas, The Gardens, Castle Hill, South Molton, exhibited eighteen Smooth Cayenne Pine Apples of the aggregate weight of 126½ lbs., and was deservedly awarded a Silver-Gilt Banksian Medal. Messrs. Hurst & Son, Houndsditch, exhibited for Mr. J. Tucker, of Bridgewater, a Pea named Eureka, of the Ne Plus Ultra type, and which was referred to Chiswick for trial. Mr. Ross, gardener, Welford Park, showed a bunch of a new seedling White Grape, named Mrs. Eyre, with long tapering berries of the Black Monukka type, very sweet, but too thick in the skin for a summer Grape. Mr. J. Bolton, gardener, Combe Bank, Sevenoaks, again sent samples of his Prolific Gooseberry, a medium-sized, oval, smooth, green variety, which the Committee commended for its great bearing qualities.

For Messrs. Sutton & Son's prizes for vegetables there was an excellent competition, and for the best collection the awards went to Mr. Richards, gardener to the Earl of Normanton, Somerley Park; Mr. C. J. Waite, Esher; Mr. Haines, Coleshill; Mr. Beckett, Cole Hatch Farm, Penn; and Mr. James Neighbour, Bickley Park, in the order named, and but few points of merit divided the first three. The prizes offered for Sutton's Earliest of All Savoy and All-Heart Cabbage, both excellent vegetables, were won by Mr. Neighbour, Mr. C. Osman, Sutton, and Mr. P. Cornish, Enfield.

Nottingham Horticultural and Botanical, *July 23rd to 25th.*—This annual exhibition was held in the grounds of Mapperley Park, kindly placed at the disposal of the society by Alderman Lambert, J.P., and as regards the number of entries and the quality of the exhibits, they exceeded that of any former display, the only deficiency noticeable being in the Rose classes. The weather also, we are pleased to say, was very fine, in pleasing contrast to that experienced last year. The exhibition was well arranged in five spacious marquees, and the principal feature consisted of the magnificent groups of plants arranged for effect. These were divided in two classes, viz.: for collections, covering 200 square feet and 100 square feet respectively, and there were five groups in each class. In the former, one of the finest arranged groups I have ever seen was put up by Mr. Thacker, who was a very easy first. It was a grand piece of artistic arrangement, and reflected great credit upon its designer, a true lover of horticulture, who is purely an amateur, ably assisted by his sons. Mr. Edmunds, gardener to the Duke of St. Albans,

came in second, his group being likewise very meritorious, but lacking the artistic arrangement seen in the former; still, it was a very creditable display. Mr. Lyon, gardener to Lady Ossington, who had a good group of well-grown plants, fine examples of cultivation, but arranged too flat, and wanting a better centrepiece, was third. The first prize in the 100 square feet class fell to Mr. German, gardener to J. B. Cutts, Esq., Nottingham, whose group was nicely arranged, and contained many novelties of sterling merit, including a well-grown plant of Nepenthes Mastersiana, with its lovely deep red pitchers. Mr. Massey, gardener to Alderman Lambert, was second with a well-arranged group; and Mr. Swanick, gardener to Col. Seeley, who likewise had a good collection, was third. The others were too heavy, and the exhibitors would do well to take a lesson from Mr. Thacker.

Stove and greenhouse plants were fairly well shown. For three foliage and three flowering plants, Mr. Lyon was an easy first, and for six ornamental foliage plants, Mr. German took first honours. Table plants were well represented, both as regards numbers and quality, and first honours went to Lady Ossington, who was closely run by Mr. German, gardener to J. B. Cutts, Esq., and Col. Seeley. Most of the plants staged were very light and graceful, just the right size for table work. Ferns were but poorly represented, and the first prize was easily obtained by Mr. German. Coleus, Fuchsias, Pelargoniums, Caladiums, Gloxinias, Begonias, were all very poor, and call for no comment.

Prizes were offered for table decoration, viz., table for ten persons, and table plants, flowers, and fruit arranged for effect. The decisions of the judges in these classes were very unpopular. In the former they were evidently led away by an over-crowded table of plate-glass and china, with no pretence whatever of a floral decoration. The fruit was unfit for any table, with the exception of one dish, and yet this was awarded the first prize, but why I failed to see. The first prize should have been awarded to Mr. Chard, of London, whose table was light and graceful, with the fruit and flowers quite in keeping with his well-known style; the table awarded the second prize was far too heavy. The same error of judgment also occurred, but not in so pronounced a form, in the classes for tables of plants, flowers, and fruit arranged for effect.

Cut-flowers comprised collections of twelve stove and greenhouse subjects, and here Lady Ossington was first, Col. Seeley second, and C. J. Cox, Esq., third, with fairly good things well put up. Hardy and herbaceous flowers were shown in quantities, and the premier award was easily taken by Messrs. Pearson & Son, of Chilwell, with a grand lot. Bouquets, buttonholes, sprays, and dinner-table epergnes were well to the fore, Messrs. Perkins, of Coventry, and Mr. Chard having it all their own way. The examples shown by these firms were of an especially artistic character.

Roses were below the average, owing, no doubt, to the dry season. The best flowers came from Messrs. Perkins & Son, of Coventry, whose blooms were fresh and good, but they inadvertently showed more than the number specified, and the judges were reluctantly compelled to disqualify them. The premier bloom of the show was a grand flower of Horace Vernet, in the stand of Mr. Radford.

The Stocks and Marigolds were very poor, but some good Pelargoniums were shown by Pearson & Sons.

In the fruit classes, the collection of six varieties shown by Mr. Edmunds, gardener to the Duke of St. Albans, took the first prize, and his Peaches, Nectarines, Figs, and Grapes were very fine; second, Lady Ossington, who likewise showed well. The leading prizes for white and black Grapes went also to Mr. Edmunds, as did those for single dishes of Peaches, Nectarines, Strawberries, and a Pine-Apple, Mr. Edmunds thus proving himself champion here this season. Vegetables were shown in quantities, some good collections beign staged, but we have seen them of better quality, and better arranged; still, some good vegetables in the various classes were forthcoming.

In the miscellaneous class, Messrs. Pearson & Son, Chilwell, showed a collection of stove and greenhouse plants, hardy Ferns, wreaths, and crosses, &c. Mr. Harvey, Blyth Street Nursery, had some stove and greenhouse plants for decorative purposes; Messrs. John Laing & Co., Forest Hill, sent flowers of the Begonias for which they have such a high repute; Mr. Fred. Perkins sent six plants of Pelargonium Volunte National alba, well grown and profusely flowered; Mr. B. S. Williams, Victoria and Paradise Nurseries, Holloway, sent, not for competition, an extensive collection of miscellaneous stove and greenhouse plants, Orchids, &c., which were well put up in a prominent position at one end of the large tent, and the various novelties displayed were greatly admired, the Nepenthes especially taking the fancy of the general public.

Rustic-work and rockwork, also some ornamental shrubs, came from Mr. W. Bardell, Stapleford, and rustic-work by Messrs. Inman and Carrington and Mr. Don, of Nottingham. This society is to be congratulated this year on being favoured with such fine weather, and for the admirable management of the exhibition great credit is due to Mr. Steward, the energetic Secretary, and the Committee. The officials work well together here, and we trust their united labours will be crowned with success.—*Cor.*

Newcastle Rose and Horticultural Society, *July 21st.*—That Newcastle, possessing the reputation it does in North Staffordshire for success in horticultural pursuits, and especially in the cultivation of "the queen of flowers," should not have in a horticultural society an opportunity of publicly displaying its wealth of garden produce, has been looked upon as unfortunate and singular. Some years ago a society on a somewhat extensive scale was in existence, and very successful exhibitions were held under its auspices. It fell through, however, and was succeeded by a Rose society, which a few years ago also collapsed. Last year the present organization was formed, the Mayor (Mr. T. Bullock) being elected president, Mr. H. R. Ramm appointed treasurer, and Mr. W. H. Ramm, secretary, with an influential list of vice-presidents, and a good representative committee. Under their arrangements, the first annual show of the society was held in the Town Hall (kindly lent by the Mayor for the occasion), when the display of flowers, fruit, and vegetables was highly satisfactory and encouraging. The flowers lost much of their charm of appearance through being exhibited in a close room, and another year the committee will do well to hold the show *al fresco*, which is always the most popular mode. An attractive feature of the exhibition was the splendid display of Roses kindly sent, not for competition, by Messrs. James Dickson & Sons, Newton Nurseries, Chester; Messrs. Cranston, Hereford; Messrs. R. Smith & Co., Worcester; and Messrs. Sandy & Son, Stafford. The exhibits of these noted growers were greatly admired, and well sustained their fame. Mr. D. Ffoulkes, of the Friarswood Nursery, Newcastle, lent a number of choice plants for decorative purposes, and Messrs. Balfour, of Longton, exhibited some neat specimens of terra-cotta and horticultural ware. All these special exhibits received the compliment of "highly commended" from the judges.—*Staffordshire Advertiser.*

Obituary.

Mr. William Chater.—We regret to hear of the death, last week, at the ripe old age of eighty-four years, of Mr. William Chater, of Saffron Walden, whose name for many years was so prominently identified with the improvement of the Hollyhock. Mr. Chater was born in 1802, at Hellions Bumpstead, Essex, his father being gardener at Bower Hall, near that place, and as there was then no school in the neighbourhood, the boy had to be taught by his parents the rudiments of reading and writing. For several years he worked with his father at Bower Hall, and at the age of eighteen or nineteen years he went to live with his brother, John Chater, a nurseryman at Haverhill, who also had a good reputation as a florist. When twenty-two years old he went to Saffron Walden, and commenced the nursery business.

At that time, there were several good growers in the neighbourhood, and the young nurseryman's love for florists' flowers increased apace. At that time, he cultivated the Ranunculus, Carnations and Picotees, Dahlias, Tulips, Pansies, and Hollyhocks. About the year 1845, a gentleman resided in Walden—Mr. Charles Baron—who was an enthusiastic florist, and whose name is not yet quite forgotten by some of the older Tulip-growers. He had a magnificent collection, and about 1847 Mr. Chater entered into an engagement with him to grow and sell his Hollyhocks, the first batch of which consisted of some nineteen unnamed seedlings. In the month of October of the same year, we believe, he sent out several sets of plants at £5 each. At this time, Mr. Chater, finding that he did not obtain anything fresh from his own or Mr. Baron's collection separately, began crossing them, and was soon successful in obtaining that splendid scarlet, the Comet, the seed-parent of which was Baron's Anemoneflora, a flower that Mr. Baron did not think much of, but which Mr. Chater proved to be invaluable for crossing purposes, as from it was obtained the Comet, above named, Walden Gem, and Walden King, all scarlets of the first water, and the latter, in particular, which is perhaps the most perfect flower grown.

Subsequently he raised Charles Baron, a pinkish-salmon, raised from Baron's Queen and his own Napoleon, and which was the seed parent of all the beautiful salmons afterwards raised in his nursery. From Baron's Model of Perfection came all the whites with purple bases; and from Chater's Purpurea elegans all the purples. Baron's Magnum Bonum gave Mr. Chater the mulberry and maroon-coloured flowers, and the marbled flowers came from the latter's Venosa; and from his Formosa he obtained the claret colours, while the flesh-coloured sorts sprung from Baron's Queen. In 1848 he raised Pallida, a novel variety of a pale lilac colour, one of the most beautiful flowers he ever obtained, but which he could not increase, and eventually lost. In the same year he also raised a beautiful bright rose of exquisite form, which he named Jessie, or Pulchella, and which also died after three or four years of hard struggling.

For some years afterwards, until, in fact, the fungus, Puccinea malvacearum, devastated the collections of Hollyhocks throughout the country, Mr. Chater continued to raise seedlings and put into commerce his new varieties, which it is interesting to know were obtained from seeds yielded by his new varieties a year or two before they were sent out. Mr. Chater's standard of excellence was a high one, and it was not until after a seedling had been well proved that it was named and put into his catalogue. His system of cultivation was also first-rate—none better—and it may interest many to know that he always obtained his best show blooms from grafted plants, his usual plan being to sow seeds of the common sorts in the spring, and the following season to graft on the single roots.

Mr. Chater was a lover of fruit-culture all his life, and an enthusiast in the matter of Orchard-houses. He also practised successfully as a landscape gardener, on which work he brought to bear great taste and much natural ability. His last achievement in this direction was the laying out of Sir J. W. Pease's estate at Hutton Hall, Gainsboro', Yorkshire, during the years 1864-7, and which he considered would be in time one of the most charming estates in England. At Shortgrove Park, he carried out many improvements for the late W. C. Smith, Esq. He re-modelled the flower gardens, altered the drives and approaches to the mansion, planted a great many forest and ornamental trees, with the result that it is now one of the most beautiful parks in the county. The pretty gardens and grounds at Bridgend were entirely designed by him, as also were a number of other gardens which we have not space here to ennumerate. To the multitude of flower lovers, his Hollyhocks will keep his memory green for many a year to come, and by his many personal friends he will be remembered for the sterling good qualities of head and heart which endeared him to all who knew him.

ANSWERS TO CORRESPONDENTS.

Books.—*W. E.*—Johnson's *Gardener's Dictionary*, published by Bell & Sons, York Street, Covent Garden, will perhaps suit you best. The price with supplement is 7*s.* 6*d.*

Names of Plants.—*F. D., Tunbridge Wells.*—The Odontoglossum is a variety of O. nebulosum, and the Miltonia is not flavescens, but M. spectabile.—*A. Croates.*—1. Gaillardia grandiflora; 2. Lychnis vespertina flore-pleno; 3. Harpalium rigidum.—*Scot.*—1. Inula glandulosa; 2. Cupressus Lawsoniana, one of the innumerable seedling varieties.

Communications Received.—A. O.—H. M. P.—E. S. D.—T. W.—W. T. F.—T. B. (many thanks).—J. B.—L. (many thanks for the hint; the matter shall be attended to).—N. J. D.—W. E.—A. H.—W. J. M.—A. R.

Trade Catalogue Received.

William Baylor Hartland, 24, Patrick Street, Cork.—Ye Original Little Booke of Daffodils.

LONDON SEED TRADE.

July 29th, 1885.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a small business passing in agricultural seeds. Buyers are evidently waiting until supplies of new crops are marketed. Quality in all instances proves fine. A moderate quantity of new Red Suckling has changed hands recently at low figures. Clovers are neglected, although new Trefoil is offering very cheap. Rape and Musstard unchanged. Hemp and Canary and Linseed steady.

COVENT GARDEN MARKET.

July 30th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Grapes, per lb.	0 9- 2 0	Pine-apples, St. Michaels, each	3 0- 5 0
Melons, each	2 0- 3 0	Red Currants, ½ sieve	3 0- 4 0
Peaches, per doz.	2 0- 8 0	Black do.	4 0- 4 6
Pine-apples, Eng., lb.	2 0- 3 0	Strawberries, per lb.	0 3- 0 9

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	1 0-	Herbs, per bunch	0 2- 0 4
Asparagus, English, per bundle	-	Horse Radish, bundle	3 0- 5 0
Beans, French, per lb.	- 1 0	Lettuces, Cabbage, per dozen	2 0-
Beet, per dozen	2 0- 3 0	— Cos, each	0 1-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 1 0	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
		Tomatos, per lb.	1 0-
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Lily of the Valley, 12 bunches	-
Anemone, 12 bun.	-	Marguerites, 12 bun.	2 0- 6 0
Arum Lilies, 12 blms.	2 0- 6 0	Mignonette, 12 bun.	1 6- 3 0
Azalea, 12 sprays	-	Moss Roses, 12 bun.	12 0-18 0
Bourvardias, per bun.	0 9- 1 0	Narcissus, various, doz. bun.	-
Camellias, 12 blooms	-	Pæony, 12 bunches	-
Carnations, 12 blooms	1 0- 3 0	Pelargoniums, per 12 sprays	0 6- 1 0
Carnations, 12 bun.	2 0- 4 0	—scarlet, per 12 sprays	0 4- 0 6
Chrysanthemums, 12 bunches	-	Pinks, various, 12 bunches	1 0- 4 0
— large, 12 blooms	-	Primula, double bun.	0 6- 1 0
Cornflower, 12 bun.	2 0- 4 0	Primulas, Chinese, bun.	-
Cyclamen, doz. blooms	-	Pyrethrum, 12 bun.	2 0- 4 0
Cineraria, per bunch	-	Rhodanthe, 12 bun.	6 0- 9 0
Day Lily, 12 bunches	-	Roses (coloured)	1 0- 2 0
Epiphyllums, 12 blms.	-	Roses, indoors, p. doz.	1 0- 3 0
Eschscholtzia, 12 bun.	-	Roses, per dozen bunches	2 0- 6 0
Eucharis, per dozen	3 0- 6 0	Spiræa, 12 bun.	-
Gardenias, 12 blms.	2 0- 5 0	Stephanotis, 12 spr.	2 0- 4 0
Heliotropes, 12 sprays	0 6- 1 0	Stocks, 12 bunches	2 0- 4 0
Hyacinths, Roman, doz. sprays	-	Sweet Peas, 12 bun.	2 0- 4 0
Iris, 12 bunches	-	Swect Sultan, 12 bun.	4 0- 6 0
Lapageria, white, 12 blooms	2 0- 3 0	Tuberoses, per dozen	0 4- 0 6
Lapageria, red, 12blms.	1 0- 2 0	Tulips, per doz.	-
Lavender, 12 buu.	4 0- 6 0	Violets, doz. bun.	-
Lilium candidum, 12 blooms	-	— French, per. bun.	-
— Longiflorum, 12 blooms	2 6- 6 0	— Parma, per. bun.	-
Lily of the Valley, doz. sprays	-	White Jasmine, bun.	0 6- 0 9
		Woodroffe, 12 bunches	-

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

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Azalea, per doz.	-	Hydrangea, per doz.	9 0-18 0
Balsams, per doz.	3 0- 6 0	Ivy Geraniums, per dozen	3 0- 6 0
Begonias, per dozen	4 0-12 0	Lilium longiflorum, per doz.	18 0-36 0
Bouvardias, dozen	9 0-18 0	Lilium lancifolium, per doz.	9 0-12 0
Calceolarias, per doz.	4 0- 6 0	Lobelias, per doz.	3 0- 6 0
Cineraria, per dozen	-	Marguerites, per doz.	8 0-12 0
Cockscombs, dozen	3 0- 6 0	Mignonette, per doz.	4 0- 6 0
Cyclamens, doz.	-	Palms in variety, each	2 6-21 0
Cyperus, per dozen	4 0-12 0	Pelargonium, per doz.	6 0-18 0
Deutzia, per dozen	-	Pelargoniums, scarlet per dozeu	3 0- 9 0
Dracæna term., doz.	30 0-60 0	Petunias, per dozen	4 0- 6 0
— viridis, per dozen	12 0-24 0	Poinsettia, doz.	-
Epiphyllums, doz.	-	Rhodanthe, per doz.	6 0- 9 0
Evergreens, in var., per dozen	6 0-24 0	Spiræa, per dozen	-
Ferns, in var., dozen	4 0-18 0	Stocks, per dozen	-
Ficus elastica, each	1 6- 7 0	Tropæolums, per doz.	2 0- 4 0
Fuchsias, per doz.	3 0- 9 0		
Foliage Plants, various, each	2 0-10 0		
Genista, per dozen	-		

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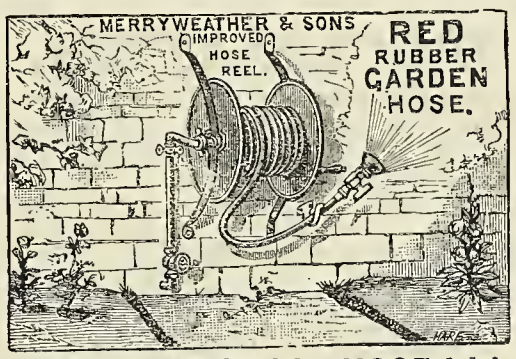

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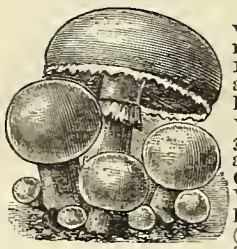

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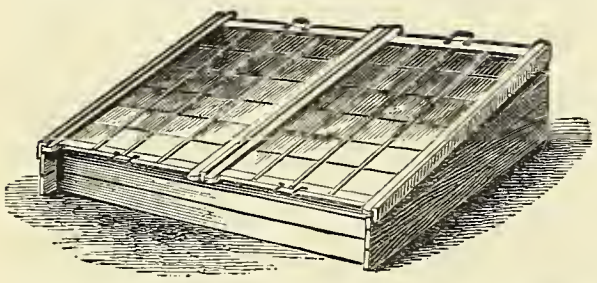

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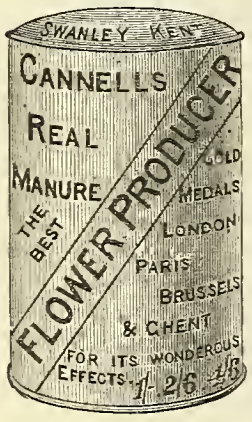

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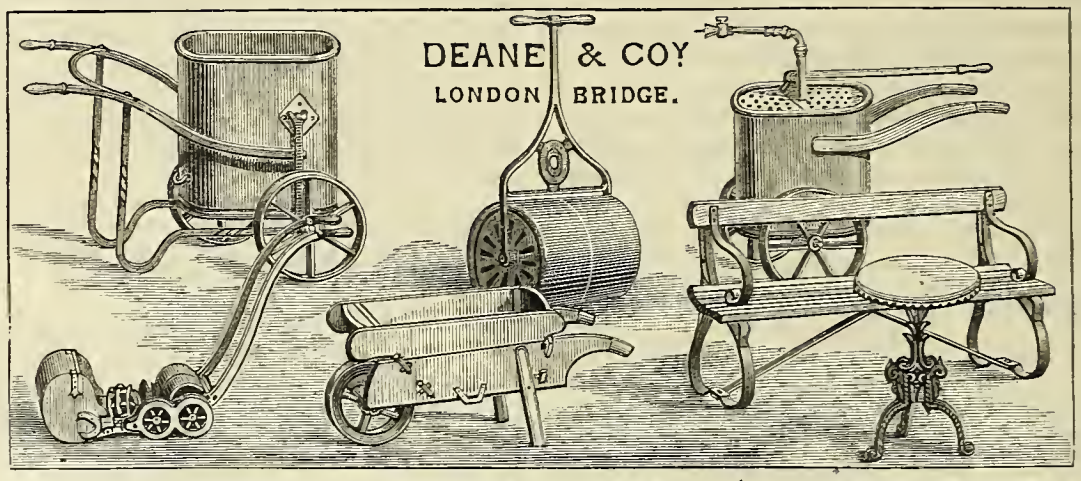

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Season 1885.

NOTICE to NURSERYMEN, SEEDSMEN, and FLORISTS.—Why pay freight from Holland to London on DUTCH BULBS when you can buy at a cheaper rate the same quality and get them brought over free by ordering from M. RAINS & CO., 34, MANSELL STREET, ALDGATE, E.C., the old-established firm since 1856. Named Hyacinths, first-size bulbs, at £1 0*s.* 10*d.* per 100, or 2½*d.* each; bulbs true to name and colours. Price Lists may be had free on application. Bulbs will be found at this establishment from August until the end of December in each year. Hyacinths from 8*s.* per 100; Early Romans, 8*s.* per 100.

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Choice Irish Ferns for Sale.

800 SPECIES and VARIETIES, Botanically named and labelled, at moderate prices. Three Maiden-hair Ferns and one of each of Lady Ferns Moulin and Rubrum, Black Maiden-hair Spleenwort, evergreen Asplenium marinum, Blechnum Boreale, Ceterach crenatum and Lastrea æmula, like Parsley, and the beautiful Lastrea thelypteris, Cystopteris Dickieana and fragilis, hard shield Fern, with thorns; Crested Lady Fern, and the very rare Polypodium semilacerum, Scolopendrium cristatum and marginatum, and the exquisite Scolopendrium obtusidentatum, extremely rare; the beautiful New Zealand Fern, and the elegant Hymenophyllum Tunbridgense, all large and well rooted. The 21 rare and assorted species and varieties, 5*s.* 6*d.*, post free, to any part of the United Kingdom.

Orchids Botanically named and labelled, 12 different, 4*s.*, post free, or 10*s.* per 100. Orchis pyramidalis, Gymnadenia conopsea, and Epipactis palustris for 1*s.*, or 10*s.* per 100, post free. 200 different Alpine Plants and Shrubs, 2 plants of each kind, Botanically named and labelled, 24*s.*, post free; 3 Drosera, the wonderful insect killer, for 1*s.*, or 10*s.* per 100, post free.

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Any one desirous of Renting a Farm or Residence, or Purchasing an Estate, can have copies of the

MIDLAND COUNTIES HERALD supplied free for six weeks on stating the purpose for which the paper is required, forwarding name and address, and six halfpenny stamps for postage, addressed "*Midland Counties Herald* Office, Birmingham." The *Midland Counties Herald* always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

JAMES BOYD & SONS, PAISLEY and LONDON, Horticultural Builders and Heating Engineers to Her Majesty the Queen, H.R.H. the Prince of Wales, H.R.H. the Duke of Connaught, H.R.H. the late Duke of Albany, H.M.'s Board of Works, London and Dublin, H.M.'s Colonial Department, the Royal Horticultural Society, the Royal Botanic Society, and the Royal Dublin Society. Gold Medal, Paris, 1878.—London Office. 48, Pall Mall, S.W. Illustrated Circulars post free. Complete Catalogue, 3*s.*

GREENHOUSES FOR EVERYBODY.—The Little Gems, lean-to, 65*s.*; span-roof, 75*s.* A perfect novelty, not to be believed until seen; send 4 stamps for photo of gems. Cucumber frames, glazed and painted, 20*s.*—Send 2 stamps for OGDEN & CO.'S Price List to the Alexandra Palace Horticultural Works, Wood Green, London, N.

£1,000 OFFERED FOR PRIZES AT DUNDEE INTERNATIONAL EXHIBITION, 1884, where Dobbie's Prize Strains of Leeks, Turnips, Parsnips, Beet, Greens, Celery, Asters, French and African Marigolds, Cockscombs, &c., gained First Prizes respectively.

Catalogues, *free*, of Dobbie's Choice Pansies, Seeds and Plants, containing an Election of Pansies, the Culture thereof, with Remedies for the Prevention of the Pansy Disease, the True Secret of Growing Leeks and Onions for Competition, may now be had from DOBBIE & CO., Rothesay, N.B.

PLANT BUYERS should send for my special offer. Very low prices to clear.—ZONAL GERANIUMS, Single, 12 grand kinds, to include Cannell's splendid New White "Queen of the Belgians," 4*s.*; 12 Best Doubles, to include the very fine New White "Le Cygne," 4*s.*—GERANIUM CUTTINGS, 50 best varieties for 5*s.*, including "Le Cygne" and "Queen of the Belgians."—H. J. JONES, Hope Nursery, Loampit Vale, Lewisham.

GRAND NEW SINGLE FUCHSIA "GENERAL GORDON."—The largest and best Single Fuchsia known. Strong Plants, 2*s.* 6*d.* and 3*s.* 6*d.* each, by Parcels Post free for P.O.

See GARDENING WORLD, p. 725, July 18th, 1885.

R. OWEN, FLORAL NURSERIES, MAIDENHEAD.

GISHURST COMPOUND. — Used by leading gardeners since 1859 against Red Spider, Mildew, Thrips, Green Fly, and other Blight. 1 to 2 ozs. to the gallon of soft water, 4 to 16 ozs. as winter dressing for Vines and Orchard House Trees, and in lather from the cake against American blight. Has outlived many preparations intended to supersede it. Boxes—1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots Dry and Soft on wet ground. Boxes—6*d.* and 1*s.*, from the trade. Wholesale from PRICE'S PATENT CANDLE CO. (Limited), London.

TO INVENTORS.—Inventions protected by Royal Letters Patent at lowest rates. Provisional protection for nine months £2 2*s.* For all information concerning Patents address Messrs. LULMAN & CO., Patent Agents, 8, Essex Street, Strand, London, W.C.

£20.—TOBACCONISTS COMMENCING.—An Illustrated Guide (110 pages) "How to Open respectably from £20," three stamps.—H. MYERS & CO., Cigar and Tobacco Merchants, 109, Euston Road, London. Telephone No. 7,541.

Price 1*s.*, by Post 1*s.* 1*d.*

COW-KEEPING BY FARM LABOURERS.—BY HENRY EVERSHED.

On behalf of the Royal Agricultural Society, the author of this pamphlet visited the principal estates where cow-keeping by farm labourers is encouraged, including that of Lord Tollemache in Cheshire, where nearly 300 labourers and cottagers keep cows, and insure them in admirably managed cow clubs, presenting the most successful example of cow-keeping on a well-organized system in England. The pamphlet contains numerous Communications on Cow-keeping, by Land Proprietors, and others, with Plans of Cottages, Cowhouses, and Outbuildings.—H. EVERSHED, Hurstmonceux, Sussex.

THE FARMER AND CHAMBER of AGRICULTURE JOURNAL. Every Monday. ONE PENNY.

This JOURNAL, in its forty-second year, is now published at One Penny weekly, and is the largest, cheapest, and best Agricultural Paper. It contains all the Agricultural News of the Week, the Latest Markets, and numerous original and interesting articles on Farming subjects by the leading Agricultural Writers of the day. Should be in the hands of every Farmer. Post free, 6*s.* 6*d.* per annum. Specimen copies will be sent for one month, post free, for 6*d.*—Office, 291, Strand, London, W.C.

SALES BY AUCTION.

Sales for Next Week.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, during the ensuing week, as follows, at half-past twelve precisely each day :—

THURSDAY.—The Collection of ESTABLISHED ORCHIDS formed by E. R. KESTERTON, Esq., FLOWERING ORCHIDS, TREE FERNS, CALADIUMS, &c., &c.

SATURDAY.—A consignment of first-class BULBS from Holland, lotted to suit the trade and other large buyers.

Also at SOUTH LODGE, SOUTHGATE, on TUESDAY next, the Collection of ORCHIDS, STOVE PLANTS, FERNS, &c., formed by the late J. S. LAW, Esq.

On view mornings of Sale, and Catalogues had.

FRIDAY NEXT.

Very Valuable Importations.

MESSRS. PROTHEROE & MORRIS are instructed by Mr. F. SANDER, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY next, August 14th, at half-past twelve o'clock precisely, very valuable importations of LÆLIAS, CATTLEYAS, MEXICAN ORCHIDS, &c., &c.

On view morning of Sale, and Catalogues had.

Dutch Bulbs. Special Trade Sales.

MESSRS. PROTHEROE & MORRIS beg to announce that they have now fixed their Sales of DUTCH FLOWER ROOTS for the coming season. The first Auction will take place on MONDAY, August 17th. This and the three following Sales will consist of lots specially to suit the Trade and other extensive buyers, and arrangements have been made for the supply of roots of the best quality.

Catalogues will be sent regularly on application—Central Auction Rooms and Estate Offices, 67 and 68, Cheapside, E.C.

To Capitalists, Male or Female.

ADVERTISER, well known in the profession, who can command a large trade in a very populous district, where there is no competition, requires capital to erect the necessary glass-houses and other buildings. The opening is, without doubt, unequalled at the present time. Liberal and most advantageous terms offered, or would be glad to meet with a young man of energy and capital, desirous of learning the Horticultural Business, and who is seeking a permanent investment of a lucrative character.—Address: HORTUS, 17, Catherine Street, Strand, W.C.

Orchids and Lilies.

WILLIAM GORDON'S SPECIALITIES.—Special list of Orchids free per post. The small list of a few varieties quoted here will be found to be well worth investment. The size and value of plants sent out always ensures the utmost satisfaction. Cattleya citrina, fine plants of this sweet-smelling Orchid, 2*s.* 6*d.*, 3*s.* 6*d.*, 5*s.* each. Cypripedium Lawrenceanum, two to three growths, nice stuff, 3*s.* 6*d.* to 5*s.* Dendrobium Formosum giganteum, most lovely Dendrobe, large white flowers; these are the finest I have imported for three years; six to twelve bulbs, and two to three growths, which will flower, 3*s.* 6*d.*, 5*s.*, 7*s.* 6*d.* Dendrobium Dalhousianum; these have already produced gorgeous flowers from the old bulbs; immense masses, 21*s.* each; smaller, 10*s.* 6*d.*, 7*s.* 6*d.*, and 5*s.* each. Thunia Bensoniæ, strong plants, 5*s.* All other Orchids equally low.—Address, WM. GORDON, The Nurseries, Amyand Park Road, Twickenham.

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ORCHID GROWERS & IMPORTERS.

An immense Stock of fine robust Plants always on hand.

ORCHIDS! ORCHIDS!

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), LIM.,

Beg to announce the arrival of a fine consignment of East Indian Orchids, including a grand lot of DENDROBIUM BENSONI, and many other fine varieties. Full particulars on application to the Company,

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STRONG, healthy, and well-rooted. Sample and Pamphlet 4*d.* List free.

W. LOVEL & SON, Strawberry Growers, Driffield.

HORTICULTURAL SOILS, MANURES, SUNDRIES, & POTTERY.

Trepho, for Orchids; Peat, Loam, Sand, Manures, Sticks Labels, Insecticides, Raffia, Teak Baskets, Pottery, every description.

Every Horticultural requisite supplied.
Catalogue free per post.

JOHN KENNARD, Swan Place, Old Kent Road, S.E.

ESTABLISHED 1854.

STEVENS & CO.'S AMORTISER

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1s., 2s., and 3s. per Bottle.

Observe the Company's Signature round the Cork, without which none are genuine.

BEWARE OF SPURIOUS IMITATIONS.

THE AMORTISER we particularly recommend for Greenhouses, it being so pleasant for use and for its perfume. Its properties for destroying insect pests, &c., is equal to our Carbon Paste. We guarantee, if used as per directions, it will not injure the most delicate foliage or blooms any more than water.

P.S.—We highly recommend "BRAY'S" Spray for light work; it is a cork spray and will fit any bottle. It sends a very fine spray about 4 feet, and if the rose is removed will send it 12 feet with the greatest ease. This is the most useful spray we have ever seen, and may be used for many purposes; it requires no strength, and a child can use it.

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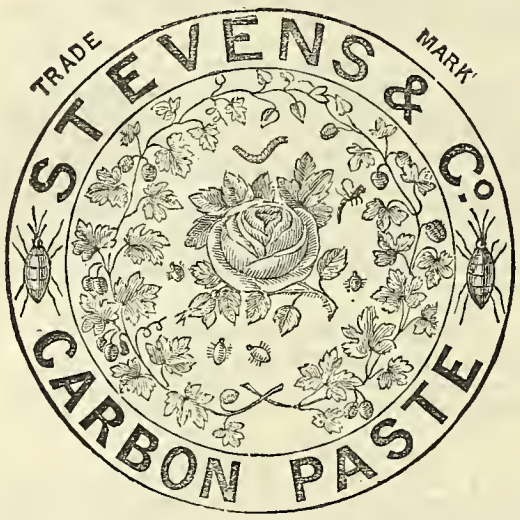
(NON-POISONOUS).

Four Gallons for One Shilling.



Will destroy in a few moments the Larvæ of the Aphides, Hop-Flea, Green and Black Fly, Mealy Bug, Thrip, Red and White Spider, Brown and White Scale, American Blight, Woolly Aphis, Ants, Mildew, Ear-Wigs, Caterpillars, and all insect pests.

1-lb. Tins, 1s.; 3-lb., 2s. 6d.; 7-lb., 5s. 6d.

TO HOP AND FRUIT GROWERS, FLORISTS, FARMERS, &c. IT IS INVALUABLE.

STEVENS & Co.'s CARBON PASTE is a most wonderful and economical preparation, and is certain destruction to every kind of Insects that infests Trees and Plants, and we guarantee, if used as per directions, it will not injure the most delicate foliage or bloom any more than water.

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RETAIL OF ALL CHEMISTS AND SEEDSMEN.

Special Quotations for large quantities. Sample sent for 1s. 6d.

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WM. CUTBUSH & SON,

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OF

THE NURSERIES,

HIGHGATE, BARNET, and FINCHLEY,

Beg to inform their Patrons and the Public generally that their

BUSINESS WILL BE CARRIED ON AS HERETOFORE,

And that all Orders entrusted to them will receive the same

PROMPT AND CAREFUL ATTENTION AS HITHERTO.

HIGHGATE NURSERIES,

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COME AND SEE

5,000 LILIUM AURATUM IN BLOOM.

Many spikes with 15-20 large open flowers.
A magnificent spectacle.

Spikes cut and sent to order, packing free, 8*s.* to 12*s.* per doz.

NEW PLANT AND BULB COMPANY, COLCHESTER.

Our Autumn Trade Lists, Nos. 75, 76, are now published. Traders not having received a copy are requested to apply for one.

FERNS A SPECIALITY.

THE LARGEST STOCK IN THE TRADE.

12 different Ferns and Selaginellas (our selection), out of pots, carriage free, for 3*s.* 6*d.*, 4*s.* 6*d.*, 6*s.* 6*d.*
25 ditto, 8*s.* 6*d.*, 11*s.* 6*d.*, 15*s.* 6*d.*, 21*s.*
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100, in 25 varieties, 27*s.* 6*d.*, 32*s.* 6*d.*, 52*s.* 6*d.*
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Illustrated Catalogue, 1*s.* Smaller Catalogue, of over 1,200 species and varieties, free on application.

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FERN NURSERY,

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Contains list of all varieties of ENGLISH, DUTCH, and FRENCH-GROWN BULBS, including the following:—

ANEMONES—all the best varieties.
CHIONODOXA LUCILLIÆ—charming blue spring flower.
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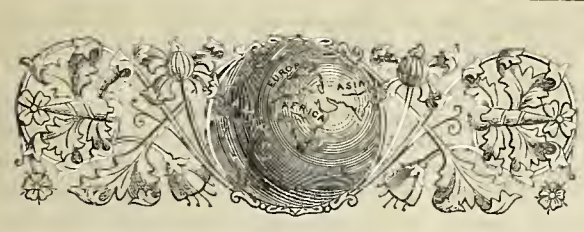
NARCISS and DAFFODILS, in 40 varieties.
SCILLAS and SNOWDROPS, including the newest varieties of the latter.
TULIPS. Double and Single, in great variety.
WINTER ACONITES—bright yellow; the first Bulb to bloom after Christmas.

May be had on Application.

WATKINS & SIMPSON, Seed and Bulb Merchants,

13, EXETER STREET, STRAND, W.C.

Please compare our prices before sending your orders abroad.



"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, AUGUST 8TH, 1885.

Judging Awards.—Judges at flower shows, and provincial flower shows in particular, not only frequently make their awards incapable of apprehension by officials, but also materially hinder representatives of the press in their arduous duties, by not writing the awards made to exhibits on the backs of the show cards. For lack of this simple precaution, very often grave mistakes are made and much time is wasted. If in recording the awards one judge will do this, or an accompanying official, the exhibitor's entry will be found, or at least always should be found, on the back of the card, and it will not be possible for officials or reporters to err. There are so many diverse methods of providing for work of this kind. In some places a couple of judges are provided with a book, in which under each class are found the entry numbers of the exhibitors corresponding to those on the back of the cards. They find the classes arranged for them in such order that all is plain sailing, and they make the awards and record the results quietly and deliberately, without being worried by the company of a single official.

In other cases a steward takes charge of the award book, and an assistant places the prize labels. These are, however, greatly helped in discharging their duties correctly if the judges have marked the cards. *The Field* award book is very useful for judges, because on each page devoted to a class there are duplicate entry numbers, and the judges marking first, second, third, and so on against both columns of numbers, the counterfoil is torn off as soon as the class is judged, and handed to an attendant, who carries the same to the clerk, and the awards are thus recorded against the names of the exhibitors. We have a preference on the whole for the attendant steward to carry and mark the award book, and the other assistant to place the prize cards or labels as fast as the work of judging is performed, as in the case of error being made, any revision may be done at once.

An Orange-striped Cattleya Gaskelliana.—From Messrs. W. Thomson & Son, of Tweed Vineyards, Clovenfords, by Galashiels, N.B., comes a twin-flowered spike of the most beautiful and most extraordinary form of this favourite Orchid we have ever seen. The flowers are 7 ins. across and of fine substance, petals delicate rose, labellum broad and finely fringed, deep crimson-mauve on the expanded portion, so rich indeed as to call to mind C. gigas at first sight; throat white, merging into bright orange, veined with white, which in that portion beneath the column changes to crimson and maroon, also veined with white.

But now comes the most extraordinary and attractive peculiarity of the plant. The sepals, which are very broad, are of the same tint as the petals, except that the lower ones have each a broad band of bright orange down the middle and a heavy crimson tinge at the base. It also has the same delightful fragrance as the rest of the C. Gaskellianas. Messrs. Thomson & Son's orange-striped variety has flowered before and exhibited the same peculiarity we now describe; it is therefore a fixed form, and one the like of which may not appear in twenty importations.

The plant was lucky in getting into such good hands, for the Orchid-culture at Tweed Vineyards cannot easily be beaten, as witness the very fine collection of rare Vandas, Odontoglossums, and Cattleyas which there luxuriate.

Death of Mr. James Cutbush.—We deeply regret to announce the death, early on Sunday morning last, of Mr. James Cutbush, head of the well-known firm of William Cutbush & Son (Limited), of the Highgate, Barnet, and Finchley Nurseries. Mr. Cutbush, whose services were in frequent demand as a judge at many of the leading shows of the kingdom, took especial interest in those societies which have for their object the promotion of a love for the cultivation of fruit and flowers amongst the working-classes, and on Saturday night was present at the distribution of prizes by the Baroness Burdett-Coutts in connection with the Brookfield Horticultural Society, South Highgate, of which the Baroness is the patroness. The Rev. C. T. Acland, M.A., vicar of St. Anne's, Highgate Rise, presided at the meeting, which was held in St. Anne's Mission Room, Brookfield, and there was a large attendance. The Baroness had distributed the prizes and addressed the meeting, besides which other speeches had been delivered, and Mr. James Cutbush, who, with his usual liberality, had lent a number of plants for the decoration of the platform, was seconding a motion for a vote of thanks to the officers of the society, when he was seized with an apoplectic fit and fell forward against those who were sitting near to him. Medical aid was summoned, and Mr. Cutbush, who had somewhat recovered, was removed to his home at Highgate, where, however, he was seized with another fit, and, notwithstanding the efforts of Dr. Clothier, died early on Sunday morning, aged fifty-seven years. Mr. Cutbush leaves a widow and family, some of whom assisted him in his extensive business, his eldest son especially, Mr. Herbert J. Cutbush, taking an active part in its management.

Mr. James Cutbush was in business at the Highgate Nurseries about thirty-five years, though the firm has been established about 150 years. Some thirty years ago the establishment became famous for the successful cultivation of the Hyacinth and other Dutch bulbs, and for many years the firm took the leading prizes for these plants at the principal London and provincial exhibitions. During the last quarter of a century he took an active part in all movements having for their object the promotion of horticulture, and lent willing aid to any good cause that was brought under his notice. He was for many years a warm supporter of the Gardeners' Royal Benevolent Institution, and was many times elected to serve on its committee of management; and he was also a member of the committee which organized and conducted to such a successful issue the grand International Horticultural Exhibition of 1866. He was also for some years well known in masonic and musical circles, and was much liked for his genial good nature and urbane disposition. For several years he contributed weekly articles on gardening to *Land and Water*, and was an occasional contributor also to the horticultural papers, we ourselves being indebted to him for one or two communications of an interesting character. On the death of his brother William, he took over the nursery at Barnet, with every prospect of making it a valuable addition to his business, but owing to causes beyond his control, he became involved in financial difficulties, which ended in the formation of his business into a limited liability company, some three or four years ago, and which, we are informed, will be carried on as hitherto. Mr. Cutbush keenly felt the position his affairs had got into, and for a long time suffered in his health, which was not at any time of the most robust character. His sudden death has caused a widespread feeling of regret, and the warmest sympathy is felt for his widow and family. Mr. Cutbush was buried on Thursday afternooon at St. Michael's Church, Highgate.

Gardening Miscellany.

Flower Shows for Next Week.—*Tuesday:* Meeting of the Fruit and Floral Committees at 11 a.m.—Exhibition of Autumn Flowers and Vegetables for prizes offered by Messrs. Sutton & Sons, and Messrs. Webb & Sons. *Wednesday:* Sutton & Cheam Horticultural Society's Show.

The annual meeting of the Royal Botanic Society will be held on Monday next, at one o'clock.

At the termination of the labours of the Fruit and Floral Committees on Tuesday, a meeting will be held to promote the raising of a memorial to the memory of the late Charles Turner. A letter on the subject from Mr. James Douglas appears in another column.

The New Plant and Bulb Company, Colchester, are now exhibiting spikes of Lilium auratum and other flowers in the large conservatory at South Kensington, and we understand they propose to hold an exhibition of autumn flowers there daily for some weeks.

The grand floral fête and gala annually held at York is fixed for June 23rd, 24th, and 25th next year.

A deputation from the Dutch Horticultural and Botanical Society of Arnheim intends to visit the horticultural establishments near London shortly.

Mr. Ryder, late plant foreman at Kensington Palace, has been engaged as gardener to Lord Bateman, Shobden Court, Hereford.

On Tuesday, Mr. Stevens will sell, at South Lodge, Southgate, the collection of plants formed by the late J. S. Low, Esq.; and on Wednesday, at the rooms, flowering Orchids will be the special feature of the sale.

Messrs. Protheroe and Morris's first sale of Dutch bulbs this season will take place on Monday week.

The Balsams and Petunias in Messrs. James Carter & Co.'s nursery at Forest Hill are just now in fine bloom, and worthy of inspection. Some experiments with various varieties of Wheat which are being conducted there are also at this time of great interest.

The Woolhope Club having decided no longer to hold the autumn show of hardy fruits, a committee is in course of formation to organize a permanent "Hereford Pomona Show." The exhibitions in the past have been so successful, and the benefits derived so great, that it is locally considered it will be an incalculable loss to the county if this, the largest and best provincial Apple and Pear show, is allowed to die out. The new movement has the hearty support of Dr. Bull, J. H. Arkwright, Esq., H. C. Beddoe, Esq., and other county gentlemen, and with such practical men as Mr. H. R. Illman and Mr. D. R. Chapman as joint secretaries, and Mr. John Wilson as treasurer, success ought to be certain.

Scottish Horticultural Association.—The fifth ordinary meeting of this Association for the session was held at 5, St. Andrew Square, on Tuesday night, Mr. Matthew Todd presiding. Mr. Alex. Milne, of the firm of Messrs. Dickson & Sons, read a paper on "Potatos, their Early History and Culture." He traced the growth of the tuber from its introduction by Sir Walter Raleigh, and dwelt on the great national calamity caused by the failure of the crop in 1845 He maintained that on no similar acre of land could so much food be produced at so little expense as by the cultivation of the Potato. In the discussion which followed, Mr. Mackenzie, Warriston, gave his recollections of the year of the Potato famine. The Secretary (Mr. Munro) made some remarks on the question of the disease, pointing out that the Potato was not the only plant liable to parasitic fungi, and so long as man continued to direct his attention to a single part of the plant—the tuber—to the general neglect of the health of the plant itself, so long would it be liable to disease. Hollyhocks were given as an instance in which growers had directed their attention entirely to the enlargement of the flower, with the result that in a few years the plant succumbed to parasitic fungi. The Chairman (Mr. Todd), in directing attention to the exhibits submitted by members, suggested that a society like theirs should have a conference on small fruits, for the cultivation of which the climate of Scotland was suitable, and by that means they might be able to find their correct nomenclature and the best varieties, instead of having, as at present, to grope in the dark and obtain what they wanted from nursery catalogues.

LANCASHIRE GARDENERS IN "THE DUKERIES."

The annual picnic of the Manchester Horticultural Improvement Society took place on Thursday, July 30th, when seventy-five members and friends paid a visit to "the Dukeries," and Sherwood Forest. Leaving Manchester by the 10 a.m. express, the party were quickly conveyed to Worksop Station. Here a short halt was made for refreshments, and at twelve o'clock seven waggonettes were in readiness, which comfortably seated the whole party, and a start was made for Clumber House, the seat of the Duke of Newcastle. The drive was through some of the most delightful and picturesque scenery which Sherwood Forest affords, and in passing through the magnificent park of Clumber the party stayed a short time to admire the grand Lime grove, three miles long, each tree in which is a perfect specimen of its kind. The Spanish Chestnuts, then in full blossom, were objects of interest, and in the grounds immediately adjoining the mansion the Cedars of Lebanon in all their massive grandeur were admired by all. Alighting from the carriages the grounds were traversed, the flower-garden examined, the kitchen-garden passed through with many a word of approval, and a run was taken through the houses. The Melons were superb, Pines and Figs excellent, and some young Vines were noticed coming away with great vigour, promising great things in a season or two, while the older Vines are bearing a heavy crop. Table plants and others of a decorative character are numerous and good, not forgetting a splendid lot of Calanthe Veitchii and Dendrobium crassinode, Wardianum, and others. Mr. Gleeson, the gardener-in-chief, kindly conducted the party through the various places of interest, and freely imparted any information that was desired.

The carriages were again entered, and a start made for Thoresby, the seat of Earl Manvers, which is situated in an extensive and well-wooded park, stocked with numerous herds of deer. Arriving here, Mr. Henderson conducted the company through the houses and grounds, the visitors being much struck with the splendour of the surroundings and the admirable manner in which everything pertaining to gardening is carried on in this magnificent establishment. The flower-garden here is exceedingly well done, some large carpet beds filled for the most part with succulents, Coleus and Alternantheras being very effective. However, time for taking notes was very brief, we had to pass on towards Welbeck.

Ere reaching this grand establishment we passed again through a portion of Sherwood Forest—avenues of grand Oaks on either side, broad expanses of the common Bracken, with splendid fields of Corn and Barley almost ready for the reaping-machine. Passing the venerable Greendale Oak on the left, we reach Welbeck, the seat of the Duke of Portland, and under the guidance of Mr. Carr we proceeded through the well-kept grounds. Large circular beds of Roses full of bloom are first passed. On we go through the flower garden, and presently enter some of the glass erections, such as the Fernery, Rosery, &c., and then inspect the specimens in the Pinetum before passing into the vineries, Fig-houses, Melon-houses, &c., the kitchen-garden and pleasure grounds, and having a look at the famous riding-school, the stables, and numerous other objects of interest. The immense extent of the pleasure-grounds called forth many an exclamation of surprise and admiration, and the excellent manner in which they are kept reflects highly on the management of those in charge.

Entering the vehicles again, and passing along one of the subterranean passages, we were soon on the road to Worksop again, passing The Manor on our right hand. Reaching the Lion Hotel by 6 p.m. in glorious sunshine, covered with dust and anxious for refreshment, a capital tea was spread and full justice was done to it. On the removal of the cloth, Mr. Bruce Findlay made some very appropriate remarks, and hearty votes of thanks were given to Mr. Gleeson, Mr. Henderson, and Mr. Carr for their kindness and attention in showing the party through their respective establishments. On the motion of Mr. A. Stansfield a cordial vote of thanks was also given to Mr. R. Tait, Treasurer, and Mr. W. Swan, Hon. Sec., for carrying out the many details that had added so much to the enjoyment of the day. At 8.10 p.m. the train was again entered, and Manchester was reached by 10 o'clock, when the party broke up with many an expression of pleasure and satisfaction.—*W. S.*

PROPOSED TURNER MEMORIAL.

I met at the late Carnation Show Mr. Glasscock, of Bishop's Stortford, who told me that it was intended to raise funds for the purpose of providing certain prizes at the Grand National Dahlia Show as a memorial of the late Mr. Charles Turner. I was too busy to take any notice of it at the time, and I now read a paragraph in most of the gardening papers asking that subscriptions may be sent in to the Hon. Treasurer, Mr. T. Moore. May I be allowed to say, first, that sufficient prizes are already offered in the schedule published to make a first-rate Dahlia Show, and if larger prizes were offered the best blooms would be merely shifted from one class to another, an arrangement which would make scarcely any difference to the general effect. Secondly, I wish to say that raising a few pounds to provide prizes at one exhibition for Dahlias is an arrangement totally inadequate to provide a suitable memorial of Charles Turner.

Now that the idea of a memorial has been started it must not be a local affair, as this promises to be, but a national one; and in order to carry this out, I propose that a preliminary meeting be held at South Kensington on August 11th, immediately after the various committees have completed their labours, which will be about 12.30 p.m. The name of Turner is honoured and respected all over the country, and an appeal for funds, backed up by the leading horticulturists of the metropolis, would meet with universal approval and support.—*James Douglas, Great Gearies, Ilford.*

THE BOSCOBEL OAK.

The members of the North Staffordshire Archæological Society recently made an excursion to Boscobel, where they were met by Mr. J. Penderel Brodhurst, who conducted the visitors over that interesting dwelling, pointing out to the curious the secret hiding places of Prince Charles and his companion Col. Carlos. The famous Oak tree which for generations has been pointed out as that in which the fugitive prince took temporary refuge was critically inspected. The question arose whether the present tree was actually that in which Charles hid, or merely a descendant thereof, and popular opinion seemed to lean towards the latter alternative. This is probably the correct conclusion, for Evelyn says the royal Oak had ceased to be a living tree in 1662, in consequence of the spoliations inflicted upon it by too fervent Royalists about the time of the Restoration. One of the party who had a practical knowledge of the woodman's craft took measurements, which showed that the tree now standing is still growing, and he expressed a decided opinion that it was not more than 230 years old, while it was certain that it had never been "polled." It may be mentioned that saplings from the famous pollard which sheltered Charles were planted in several other places, and further, that in the Bodleian Library at Oxford, a fragment of the original tree is preserved in the form of a salver or stand for a tankard. The palisades of iron which now surround the tree were erected by Miss Frances Evans in 1817, in place of a brick wall erected previously by Mr. Basil Fitzherbert.

Returning near the house, Mr. Penderel Brodhurst, standing upon the historical mound in the garden, read a paper, in which he observed that it would be hard to find in the Midlands a more retired spot than that in which the old hunting lodge, known to fame as Boscobel House, was built some three centuries ago. The precise year in which the house was erected was a little doubtful, but it was probably about 1580. Who designed the house and who built it there was no evidence to show, although it was possible papers existed at Chillington which would throw light upon the matter. It was not improbable that John Giffard was his own architect. Originally, the entire building was half-timbered; but within the last hundred years considerable alterations have been made, which have robbed it of its most characteristic features. The house is reached from the roadway by a quaint old garden, which is now in much the same condition as when the Second Charles was a visitor. At the time of Elizabeth the lodge was surrounded by a forest, a small space only being cleared for its erection.

Of the bed-chambers, that around which the greatest interest centres is the "Squire's bedroom." In a closet near the fireplace is the hiding place wherein Charles II. was concealed, communicating with the garden below. At the time the King occupied it, there was a sliding panel in place of the present door from the room outside. Immediately at the entrance of the cheese-room is another hiding place, masked by a trap-door; and it is upon this landing that "Old Rowley" is alleged to have trod, that he might easily by the back window watch the road from Tong, and by the front window the way to Brewood, to guard against a sudden surprise of the enemy. From the southern windows of this room it is possible to see into seven counties. Referring to the Latin inscription in the garden, formed of coloured pebbles, the reader pointed out that the inscription did not quite accurately represent the facts, since Charles II. was at Boscobel more than one day, although he slept in the house only one night. The battle of Worcester was fought on September 3, 1651, and the King, accompanied by the Duke of Buckingham, Lords Derby, Landerdale, and Wilmot, arrived at Whiteladies about daybreak on the morning of the 4th. It was at the joint suggestion of Mr. Charles Giffard and Lord Derby that Charles determined to trust himself to the loyalty of the Penderels. He reached Boscobel, on his return from Madeley, on the morning of the 6th. The day was spent in company with Col. Carlos in the Oak tree, and that night Charles slept in the secret chamber in the "Squire's" bedroom. The next day, the 7th, was Sunday, and was passed by Charles mainly in reading in a summer arbour in the garden. With reference to the so-called "Royal Oak," Mr. Brodhurst thought the most conclusive evidence that this was not the tree which Charles used was given in the following extract from the King's narrative:—"We (that is to say, Carlos and I) went and carried off with us some victuals for the whole day, viz., bread, cheese, small beer, and nothing else, and got up into a great Oak that had been lopped some three or four years before, and being grown out again very bushy and thick could not be seen through, and here we stayed all day." It is clearly evident that the present Oak has never been polled. It is possible that the tree may have stood near the Royal Oak and have survived its companion, which there is abundant evidence to show was cut to pieces by the curious within half-a-century of the Restoration.

A FEAST OF CARNATIONS.

It was my privilege to be present at the Oxford Union Carnation and Picotee Society's Show on Aug. 4th, and, as a visitor, to partake of the "feast of Carnations" Mr. E. S. Dodwell promised to any who might pay him a visit. It was indeed a remarkable exhibition. Mr. Dodwell has in his unique Carnation and Picotee garden some 1,500 pots, containing in all about 3,500 plants, and these are distributed in admirably-constructed houses and frames well adapted for their culture. In addition, in the open ground were large beds of seedlings in full bloom, and had there been no competitive exhibition, Mr. Dodwell's extensive display would have made a thoroughly good show in itself. I must candidly confess that I was amazed at what I saw, and I should have missed a great treat had I not availed myself of Mr. Dodwell's invitation. In addition, there was the exhibition by the Union, and the flowers, which were numerous and very fine, were arranged under a tent set up in Mr. Dodwell's garden. From Oxford Station to the Stanley Road is a distance of about two-and-a-half miles, but a tram car will take the visitor nearly to it. Mr. Dodwell's residence and garden is a new one. The soil was a very stiff, deep clay, but by means of charring it, and adding great quantities of road-scrapings, the soil has become well suited to the growth of the Carnation family, and they do remarkably well in it, notwithstanding that the drought has been severely felt at Oxford.

To the meeting at Oxford came growers from all parts of the country, and it was a truly representative gathering. In walking round the garden at noon the visitor came upon exhibitors in all sorts of out-of-the-

way places examining and dressing their flowers preparatory to the fray. It was not until one o'clock that the flowers were staged ready for the judges, for some of the exhibitors came from a distance, and time was required to arrange their flowers. The judges were Messrs. Robert Lord, Todmorden; B. Simonite, Sheffield; W. M. Hewitt, Chesterfield; and E. Pohlman, Halifax.

CARNATIONS.

In the leading class for blooms of Carnations, dissimilar, there was a very keen competition, nine stands competing, and the result was that Mr. M. Rowan, 36, Manor Street, Clapham, and Mr. Joseph Lakin, Temple Cowley, Oxford, were placed equal first, both with remarkably fine stands; the latter had, perhaps, slightly the best twelve flowers, but the superb colouring of Mr. Rowan's was a great feature. Reading the flowers across the box, from left to right, they were arranged as follows:—George, S.B., Black nce, C.B., Jessica, R.F., Arthur Medhurst, S.B., Squire Llewellyn, P.P.B., Annihilator, S.F., Master Fred, C.B., William Skirving, P.P.B., Mrs. F. Whitbourn, C.B., Master Slender, P.F., Mrs. Anstiss, C.B., and Florence Nightingale, P.F. Mr. Joseph Lakin had George Melville, P.F., John Harland, C.B., Henry Cannell, S.F., Florence Nightingale, P.F., Admiral Curzon, S.B., Rifleman, C.R., Master Fred, C.B., Arthur Medhurst, S.B., Mrs. Symonds, R.F, Captain Owen, C.B., Tom Lord, S.F., and Lord Milton, C.B. Mr. B. Simonite, Rough Bank, Sheffield, was placed third with a very good stand, having James Douglas, P.F., Master Fred, C.B., Florence Nightingale, P.F. Seedling, R.F., Tom Brown, S.B., Dr. Foster, P.F. Squire Llewellyn, P.P.B., Seedling, S.B., Henry Cannell, S.F., Miss Gorton, C.B., and Seedling, S.F.; fourth, Mr. J. S. Hedderley, Swinton, Nottingham; fifth, Mr. William Slack, Chesterfield; sixth, Mr. Wm. Bacon, Derby; seventh, Mr. T. E. Henwood, Earley, Reading; eighth, Mr. Tom Chapman, Leicester; ninth, Mr. Geo. Chaundry, Marston Road, Oxford. Mr. Robert Lord, Todmorden, had the best six blooms, staging perfect flowers of J. D. Hextall, C.B., Admiral Curzon, S.B., George Melville, P.F., John Harland, C.B., John Keet, R.F., and Sportsman, S.F. Second, Mr. W. L. Walker, Reading, with George, S.B., Sarah Payne, P.P.B., Master Rowan, P.F., Arthur Medhurst, S.B., John Ball, S.F., and Master Slender, P.F. Third, Mr. W. Meddick, Florist, Bath; fourth, Mr. Thomas Anstiss, Brill, Bucks; fifth, Mr. Charles Phillips, Earley, Reading; sixth, Mr. W. Wardill, 25, Park Street, West Luton; seventh, Mr. H. Startup, Bromley; eighth, Mr. J. Arthur Wallington, Basingstoke.

In the classes for single blooms a large number of flowers were staged, and the awards of the judges were as follows: S.B. Fred, H. Startup; Robert Lord, T. Anstiss; Rayner Johnson, R. Lord; Fred, Tom Chapman; and Fred, J. S. Hedderley; C.B. Master Fred. M. Rowan; Walter Ware, W. Slack; James Merryweather, B. Simonite; Master Fred, B. Simonite; and Master Fred, J. Lakin. P.P.B. Sarah Payne, W. Slack; Faust, C. Phillips; Miss Henderson, C. Phillips; Harrison Weir, H. Startup, also fifth. P.F. Dr. Foster, R. Lord; Dr. Foster, W. Slack; Mrs. F. Whitbourn, B. Simonite; President of Corpus, T. E. Henwood; Dr. Foster, R. Lord; S.F. Sportsman, J. S. Hedderley; Tom Lord, J. Lakin; Sportsman, R. Lord; Tom Lord, J. Lakin; and Sportsman, J. S. Hedderley. R.F. John Keet, R. Lord; Seedling, W. Slack; Lovely Ann, R. Lord; Cristigalli, B. Simonite; and Rob Roy, Tom Chapman.

PICOTEES.

Picotees were shown in fine form, large, pure, full, and beautifully edged. The best twelve came from Mr. Robert Lord, who had S. E. Constance Heron, P. E. Clara Penson, Red E. Princess of Wales, P. E. Miss Wood, S. E. Liddingston Favourite, Red E. Mrs. Niven, P.E. Nymph, S.E. Lady Holmesdale, S.E. Juliana, S.E. Miss Gorton. Red E. John Smith, and Red E. Seedling; second, Mr. J. Laken, with Dr. Epps, Mrs. Payne, Mrs. Dodwell, Zerlina, Royal Visit, Her Majesty, Liddingston Favourite, Edith Dombrain, Novelty, Mrs. Gorton, Daisy, and John Smith; third, Mr. M. Rowan; fourth, Mr. W. Slack; fifth, Mr. J. S. Hedderley; sixth, Mr. T. E. Henwood; seventh, Mr. Tom Chapman. Mr. John Whitham, Hebden Bridge, Yorkshire, had the best six Picotees, staging exquisite flowers of Edith Dombrain, Mrs. Dodwell, Clara Penson, Liddingston Favourite, Miss Horner, and Zerlina; second, Mr. T. Anstiss, with Purple Prince, Liddingston Favourite, Baroness Burdett Coutts, Dr. Epps, Edith Dombrain, and a Seedling; third, Mr. W. Hovell, Headington, Hill, Oxford; fourth, Mr. W. L. Walker; fifth, Mr. W. Bacon; sixth, Mr. C. Phillips; seventh, Mr. H. S. Startup.

In the classes for single blooms of Picotees, the awards ran as follows:—Heavy Red E. Seedling, J. P. Sharp; Dr. Epps, J. Lakin, second and third; Emma, T. Anstiss; Wm. Brazil, T. Anstiss. Light Red E. Thomas William, H. Startup; Thomas William, C. Phillips; Mr. Bower, J. S. Hedderley; and the same fourth. Heavy Purple E. Mrs. Niven, B. Simonite; Polly, T. Antiss; Zerlina, C. Phillips; Baroness Burdett Coutts, J. Lakin; and Muriel, W. Slack. Light Purple E., all the four first prizes went to Mr. J. P. Sharp, for Seedlings, Mr. J. Lakin being fifth with Ann Lord. Heavy Rose, Mrs. Sharp, J. P. Sharp; second, ditto; Edith Dombrain, J. Lakin; Seedling, J. P. Sharp; and Seedling No. 1, Tom Chapman. In the class for Light Rose E., Liddingston Favourite took all the prizes, shown by R. Lord, T. Anstiss, and J. Lakin.

The self and fancy varieties were strongly represented and abundantly shown, and they were very showy and striking. Mr. J. Lakin had the best twelve, A. H. Dodwell, Esq., being second; Mr. W. Slack third; Mr. B. Simonite, fourth; Mr. T. Anstiss, fifth. With six varieties, Mr. J. A. Wallington was first; Mr. W. Meddick, second; third, no name; fourth, Mr. C. Phillips; fifth, Mr. T. E. Walker; sixth, Mr. H. Startup. Several of the most showy varieties were run flowers, but of named varieties mention may be made of Florence, pale buff; Janira, yellow-edged maroon; Sir B. Seymour, Huson Morris, Mrs. Dodwell, King of Yellows, Mrs. Holiday, Governor, Red Prince, and Sir Toby Belch.

In the class for the best self or fancy, Mr. J. Lakin was first and second with two fine seedlings, and third with Oberon. In the class for yellow grounds, Mr. J. A. Wallington was first and second with Ada, and Mr. Henwood third and fourth with Florence.

The premier Carnation was S. B. George, a magnificent bloom, in his first prize of twelve, shown by Mr. M. Rowan. The premier Picotee, Light Rose E. Nellie, a lovely flower, raised by the late Mr. George Rudd, and finely shown by Mr. Rowan. The premier fancy or self was Huson Morris, shown by A. H. Dodwell, Esq., rich rosy-crimson ground, striped with maroon, extra fine.

First-Class Certificates of Merit were awarded to Heavy Rose E. Picotee, Mrs. Sharp, raised and exhibited by Mr. J. P. Sharp, of good size, full, stout rounded petal, pure ground, very bright indeed; and to Ada, a fancy Picotee, raised and shown by Mr. J. A. Wallington, pale yellow ground, broadly edged with mauve, rose, and pink, distinct and very fine.

I much regretted that an important engagement in London prevented me from joining the luncheon party at 3 p.m. I cannot, therefore, give you any account of the nature of the business transacted, but I have no doubt the gathering was perfectly unanimous. —*R. D.*

CHIONANTHUS RETUSUS.

CHIONANTHUS RETUSUS.

THE genus Chionanthus is best known in English gardens in connection with the North American C. virginica, the Snowdrop Tree, Snowdrop Flower, or Fringe Tree, as it is variously called, a large shrub or small tree, with simple leaves and drooping clusters of small white flowers, and which, like many other American plants, thrives best in moist sandy places. Beyond its beauty and usefulness, Chionanthus retusus is an interesting plant, in so far that it is a Japanese ally of the species above named, and in Messrs. Veitch's nursery at Combe Wood, the home of so many hardy plants received from Japan, its hardiness has been proved. This, too, is a good-sized shrub, with shining green leaves, and terminal clusters of four narrow, white-petalled flowers, which, before expanding, bear a singular resemblance to those of the Snowdrop. It is a handsome plant, flowering in summer, and was awarded a First-Class Certificate in June last.

SCOTTISH GARDENING.

Summer Treatment of Fruit Trees.—Seeing that Apples and Pears do so well in some localities when entirely left to themselves, many are adverse to pruning or training them (especially the first-named) in any form, and the huge tangled masses of growth which may be seen in old orchards in various parts of the country shows that this idea is not confined to any particular locality. On the other hand, where the saw and knife are applied judiciously, and other wants of the trees are duly considered, profit, order, and well-appointed orchards prevail. Having worked as a journeyman, as well as having had charge of fruit trees in six counties of England, and specially observed the fruit culture in many other counties, I have come to the conclusion that the "let alone" system is not, in the majority of cases, the most desirable to imitate. While I am opposed to the "cutting-back" method of growing fruit trees, I never could see my way clear to dispense with the use of the knife.

In gardens where fruit trees are only intended to occupy a limited space, and the ground has to be made the most of for the production of vegetables, and perhaps flowers for cutting (a system I never admired), special culture must be practised; but what is too often, even in well-appointed establishments, a great evil, is the cutting out of young growths and keeping the tree to a given height, while the roots are stretching far away into rich, strong, growth-producing soils, with the result that canker, as a matter of course, puts in an unwelcome appearance, and there is a marked absence of fruit. In orchards and gardens which are specially set apart for fruit-growing, trees are grown to larger proportions, and less torture is applied to them. The Venerable Archdeacon Lea, of Droitwich, says, in his admirable little book, *Small Farms*, that "Apples and Pears planted on common orchard stocks are about fifteen years old before they become profitable, and that Apples on the English Paradise stock, and Pears on the Quince, will come early into bearing, and will, if the position is within reach of a good market, prove a profitable crop;" also, "if Apples are planted in this form it should be as bushes, and the pruning should be of the simplest kind, just shortening shoots which are too rampant, and cutting out those which cross." Such advice is of the simplest and most efficient character.

I, however, hold that Apple-trees can be got into bearing and kept fruiting when on the common stock, if, beginning the year after they are planted, they are systematically root pruned. Little mutilation with the knife is required, and fruit bearing becomes a certainty. From an experience of seven years in close proximity to Mr. Lea's fruit farms, I am convinced that fruit failures arise as much from bad management as from untoward seasons. Climate is often credited with the fine fruit grown in many districts—and with some degree of truth—but too often it is found that where climatic influences are of the highest order, neglect and failures are the most common. The Archdeacon prunes and grafts, as well as makes choice of kinds suitable to the district, and although root pruning has not till late years been a speciality with him, he has always a show of fruit worth the visit of a practical man; and this often when other extensive cultivators had scarcely a crop in any of their orchards. The former used the knife judiciously, while the latter belonged to the let alone order.

The Archdeacon is original in some items of his practice; for instance, he invented a huge cutter, like a chisel, by which his workmen can cut off the extending roots and save labour in root pruning, so he thus wrote me, but I am not in sympathy with such an advanced method of fruit-tree manipulation. The soil on that farm will, however, do much to resuscitate the trees should any severe check be given. Much of the practice suitable to a district so far south, where soil is so peculiarly suited to the wants of fruit trees, would not be adaptable for Scotland or counties in northern districts of England; but in the latter parts it is all the more urgent that a systematic system should be adopted to perfect the ripening process of growth as early in the season as possible. Thorough ripening and long rest are most conducive to successful fruit-culture, and when Apples and Pears (other kinds will be referred to anon) have to be grown in a restricted form, summer is the time to attend to their chief wants, whether it be pruning of roots or branches, mulching or watering—and in certain cases we know manure water is given liberally.

Where a mass of fibry roots are compactly embedded in solid soil, much can be done by the application of wholesome stimulant in a liquid form in the maturation of fruit when the crop is heavy in proportion to the size of the trees. This can be done, too, when exhausted nature is struggling to complete growth, but such work must not be done at random. Where trees are woody they may be freely divested of their crowded shoots at this season (earlier and gradual attention to this is better), leaving any which are necessary to keep the tree evenly balanced, and not shortening within several buds of where they are to be cut by-and-bye. Sun and air must have free access to all fruit-bearing wood, but where the wood is gross and fruit scarce, a tunnel under the tree may be made, cutting clean with the knife any "water-pumping" roots, and finishing by raising a solid bottom of soil (lime rubbish may be freely mixed) to induce the roots to grow outwards, and form a mass of fibres. If the soil is dry a thorough soaking of water may be given, first breaking the surface to let the moisture go right down. After such treatment the roots, by examination at the end of the season, will be found to have healed over and become a mass of fibre, and the wood brown and hard, fit to bear fruit.

Few of the finest varieties of Pears can, with advantage, be grown in Scotland without the aid of walls, and many fine kinds of Apples are worth similar protection. Outhouses, such as farm buildings, I have seen densely clothed with Cordon Apples, which give good value for the labour expended on them. Some have gone as far as to grow Apples under glass, where they develop such qualities as are never seen outside. When Apples and Pears are trained on walls, it too often happens that pruners keep on cutting, year after year, allowing at each time of pruning an eye or two outwards, which in time develops long knotty spurs like stags' horns. The use of the wall is thus sacrificed, and the trees become so crowded that they cease to produce fruit worth the labour of training or any other operation; at flowering time the flowers drop before the fruit is set, simply because there is not room for them to open, and they thus crowd themselves out.

The form of training I never put much value upon, as most trees can be led horizontal, perpendicular, and obliquely across the surface. Some object to systematic training, which should be started with young trees at first, because of the time it takes. If the work is properly done at first, it reduces the labour in future very materially; keeping the leading shoots straight and equidistant is a guide to all future training. Where wireing is not approved of (a system which does much to save labour and is not expensive at first), we prefer cast metal nails, allowing them to remain permanently, tying the shoots to them, allowing plenty of room to swell, and where one shoot is removed the nail remains the same as before, when the fresh growths may be tied to it. On properly managed trees the new growth takes the position of the old. It is in summer that the tree is formed, and strong growths leading off the strength of the trees require topping (just as we have lately done some Plums and Cherries), then the weaker growth gets the benefit. If all should be growing too strong and not likely to cease before the ripening, a trench may be opened and root cutting done as advised above. No young trees should be allowed to become crowded, but if disbudding during spring or early summer was attended to, there will not be much crowding now. Bush trees may have the same attention as trained ones. Old trees which are bearing heavily will be much benefited by applications of manure-water.—*M. T.*

Injurious Insect Competition.—At the Frome flower show, to be held on the 20th of August, prizes of £5 and £3 are offered by Miss Eleanor A. Ormerod for the best collection of specimens of food plants injured by insects, accompanied by samples of the insects injuring them, and with a short written account of methods of prevention or remedy.

IXORA COCCINEA.

Whether for their decorative value when in bloom in the stove, or in the summer months in a warm conservatory or greenhouse, or for the production of flowers for cutting, Ixoras rank with the best of cultivated plants. Amongst the whole of the species, and the numerous fine hybrids now in existence, there is none equal to I. coccinea; for the colour, size, and endurance of its flowers, either on the plant or when cut, it stands out in front of all the others. The flowers if cut whilst young will last over a fortnight in water. By growing three or four plants it may be had in bloom nearly the whole year round, and yet it seems as if it was destined to all but go out of cultivation, for even in places where there is a stove kept at a brisk temperature, this grand old kind is now seldom met with. Of those who now grow plants for exhibition few have got it; why it is difficult to say, for, when well done, it counts before any other Ixora, or, in fact, before most plants of any kind.

Possibly one reason why many cultivators fight shy of it may be that the plant has got a bad name for its leaves getting out of condition in winter, which they sometimes do, being affected with black blotches that disfigure them, in some cases causing many to fall off, which has the effect of weakening the plants. One cause of this is where the leaves are soft and deficient in substance, through the plants having been kept too far from the glass when the growth was being made, in this way not having had light enough to give them the requisite solidity. But a much more usual cause of the occurrence of the injury is through the mistaken treatment of keeping the plants too dry at the roots, and the atmosphere of the house equally too dry during the autumn and winter months, on the supposition that they should be quite at rest at this season, which is a mistake, not only so far as concerns this and other Ixoras, but equally so with many other stove plants.

Needless to say that I. coccinea requires as much warmth as any of the species; it should have a temperature of never less than 65 degs. in the night during winter, and should not be kept too long as low as this, if even a little warmer all the better. This and a good many other stove plants, if to be made the most of, ought to be kept gently moving all through the dull season; if their heads are as close to the glass as they should be, and the house affords the amount of light necessary to the well-being of the inmates, no injury need be feared through weak-drawn shoots and leaves.—*T. Baines.*

MIDDLE GREEN FARM, SLOUGH.

Hitherto when we have had to write anything about Slough it has generally been in some way or other connected with the honoured name of James, or the floricultural productions which have made that name famous wherever the love for flowers exists; but passengers by the Great Western Railway must have noticed during the last few years the gradual conversion of some ordinary farm land adjoining the railway between Langley and Slough into a full-blown flower garden on a large scale, and which promises ere long to make Slough as notable for the cultivation of choice seeds, as it has heretofore been for its florists' flowers. The land in question comprises the Middle Green Farm, and it belongs to Messrs. J. Veitch & Sons, of Chelsea, who here grow some of their choicest strains of flower and vegetable seeds, and test the merits of the novelties they either purchase or raise themselves before distributing them among their numerous *clientèle*. The value of such a trial ground to firms like the Messrs. Veitch, whose reputation for the pure and good quality of their seeds is of the highest order, can hardly be over estimated, but it is only by visiting such farms that one can gain any adequate idea of the amount of skill and patience that is required, or of the care that is bestowed on the all-important matter of keeping stocks true, and by the natural process of selection of even improving them.

The Middle Green Farm, that portion of which adjoining the railway is now all aglow with large breadths of various brilliantly-coloured annuals, comprises about sixty acres of good stiff loam, or brick earth, as it would perhaps be most correctly described, and by good tilth and heavy manuring it has been brought into excellent condition for the growth of plants

for their seeds, for Roses, hardy herbaceous plants, and some other important necessaries of every garden, of which we can only say now, more anon. Taking the seed crops first, we may note that the largest quantity of ground is this season devoted to Peas, indeed we suppese it is usually so, for the Pea crop plays an important part in the economy of the garden, and if we did not know better, it might easily be imagined from the quantity grown and the interest taken in the raising and issuing of new varieties, that Peas and not Turnips contributed most to the payment of the interest on the National debt. But we are digressing: first of the Peas grown in bulk is the new one, Prodigy, which has received a First-Class Certificate at Chiswick this season. It is one of Mr. Culverwell's seedlings, a first-rate mid-season variety, growing about 5 ft. high, with long straight pods averaging nine Peas in each, of a good green colour, and with a good deal of the Ne Plus Ultra character about it. Another good break is devoted to a sort called Sturdy, which may be described as a dwarf form of Ne Plus Ultra, growing only some 2½ ft. high, with the exact Ne Plus Ultra pod and free-cropping characteristics—a good late-season variety.

Dr. Maclean is here in quantity, undergoing, like some others, the process of careful "rogueing," to keep the stock true to character. It still remains the best of its class, and is well worth any trouble that may be taken to keep the stock up to the mark. The American Dwarf proves to be the best of the early dwarf varieties, growing to scarcely a foot in height, and yielding most freely its short, straight, well-filled pods. The true old Auvergne comes under notice next, and, as our guide remarks, it is still not to be despised as a second early. This is followed by a good breadth of an interesting, and what, we venture to think, will prove a valuable selection from William I., insomuch that it is of the true William I. character, but the Peas are wrinkled. It is a great cropper, the pods hanging in pairs, and the Peas are of good colour. A good cropping wrinkled Pea, as early and as productive as William I., should be worth growing. Autocrat, also certificated at Chiswick, is another novelty of the Ne Plus Ultra type—a good late Pea, growing about 3 ft. high. The late Peas are not in a condition for proving their merits, the black fly having taken complete possession of the crop owing to the long absence of rain, and returns will be light accordingly, not only on this farm, but also in Essex, where on many farms we hear there will be no yield at all.

On various parts of the farm the visitor will come across large quarters of special sorts of vegetables with which the name of the firm is closely identified. Here, for instance, in review order, as it were, is a large break of a good strain of Parsnip, a straight root of good size and well filled up in the centre. Next comes a grand quarter of Ellam's Early Dwarf Cabbage, a very true sample of a variety strongly recommended for sowing about the end of the first week in July. It comes in early, stands well, and is not in too great a hurry to run to seed. The strain of Curled Parsley most favoured by the firm, a neat, compact-growing, and deep green-coloured plant, has also a good breadth devoted to it; as also has a pure strain of that very excellent Celery, Major Clarke's Solid Red. Beck's Green Gem Bean is another good old sort of which the stock has been kept true. Being very dwarf, growing only to the height of some 12 ins., it is just the variety that every one should grow whose garden is limited in extent. Veitch's Black Beet, a large rooting variety, almost black in colour, has the merit of being a very quick grower, so that it can be sown with advantage either early or late.

Roses are being grown here in large quantities, and well they do on the stiff loam, growing and flowering freely, but as everywhere else, owing to the want of rain, the season was a short one. Here also are grown the splendid varieties of Iris Kæmpferi, that have now and again bewitched visitors to the South Kensington shows, but which this year have also felt the want of moisture, and consequently have not flowered so well as usual. These Japan Irises revel in a moist season, and especially in a moist month of June. Of German Irises a large collection is being got together; Japan Anemones and Pæonies are being looked after in the same way. A bed of Polygonatums (Solomon's Seal) reveals the fact that none of them come up to P. multiflorum for general usefulness; and a plant near by, Calla hastata, which has yellow spathes, proves, when done well, that it is a good thing. Dahlias, Phloxes, and many other autumn-flowering plants will claim more notice later on, at present the gorgeous breadths of annuals claim the greatest notice.

Looking these over we noted as specially worthy of mention the varieties of Chrysanthemum Burridgeanum, and especially the fine crimson-coloured form called Sultan; Petunia compacta, a very dwarf strain, the plants growing only some 4 ins. or 6 ins. high, and covering a space of ground from 18 ins. to 24 ins. in circumference; the flowers of the true type should be striped, but the plant now exhibits a tendency to break into selfs. A strain of fringed Petunias also claims commendation, singularly varied and beautiful being the flowers produced. The yellow-striped dwarf African Marigold produces flowers of fine size; and a miniature yellow Marigold, compact in habit, and about 6 ins. high, proves a good and true stock. The Carnation-flowered Poppies are especially fine, large, full, brilliant, and well varied in colour. These are indeed among the most showy things that can be grown. The Eschscholtzias are dry-weather plants, if anything can claim that distinction, and both E. Californica and that lovely variety Mandarin are flowering with wondrous freedom. Is it generally known that these plants are quite hardy, and that they always flower best and come deeper in colour the second year? We do not think so, and mention the fact here for the benefit of those who may care to give them a trial. There are some plants here three years old, and an enormous size they have grown to.

Phlox Drummondi grandiflora splendens is one of the best types of this very pleasing and showy annual, of a rich crimson colour and neat habit. Of Mignonette, several varieties came under notice, including Miles' hybrid spiral, Golden Queen, and Queen Victoria, the flowers of the latter being almost red, and the plant dwarf and compact in habit. A strain of the old white Rocket Candytuft, a selection from Dobbie's, is of very fine quality; and the small amount of "rogueing" that has had to be resorted to in the case of large patches of such things as Nasturtium, King of Tom Thumbs, Rhodanthes, Viscaria cardinalis, Clarkias, Bartonia aurea, Calendula Meteor, &c., proves the quality of those samples. The white Godetia Duchess of Albany, is a distinct and good thing, and so also is G. Lady Albemarle, but the tendency of this sort to break away from the type is so great, that it can only be kept true by hard rogueing.

We have not space to note half of the things which are grown on the Middle Green Farm, but we must not conclude without a brief allusion to a most interesting series of small plots of Grass and Clover, samples of the stocks sold at Chelsea, and which, besides supplying the firm with a useful sort of record of their dealings in these specialities, prove how much the stocks of these important farm products have been improved during the last few years.

SELECT HARDY PERENNIALS.

(*Continued from p. 759.*)

Gentians.—In close proximity to the showy genus Gaillardia we have the important one of Gentiana, so universally admired on account of the intensity of the various shades of blue, the prevailing colour among these plants. This valuable group affords us flowers from the months of April to October, for in the former we find the inimitable G. verna unfolding its flowers in the morning sun, so lovely and yet so rarely seen in good condition, and in October we have G. Andrewsi, or "The Closed Gentian," while in the intervening months we have various species in flower all more or less beautiful and interesting, and some extremely rare. Of the rarer kinds I will not now speak, for they need experienced hands to manage them, and their requirements are by no means too well understood.

Gentiana acaulis.—The best known of all the Gentians is G. acaulis, or the garden Gentianella, which forms, close upon the ground, compact tufts of shining leaves, from which rise numbers of erect bell-shaped flowers of an intense shade of blue. It is one of the most effective of spring-flowering plants, and one of the most attractive of this group, easily managed and readily increased by division. It is undoubtedly one of the best edging plants that can be used, and, planted in this way, is highly attractive when in flower. It is not fastidious as to soil, for one occasionally meets with it fringing a bed of American shrubs, planted in peat, and in other cases in loam. It has been asserted by some that, to succeed well with it, broken limestone should be mixed with the soil. I do not, however, attach much importance to this, since the finest display of flowers I have seen was from plants which were planted in light loamy soils. Firm planting is of great importance in the cultivation of all the dwarf Gentians, and, when once planted, allow them to remain undisturbed for two or three years, for it is only when well established and in good-sized tufts that one can form anything like an adequate idea of their beauty.

Gentiana Andrewsii.—The Closed Gentian grows about 1 ft. or 1 ft. 6 ins. high, and, singularly enough, the flowers of this species never expand, but remain, as it were, in the bud state. The flowers, which are borne in terminal and axillary clusters, are of deep rich purple-blue. It delights in deep, rich loam.

Gentiana asclepiadea grows about 2 ft. high, and must be placed among the midsummer occupants of the herbaceous border. It is a good and showy plant, and strictly herbaceous in character, that is to say, it produces annual flowering stems from a perennial root-stock. I am pleased to note that attention has been directed of late to the precise meaning of the term herbaceous. As a rule, all hardy plants are considered herbaceous, but this is not so, since the term may be applied to even greenhouse or stove plants possessing this characteristic. The flowers of G. asclepiadea are purplish-blue and borne in long terminal clusters. There is also a good white variety of this plant, which in all other respects is identical, and which was well shown by Mr. Ware in his collection of hardy flowers at the last meeting of the Royal Horticultural Society; so also was the charming Siberian species, G. gelida. A still uncommon plant, it grows when well established about 1 ft. high, rather of a procumbent habit of growth in the earlier stages, and terminating with several bright blue flowers; this grows well in all good loamy soils, and makes a first-class rockery or front row border plant.

Gentiana verna.—This is not only one of the handsomest of this genus, but it claims especial notice on account of its being one of the gems among our native plants, though by no means abundant as such. It carpets the ground in a wild state in the mountain pastures of the Alps of southern and central Europe, and when in flower is the essence of all that is beautiful. It is the delight of all who meet with it in flower, and in those places where it grows and flowers freely it will vie with most plants during the vernal months of the year. It delights in a moist loamy soil of good depth and well drained, and, as I have previously stated, firm planting is essential to its success. In dry seasons a few small stones scattered over the surface will stay evaporation.

Geraniums, or Crane's-bills.—Before briefly alluding to these showy border perennials, I may remark that these are the Geraniums proper, and not those which are generally accepted as such, and which strictly speaking are varieties of the Zonal Pelargonium. The term Geranium has, however, become so well established in connection with these latter, that it will require a great effort to remove it. One of the finest of this group is G. armenium, a fine perennial 2 ft. 6 ins. high, forming a neat symmetrical bush and producing in great profusion large, deep purplish-crimson flowers. It is perfectly hardy, of robust habit, and one of the best of summer-flowering perennials.

Geranium cinereum is a dwarf species, growing from 6 ins. to 9 ins. high, a native of the Pyrenees; leaves slightly pubescent, from which issue pleasing pinkish flowers veined with red. It delights in moist sandy loam, and is adapted for a good position on the rockwork or a front row plant in the border.

Geranium Endresii.—This is one of the brightest and most effective of this genus; it grows about 15 ins. high, and for many weeks in succession is smothered with blossoms of a bright rose colour; it is a good perennial, and its cultural requirements are of the simplest character.—*J.*

The Amateurs' Garden.

THE GREENHOUSE.

Ventilation.—Plenty of air should still be kept on the greenhouse both day and night, so as to reduce the temperature as much as possible, but in having the ventilators or lights open, it is necessary to avoid draughts, as sharp currents cause rapid drying and distress the plants, which, if they flag or suffer, soon shed their bloom. To keep this fresh as long as possible, every attention must be paid to watering, and during hot weather a damping or sprinkling of the floor occasionally will do much good by making the atmosphere moist and congenial, instead of being parched and arid as it otherwise would be.

Camellias.—In cases where these were not repotted before making their growth, they should be shifted now, which is considered the best time by some, but in carrying out the operation, care is needed not to injure the roots, as they are very tender and brittle. The soil most suitable for growing Camellias is a fibry loam, mixed with a little good peat and sand, and used somewhat rough, and in this they should be potted firmly, and then watered to settle the new stuff about the old ball. If the plants are not already moved from the greenhouse, they will be far better got outdoors at once, as the rains and night dews are very beneficial to the foliage, and the air and exposure helps to mature the wood. The best place to stand them is on the north side of a high wall, or in the same position behind shrubs, as they must have shade and shelter, and to keep worms out, the pots should be stood on pieces of slate or a board, or the drainage will soon become blocked, and the soil sodden and sour. Azaleas also do best outdoors at this season, but they may be exposed to the sun, and yet it is advisable to shelter their pots by dropping them into others of larger size, which are a great protection to the roots by preventing a rapid drying of the balls, and keeping the soil cool.

Chrysanthemums.—Owing to the great heat, thrip is more than usually prevalent this summer, and Chrysanthemums almost everywhere are suffering more or less from its attacks, as it gets into the tender points of the young shoots and quite cripples their growth, and if the insects are not destroyed, they will quite spoil the bloom. The safest remedy is tobacco-water, and a good way of procuring this harmless and good, is to soak about half-a-pound of tobacco in a gallon of boiling water, and in this when cold the tips of the shoots may be dipped, and after an hour or so the plants should be well syringed, to wash it all out.

Fuchsias.—It is a good time now to be striking cuttings of these for blooming early next year, as put in at this season and grown gently on during the winter they make nice little plants. The best cuttings are those from the young soft shoots, which root readily under a handlight stood in the shade.

THE FLOWER GARDEN.

Roses.—Banksian and other climbing Roses should now be thinned out by removing all over strong shoots that are not wanted for filling any vacant places, as it is only those of a moderate size that ripen properly and flower freely, the tendency of the others being to produce wood. If it is desired to bud any, now is the time, as stocks run well as yet, but if the Manetti is used, it should be borne in mind that the buds must be put in close to the ground, or the plants will be starved, the Manetti being a stock that does not swell unless buried beneath the soil, when it is one of the best for dwarfs, as it makes plenty of fibrous roots.

For standards or half standards, the Brier is generally chosen, and these should be trimmed to the desired height, leaving the two strongest and best situated shoots, the spines on which can easily and quickly be rubbed off by the hand, covered with a stout leather glove, when all will be ready for inserting the buds. This part of the operation requires great care, as success in getting them to grow depends on the way they are taken off and put in, for if the bark is the least bruised they turn black and die. What causes the bruise, in nine cases out of ten, is extracting the wood, when, unless in practised hands, the bark is pulled off and doubled back over the bud, the sharp bend breaking the fibres. To avoid this the thumb nail should be inserted between the rind and wood, and the latter jerked out by a sudden thrust down, but before this is done the incision in the stock ought to have been made ready for popping the bud quickly in. The way to make the cut is to draw a keen-edged knife across the shoot so as just to pass through the bark, and then with the point a slit should be brought to meet it, after which the bark may be raised easily, and the bud slipped under and tied in at once.

Roses do so well on their own roots that the wonder is they are not more generally struck from cuttings, as they propagate readily in that way if put in any time now while the young wood is about half ripe and has leaves on, which should be kept alive and fresh by sprinkling them occasionally and having the cuttings under handlights, or a frame, where they can be shut up close and the air kept moist and warm. If they can have just a little bottom-heat, so much the better, as that will expedite their rooting, but the heat must be gentle or the cuttings will turn black at the base. The way to prepare them is to have them sufficiently long for about two buds to be above ground and two below, and to trim the leaves from the latter, when the wood should be cut off close to the bottom one, and the cuttings inserted in sharp sandy soil, making them quite firm in it by pressing it round and giving a watering, which will settle it down.

THE FRUIT GARDEN.

Vines on the Open Walls are generally allowed to run much at their will, which is a great mistake, as, like those indoors, they require thinning and stopping of the shoots, if fruit is expected, or they soon get into a wild state, and the Grapes become so shaded and smothered that it is impossible for them to ripen. The way to manage them is to pinch back the growths a joint or two above each bunch, and to rub out all laterals that show after, leaving only the main foliage, which should be so distributed by nailing in and training the branches as to cover the whole of the wall. If this is done, and the Vines are on a good aspect, so as to have the full benefit of the whole of the sun, very good fruit may be had outdoors, but to obtain this watering is necessary during dry weather, for which soap suds and other sewage should be saved, and a soaking given as soon as sufficient liquid has accumulated for the purpose.

Vines Under Glass.—The demands on these will now be great, as the Grapes will have stoned, immediately after which they take their second swelling, when the roots require plenty of moisture, and ought to be assisted by free applications of liquid manure, the stimulating effect of which will be such as to enable the Vines to finish the bunches well and colour the berries. Why many fail in getting them to do this is in keeping the atmosphere too dry, as then red-spider puts in an appearance, and this insect soon causes the foliage to turn brown by puncturing the tissue and robbing the leaves of their sap. To prevent this, the floors and pathways should be damped down at least twice a day, but to avoid any condensation of moisture on the berries, it is advisable to leave just a crack of air on the house at night, or put it on very early in the morning, as condensation of moisture on the berries interferes with the bloom, and leads to scalding if caught by bright sunshine.

If the weather sets in dull and cold, a little fire-heat will be beneficial, but this only by night, or during wet days, just to raise the temperature or expel excess of damp, and keep the atmosphere in motion, which is a point of importance in the cultivation of Grapes. The way to treat young Vines is to cut out all laterals as far up the rods as it is intended to fruit them, and leave those above to grow and run, by doing which the lower buds will plump up big and fat, and the extra leafage above will increase the root action, and help materially in strengthening and establishing the plants. To get the rods to ripen thoroughly, plenty of air should be given, and the atmosphere maintained more dry than when the Vines were actively growing, and by-and-bye a little artificial warmth will be necessary to finish them up.

Peaches Indoors.—The fruit of Peaches and Nectarines indoors will now be swelling fast and colouring, and to aid it in this latter all leaves that hang over or shade it in any way should be pulled aside, but not taken off, as they are necessary to feed and nourish the buds at their base. To get the fruit to its full size, a heavy soaking of water will be required, and to have it of fine flavour plenty of air must be left on the house both day and night, as that combined with full sun and light helps to convert the crude juices into saccharine matter. Trees on walls will still need syringing, and to have their shoots nailed or tied in close, as well as watered at the roots, the soil being very dry.

Apricots.—If these have any breast wood on it ought to be removed, and spurred in close, but shoots that are well placed should be laid in to fill any gaps on the wall.

Plums and Dessert Cherries.—The same remarks apply to these, and if there are aphis on the trees they must be washed off, or they will prevent the formation of buds.

Gooseberries.—Late sorts of these, like the famous old Warrington, may be kept for weeks yet by securely netting the bushes to ward off birds, and Morello Cherries protected in the same way will hang a long time.

THE VEGETABLE GARDEN.

Potatos.—That scourge, the Potato disease, is showing itself with more than usual virulence, and as it has come so early and during fine dry weather, it may be expected to spread rapidly as soon as we get rain or a moist atmosphere, which being so the tubers should be examined to see if the skins are set, and if so, it will be advisable to get them out of the ground at once, for with the tops affected they will do no further good, and lifting them may be the means of saving the crop. In taking them up, care is necessary in order that they may not be bruised, and the same when handling them to store them away, which should be done in a cool dark shed or cellar, where they ought to be laid thinly on the floor that they may be examined frequently to see that there are none rotting and spoiling the rest. Those intended for seed will be as well left out for a few days to green and harden, by which time they will show if there are any diseased among them, as the air soon brings about decomposition of the affected parts and makes them plain to be seen.

Spinach.—It is time now to get in a bed of Spinach, which, being for winter use, should be sown on a warm border or other sheltered spot, in good soil that has been manured and dug deep, a suitable dressing for it being soot, which is not only an excellent stimulant, but prevents wireworm and other insects getting at the roots of the plants. The proper Spinach to sow at this season is the Prickly, and this should be put in in drills, drawn about 1 ft. apart, and when the plants are up they ought at once to be thinned out and left 6 ins. asunder.

Onions.—There is generally a dearth of these in the spring, as the winter ones are then over, and to have a supply at the season named it is necessary to sow now, the best kind for coming in early being the Naples or Queen, which bulbs quickly and grows to a good size, and to succeed it the Giant Rocca is as good as any, as besides being big it is mild and well flavoured.

DAVALLIA FŒNICULACEA.

This beautiful evergreen stove Fern, introduced into this country from the Fiji Islands, was sent out last spring by Mr. B. S. Williams, in whose nursery we saw it a few days ago, in a condition which confirms his opinion that it will prove an acquisition. It is a distinct species, with elegant, finely-cut fronds, lanceolate in outline, four times pinnate, of stout, herbaceous texture, the ultimate segments cut down to the rachis into undivided or forked divisions, which are quite narrow, about equalling the rachis itself in breadth. When fully developed the fronds grow to the height of 18 ins. or 2 ft., and from 9 ins. to 1 ft. broad.

COLLIERS' GARDENS AT SWINTON.

In my former note on a collier's garden (see p. 727) I said the influence of the Messrs. Tyldesley among the colliers in this district is great, and I had reason for saying so. How powerful that influence is, is readily seen when you get among these lovers of plants and flowers. Question any of their propositions, or tell them they have a plant wrongly named, and Mr. Tyldesley is at once quoted as an authority. As you walk through their cottage gardens, or peep into their greenhouses (home made one's) or their frames, you will see Ferns, among other things. Ask, "What have you here?" and you will get a name, not, perhaps, pronounced in the orthodox manner, but in such a way that you can understand what they mean, and in all probability you will be told also that "it is a pieee I had from Bill Tyldesley," and the fact of its coming from Mr. Tyldesley adds a certain high-class value to the plant in their estimation. As a further illustration of the hold the Messrs. Tyldesley have on these little amateur gardeners, I may mention that two well-known men, whose services are often in request at various flower and vegetable shows, and who are known to be good practical men of extensive experience, some time ago made an award to certain exhibits which one or two exhibitors disputed the justice of, and they would not be satisfied until they had consulted the younger Tyldesley. To him, on asking why the judges had so awarded the prizes, an explanation was given which satisfied him, and that was sufficient for the disputants, one of whom observed, "I'll tak kere an' liken 'im next tame."

One garden we saw lately contained three greenhouses and some frames, and in the latter were some good Giant Rocca Onions, raised from seeds sown in the spring, as also some Leeks, and grand stuff they were, but I had better not mention the grower's name, as I may perhaps be called upon to pass another opinion upon them. In other gardens I caught a glance of some Asters and other things being grown for a show, and the way these things were managed would put many a man to the blush who calls himself a gardener; they had plenty of air and were not drawn up. Up the rafters and over the roof of the houses were Roses growing, and on the stages Fuchsias and Pelargoniums also coming on for autumn showing. Dahlias were all planted out, staked, the shades ready, and the ground mulched. Red and other Cabbages were carefully attended to. French Marigolds and Stocks, Gooseberries and herbaceous and Alpine plants were not overlooked; and had you seen the owner as he came from the pit, ere he had had his tea, or "*baggin*," or taken off his pit flannel, how carefully he looked to his pets, you would have said, "That man is a real gardener." At Holyrood School they have a gardening society, and the Rev. Mr. Dearden gives every encouragement to these parishioners of his, and good shows they have generally. Among other prizes are some for the neatest kept gardens, and it is a real pleasure in passing the gardens of the competitors to note their various tastes and ideas of what a garden should be. I am not certain which pleased me most, the front gardens or the well-decorated windows. Would that there were more of such pretty sights to be seen in every town and village, for it is a well-attested fact that these garden lovers are the tradesmen's best customers. I was lately passing a nursery at Old Lane, Swinton, belonging to Mr. Pearson, who commenced it about three years ago, and as I had never been in it, and saw a notice board inviting any one to walk in, I embraced the opportunity, and, while speaking to the proprietor, his foreman came up with two or three colliers, just from the pit, who were inquiring for one or two Rose-trees which would be suitable for showing in two or three months' time, and these hard-working fellows were ready to pay five shillings each for plants to grow in their windows or frames, on the chance of winning a prize perhaps not equal in amonnt to the sum they paid.

While mentioning this nursery I may as well add a few words about what I saw in it. Mr. Pearson seems to be just the right man in the right place here. Formerly he had a florist's nursery at Pendleton, but being crowded out he took upon cheap rent one or two acres of land, built himself a house, and put up some glass. Outdoors and in it is just fitted for the class of trade in the district. The ground is laid out in beds filled chiefly with flowering plants, such as Roses, Pinks, Carnations, various Lilies, &c.

The various beds are edged with different sorts of mossy Saxifrages, particularly we noticed good long rows of S. crustata, which was novel and had a good effect. Numerous plants, native and exotic, are grown here to meet the demand for them among the working men who study botany. The houses were full of a general collection of plants, including several kinds of Cape Pelargoniums. The roofs of the houses have a steep pitch, and are well clothed with Tea Roses or Noisettes for early flowering, and I heard that it was no uncommon thing to cut over a thousand blooms a day last spring. That such a place as this was required, is evident by the fact that another house 80 ft. long is about to be erected to grow Ferns.

Leaving here, I looked into a garden in which Celery was being grown for exhibition, and I found the grower busy with a tin can in his hand watering his plants with some liquor out of a bucket; what it was I did not inquire, but I noticed he was careful that not a drop touched the foliage or got into the heart, but carefully poured round so as to reach the fibrous roots; the season is not favourable for Celery, being hot and dry, therefore it is not so large as I have seen it in other years. Great pains are taken with Celery here; the colliers don't simply dig a trench and put in green rank manure, set out the plants and leave them, they like to heavily manure the ground and turn it over by deep digging two or three times; in fact they prepare their ground during winter, and when planting time comes the whole is rich and in good condition for the roots to work in. Many useful hints may be obtained from cottagers in garden matters.—*N. J. D.*

DAVALLIA FŒNICULACEA.

FRUITS.

Fruit Culture under Glass.—Pines: It is time now to proceed with the potting, arranging, and plunging of the plants in their autumn and winter quarters. The first step to be taken in this direction is to remove the suckers carefully from the plants which have been fruiting during the past summer, and place them in a corner of the potting-shed, out of the way of potting operations. The old stools, except of those varieties, such as Providence, Charlotte Rothschild, and Smooth-leaved Cayenne, which are shy in producing suckers, can be committed to the rubbish-heap, the soil in which they were growing to the waste-soil heap, the crocks saved for future use, and the pots washed for the reception of next year's fruiters. The top-dressing and potting of these should at once be proceeded with, the beds of spent tan or leaves being in the meantime removed and fresh plunging material supplied, the brick and plaster-work of the interior of Pine-houses and pits washed with hot lime, and the woodwork and glass with warm water.

Many of the strongest-growing plants which were put into their fruiting-pots last spring, and afterwards plunged in the ordinary way in the succession-house, will be fruiting now. These plants should be taken out of their summer quarters and have between 1 in. and 2 ins. of the surface soil and a few of the bottom leaves removed, the former with the assistance of a pointed Oak stick, working it rather deeper round the edge of the pots; then remove carefully any suckers that may be attached to the plants and top-dress with rough sandy loam, which has been cut and stacked at least twelve months. Ram the same well together with a wooden rammer about 2 ins. in diameter as the work proceeds. Then select and pot in their fruiting-pots (10-in. or 12-in., according to the size of the plants and the variety) the necessary number of plants to fill the house for fruiting next summer and early autumn.

Potting, &c.—The pots should be efficiently crocked by putting large pieces of potsherds in the bottom and smaller ones on the top, to the depth of a couple of inches, finishing off with a sprinkling of fresh soot and a few pieces of turves, grass side down. In the matter of soil I prefer fibry sandy loam, which, as already stated, has been cut and stacked for twelve months, and chopped down with the spade as required for use, with the addition of crushed bones, fresh soot, small charcoal, and Beeson's manure, at the rate of a 10-in. potful of each ingredient to a barrowful of loam, the whole being well-mixed before being used. The plants should be turned carefully out of the pots, the drainage and a few of the lower leaves removed, and the surface and sides of the ball of earth and roots loosened slightly with a pointed stick, and any soil not permeated with roots removed.

They should be let down to the bottom leaves in potting, and the soil, which should be moderately dry, so that it will not adhere to the sticks, be rammed firmly round the roots with flat and round rammers, as the space admits, taking care that the plants are made firm about the collar. Over-potting should be avoided, but I consider a space of 1 in. or 2 ins. between the ball of the plant and the pot not too much, but quite sufficient for all healthy plants in their several shifts from the sucker to the fruiting-pot. In potting suckers I need scarcely observe that it will be necessary to remove a few of the bottom leaves, so that the roots coiled round the stem under the leaves may push more readily into the soil, and that about half an inch of the base of each sucker should be cut clean off with a sharp knife before being potted.

Plunging the Pots.—The plunging material having been well trodden together, plunge the fruiting plants from 2 ft. to 2½ ft. from centre to centre, keeping the tops as near to the glass as can be without their coming in actual contact with it, and give the smaller plants space in proportion to their size. Give sufficient clean tepid water to settle the soil about the roots; shade the plants from bright sunshine until the roots have taken to the soil, and damp them overhead every afternoon at shutting-up time.—*H. W. Ward, Longford Castle.*

Unripe Grapes.—There are many kinds of fruits which may be exhibited in an unripe condition and kept till fit for use in some form, but unripe Grapes cannot be utilized in any way except where the quantity is large enough to manufacture into wine, and for such a purpose the few bunches belonging to individuals who exhibit them would be useless. The cutting of green Grapes although large and well-developed is a positive waste, and when placed on the exhibition table are a discredit to those who exhibit them. It does not require much skill to distinguish ripe from unripe fruit of any kind, Grapes especially; and unless the schedule sanctions the admission of unripe Grapes, they should be disqualified. Some judges are often carried away by large gross bunches of second and third rate kinds, and without hesitation award prizes to them whether they are fit for dessert or not, but experienced men never do this. I find no fault with large bunches of any kind, all other points of merit being equal. It is the ignoring of good quality in preference to worthless examples when they have size only to recommend them that I object to. Honest judges are sometimes severely censured for doing justly in such cases as I have referred to; I have myself more than once received my share of blame for passing over huge unripe fruit and recognizing meritorious produce instead.

Unripe fruit is as often exhibited in September as at any other period of the year. How often are the fine bunches of Gros Colmar, Lady Downes' Seedling, Barbarossa, Trebbiano, and White Tokay ripe before the end of September or October? and even then, grown with strong heat, are not fit for dessert. It is rare indeed that connoisseurs of Grapes will have these Grapes and some others on their table before the end of the year. As Hamburghs, Muscats, and Madresfield Court can be had in prime condition till February, the coarser and less palatable kinds are reserved till the more luscious sorts are done. There being no shows held in winter, late-keeping Grapes are not seen by the public in perfection. Notwithstanding all that I have said against awarding prizes to unripe Grapes, I put the greatest value on finely-finished compact bunches. Large berries and dense bloom receive a special mark of favour at my hands. Ripeness is, however, a primary qualification when I am called upon to judge Grapes. When tasting for flavour has to be resorted to as a crucial test for decision, I require something more than sacharrine matter—mere sweetness does not make the special qualification of finely-flavoured Grapes.—*M. Temple.*

FLOWERS.

Work in the Plant-houses. — During the present month preparation should be made for housing plants for the winter. As opportunity occurs all plants that remain in the houses during the summer should be got together as much as possible, and where the houses have not already been painted or otherwise cleansed, no time must be lost in getting it done. Of course it depends a great deal upon the weather as to how soon the plants should be got in; if we get much wet weather many things will be better to be got in early in September, as they are not only liable to suffer from getting too wet in the pots, but frost sometimes comes along unexpectedly and does further damage. We, however, rarely get frost enough to do any damage during September, except after excessively wet weather.

Tea Roses for Winter Forcing.—Where it is intended to have these in early, that is by Christmas or thereabouts, any plants that require it should be re-potted at once. If potted now they will root freely and get well hold of the new soil before the time for starting them. Compost for potting should consist of good light fibrous loam, with a liberal addition of well-rotted manure, a little horn or bone-manure may also be used, and a little old lime rubbish will help to keep the soil sweet. The pots should be well drained, and the plants potted firmly. After the plants are potted they should be stood out in an exposed position, so that the wood may get well ripened, but they will require syringing occasionally until they have taken root into the new soil. This will be especially necessary if the roots have been much disturbed.

Pruning.—This should not be done until the plants are housed for starting, or it is as well to leave them for a few days after, until the buds begin to swell. In the case of large plants the knife should be used freely; if only strong well-ripened wood is left the plants will produce larger flowers, and give a better succession crop. About the first week in October is a good time to start a batch, but only a few of the most reliable sorts should be used. The following are all good useful sorts:—Niphetos, Souvenir du un Ami; Isabella Sprunt, Madame Lambard, Perle des Jardins, Madame Falcot, Sunset, Catherine Mermet; Mrs. Bosanquet (China) is also a very free winter-flowering Rose.

Panicum variegatum.—This is a useful plant for growing in hanging baskets, or for forming an edging round the stages, and gives a very effective finish to the house where it is so employed. I saw it not long since in a, to me, new character, viz., as a pyramid plant, and very pretty indeed it looked. The plants were about 5 ft. high, as near as I remember, and fairly furnished to the pot, although they had not long been made up. Associated with it was Tradescantia zebrina, which, however, thus grown, looks well, but has not the light appearance of the subject of this note. The style of growth was quite fresh to me, although not to Mr. Smith, the able gardener at Plassy, Limerick, where I had the pleasure of seeing it grown in one of the vineries, but as its cultural requirements are well known, I need not refer to them. I think it is one of the things that will thrive in any soil; I have grown it in gravel on the stages without any soil being put for it to root in, and in one season it has reached from the stage to the floor of the house.—*E. Dumper.*

The Creeping Jenny as a Window Plant.—Both in town and country at the present time this pretty British plant, Lysimachia Nummularia, appears in great beauty hanging over the fronts of the window boxes, in many cases 6 ft. or 7 ft. Just now the plants are thickly covered with golden yellow blossoms, and it is difficult to imagine a more beautiful plant for the purpose. It is also equally good as a rock plant. The common Vinca major is also a good plant for windows, and the other day I found it in a, to me, new character, trained up the front of a cottage about 12 ft. high. It seemed to adapt itself well to the purpose, growed freely like Ivy, was covered with pretty blue flowers, and seemed quite a desirable plant for climbing work. Nierembergia gracilis, with its numerous white or lavender flowers, appears to great advantage hanging over some of the window boxes in town, and the white Marguerites and Vesuvius Pelargoniums look very effective everywhere where used.—*J.*

Lapageria alba.—How seldom is this valuable and universal favourite met with in a healthy floriferous state. The reason for this is to be ascribed in many instances to its being planted out beneath the stage and then trained up the roof. Certainly the roof is the place it ought to occupy wherever space can be got in a house suited to its well-being, but for its roots to be beneath the stage is quite the opposite to its requirements, as in that position the superfluous water from the plants on the stage keep it in a continually wet and sour state. To have this invaluable plant in a heathy flowering condition, it must be grown in a pot on the stage, or otherwise where it will not receive water but when applied as it requires it, and whether planted out or in a pot it must have plenty of drainage, and it is not to its advantage to have too much room to grow in. There is a plant here in a 16-in. pot which covers 100 square feet and at the present time there are upwards of 200 flowers on it in different stages of growth, and I am sure a like number has been cut since it came into flower in May. A few weeks ago a branch was cut from it 1 ft. in length bearing twenty-one flowers, fifteen of which were fully expanded. The material used in potting is peat and loam in equal parts, with a good dash of coarse sand, and not too firmly pressed into the pot. The peat and loam should be used in a lumpy state. Those having sickly plants should get them turned out, and their roots washed clean of all the soil they are growing in, and pot as above described.

Keep the plant close and moist till it has started into growth, and at no time should it be exposed to draughts of cold air.—*R. C. F.*

Lilium tenuifolium.—A good bed of this elegant Lily has been in bloom for a long time in Mr. Wm. Gordon's Lily and Orchid Nursery at Twickenham, where large quantities of all the leading kinds of Lilies are grown and bloomed well. L. tenuifolium is of slender growth, its leaves narrow, and its beautiful flowers of the most shining scarlet. It has played a very importaut part in several of the best table decorations exhibited this year, as it is elegant and striking.—*J.*

Tree Pæonies.—In the same nursery the new set of Tree Pæonies which bloomed for the first time this year have revealed great progress on the old kinds, the new Japanese varieties being much larger and more double than the old ones. Some new tints of rose and violet are among them, aud the variety Snowball, which was awarded a First-Class Certificate at the Royal Horticultural Society, is by a long way the largest aud best of the whites.—*J.*

Russellia juncea.—This old-fashioned warm greenhouse plant is not met with so often as its merits fairly entitle it to be. I have not seen it so well grown before as at Plassy, under Mr. Smith's care, the largest plant there being in an 18-in. pot, and the plaut about 5 ft. in height and corresponding width, and laden with its graceful shoots of flower, which are of a scarlet colour. Its rush-like shoots, with scarcely a leaf on them, makes it at once distinct from most other things grown under glass. Now that the cry in certain quarters for natural-looking plants, without so much training, has made itself heard, this plant may, perhaps, come more to the fore than it has done. As to soil, it will be found to do well in two parts of loam to oue of peat, with plenty of sand added to keep it open.—*E. Dumper.*

Tabernæmontana coronaria flore-pleno.—This very useful stove plant is not nearly so much grown as its merits deserve. Somewhat resembling the Gardenia in its neat bushy habit of growth and dark green, shiuing leaves, it well deserves as much attention as that plant where a mixed collection is grown. Its flowers are double and pure white, and are valuable in summer and winter alike for decorative purposes.

Homalomena insignis.—A new and very handsome Aroid is figured under this name in the July number of *The Illustration Horticole.* It is a fine-foliaged plant. The leaves are of a rich green, with a narrow crimson margin, the veins on the under surface being of the same colour. They are oblong iu shape, and about 1 ft. long. The leaf-stalks are 3 ins. to 5 ins. long, and, as well as the flower-stalks, of a rich crimson colour. The spathe is pale green. It was introduced by the Compagnie Continentale d'Horticulture of Ghent from Borneo, and consequently requires stove treatment.

Amaryllis Comte de Germiny.—This beautiful evergreen variety, which belongs to the same section as Mrs. Garfield and Mrs. William Lee, all of which indeed came from the same pod of seeds, is now in bloom in Mr. B. S. Williams' nursery. The flowers, five in number on a stem, are of a light pink ground colour, most pleasingly variegated with crimson and rose. By growing a few plants of either of these admirable subjects they may, with good management, be had in bloom all the year round.

Labisia pothoina.—This is a singular and rather ornamental stove plant, very closely allied to the well-known Ardisia crenulata. A good figure is given in the July number of *The Illustration Horticole.* In general aspect it reminds one more of an Aroid than anything else, the regular parallel veining so much resembling this order that when first introduced it was taken for a Pothos or some such plant. It is a dwarf plant, with spreading deep green lanceolate-acuminate leaves, and elongated panicles of pale pink flowers in the leaf axils; the floral structure being similar to that of Ardisia. It requires stove treatment, and should be well supplied with water in the growing season.

Carnation H. G. Smyth.—The raiser of the Mary Morris Carnation has submitted for our inspection a very promising bright crimson-scarlet border Carnation, in the way of Life Guardsman. It is a good, full flower, appears not to split its pod, and is certainly a fine shade of colour. We do not know if, like Mary Morris, it is a seedling, or whether it is a sport from that variety.

VEGETABLES.

The Kitchen Gardener's Calendar. — Seed Sowing, &c.: The beginning of next week in cold districts, and a week or ten days later in warmer localities, will be a good time to make a first sowing of wiuter Spinach, and a second one in about ten or twelve days later in shallow drills not less than from 16 ins. to 18 ins. apart. About the 18th or 20th of this month Cauliflower and Lettuce seeds should be sown on a warm border for wintering iu pits and frames, and to be trausplanted under haud-glasses in the open in early spring. For this purpose we prefer Early London, Walcheren, and Veitch's Autumn Giant Cauliflower, the latter to fill the blanks that otherwise might, and frequently do, occur between the supply obtained from the autumn-raised plants and those raised in heat in January. Of Lettuces, the black-seeded Cos, Cooling's Leviathan Cos (a select variety of the first-named), Hicks' Hardy White Cos, and Lee's Immense Hardy Cabbage, are four good all-round winter varieties. These sowings, however, should be made a few days earlier or later than the dates above given, according as the situation is cold or warm.

The seeds should be sown thinly rather than otherwise, to prevent the plants from damping-off when they come up through being too close together, and be protected from the ravages of birds by a piece of netting supported by short forky sticks to prevent the former getting at the seeds through the latter. The seed of Lamb's Lettuce should be sown thinly in drills 1 ft. apart and 1 in. deep in a warm border about the middle of the present month, and, as also the seeds above referred to, water through a fine rose in the event of the weather rendering it necessary at the time of sowing or afterwards.

Turnips of the Jersey Marrow type should be sown about the middle of this month to yield a supply adequate to the demand for the same during the winter and spring months. Continue to sow Radishes and Mustard and Cress iu a warm situation; the latter we find comes up better when shaded with a mat for a few days after sowing. As soon as the seedlings of Cabbage, Lettuce, and Endive—the result of the seed sown late in July—are large enough to handle, prick them out in small beds 3 ins. or 4 ins. from each other, and guard against the depredations of slugs by dusting a mixture of fresh soot and lime along the sides and ends of the beds, and so soon as the young plants of Endive and Lettuce become large enough, let good breadths be planted of each sort for autumn and winter use, the latter to be lifted with balls of earth adhering to the roots and transplanted in cold pits and frames on the approach of frost. Continue to make plantiugs of Broccoli, Savoys, and Winter Greens as the ground for that purpose becomes vacant. Also Celery (from late sowings) and Leeks.—*H. W. Ward, Longford Castle, Wilts.*

New Peas: Sutton's Ringleader Potato.—A Dorsetshire correspondent writes:—"I have had a wonderful crop of Sharpe's Triumph Pea; it is one of the best I have ever grown, and only 3 ft. 6 ins. high. Sharpe's Early Paragon, sent out as being only 3 ft. 6 ins. high, has grown to over 6 ft. The new Duke of Albany Pea has also proved a first-class variety. Suttou's Ringleader Potato has turned out well this year, yielding four times the crop of the old Ashleaf, quite equal to it in flavour, and rather earlier."

NOTES FROM GARDENS.

Hope Hall, Eccles Old Road, Pendleton, the Manchester residence of Mr. Grafton, M.P., one of the chief calico printers of Lancashire, is a place of great antiquity as a private residence, dating back to A.D. 1319-20, when Thomas, Earl of Lancaster, granted lands and tenements in "le Hope juxta Manchester, to Sir Robert de Holland and Matilda is wif." In 1595 Hope Hall was styled "ye antient house," and it is chiefly noted in connection with the Bailey family, whose history, commencing with Daniel Bailey, who married one Sarah Bradshaw, heiress of the estates of Hope, in the reign of Charles II., "of pious memory," is full of interest. The issue of this marriage became famous as leader of the opposition offered by Manchester to the Pretender in 1745.

Here also resided with his uncle, Daniel Bailey, in 1728, Robert, afterwards the celebrated Lord Clive. The lodges at the entrance are such as Repton and Loudon long ago condemned. Fancy aged persons living in a round, low hut on one side of the gateway and having to go out from it at a late hour in all states of the weather some dozen yards to another round, icy-cold hut, without any fire, to sleep in, aud this at the entrance to what in those days was a grand mansion!

The grounds round the mansion are well clothed with trees and shrubs, including some finely-coloured Beeches, Elms, Chestnuts, Hollies, &c., and on the front of the mansion are two or more good plants of Magnolia grandiflora, not the Exmouth variety, which unfortunately does not flower, though with such a summer as the present one we might look for blossoms. Magnolia purpurea, of which there are several, blooms freely, as also do the white and crimson Boursalt Roses. Pyrus Japonica, Cotoneaster, and Ivy, Hedera digitata, also grows freely. On the lawn are beds of the old China Rose, blooming freely, but showing evident signs of punishment received during the frosts of May last.

Beds of hybrid perpetual Roses pegged down are making growths as strong as one's thumb, and are a glow of colour. Although the family are not at this seat at present these Roses are found very useful, as many are cut with other flowers and sent to the various hospitals, and it is pleasiug to record that this custom prevails in many places rouud here. On the lawn there is a pretty fountain, also a grand Rhododeudron many yards in diameter, which was brought upon a trolly specially made for the purpose some few years since from the other side of Manchester, near Manley Hall.

The conservatory was lookiug very gay at the time of my visit. Climbiug the ribs or arches of the house, Lapagerias and other climbers were growing freely, while Cycas revoluta and various Palms occupied the centre of the house, and banks of Pelargoniums, Fuchsias, &c., &c., run round each side. The entrance doors open into a luxurious vestibule. From here we proceed to two span-roofed houses, one of which contained some fine specimen Gleichenias, Adiantums, and other Ferns in grand condition, besides numerous other Orchids and stove plants. In another cool house we found, partly covering the back wall, a plant now seldom met with, viz., Rollison's Unique Pelargonium, and several other old favourites.

Other houses contained good examples of Calanthes, Phajus grandiflora, Cœlogyne Pleione, Eucharis, and in a low house a quantity of Gloxinias and Poinsettias for winter blooming. In another structure were some cool Orchids, among them being Odontoglossum vexillarium album and others in bloom; Cattleya crispa was also beautifully in bloom. We must not omit mention of a bed of Mushrooms we were shown just coming into use. It was literally a white bed, so thick were the buttons coming up. There are a few fine Camellias here well set, and we noticed some good Figs very full of fruit. The whole place does great credit to Mr. John Worthington, who, after serving several years in the gardens of Mr. Grafton, ultimately succeeded to the position of head gardener, and under his managemeut the gardens have much improved and must still further improve as the young plants more fully develop themselves.—*N. J. D.*

THE

Orchid Growers' Calendar.

Orchid Houses.—Heating and Repairing: Now is the time to thoroughly overhaul the heating apparatus, bearing in mind any cause of difficulty experienced during the last winter and trying to remedy it; at the same time making any alterations and improvements that experience might suggest. Sometimes where houses do not heat well or regularly the cause may readily be traced by one who knows the simple principles on which hot water works. Frequently a dip in the piping, made more for the sake of arranging it to look well than from necessity, throws the whole of it out of working, and gives much trouble in cold weather, whereas if the sudden dip were altered to a gradual rise all would heat well and easily.

By the same rule too, the settlement of the hot-water pipes out of the level causes them to work badly and much fuel to be wasted in winter in endeavouring to force heat where it would go naturally if the piping had a gradual rise to the extreme point of the flow (on which an open air pipe should be placed), and a gradual fall on the return. Those who think about these matters in summer are the best prepared in winter; it is therefore advisable to go over all the heating apparatus to see that it is in working order. If a plug at the lowest part, or any other means of sluicing the boiler is provided, a quantity of water should be run off from it to clear it of sediment, the fire bars and flues should be looked to, the piping levelled, the joints seen to, and the air taps and valves oiled and worked. The whole of it should also be painted over with lamp black and oil if required to prevent rust. The simpler the stuff used for this purpose the better, as anything likely to give off offensive gases is very injurious, and once applied causes damage for years, as those unwary enough to use paint or gas-tar know to their cost.

While seeing to the piping, it will be well to take a look behind them and have all the rubbish cleared away which may have accumulated. Nothing is of greater importance to Orchids than cleanliness, and no better time could be found for a general clean up than the present. At the same time, repairs to the structures and the ventilators should be attended to, as the weather makes it easy to accomplish repairs and alterations now which would be impossible later on in colder weather. But let me remind those in charge of Orchids where repairs are going on to look well after their plants and put them out of harm's way, for the carpenters and other workmen as a rule look after their own work and care little about the plants. Wherever extensive repairs have to be done, therefore, it is better to clear the house if possible, or at least a good portion of it at a time, matting off the part under repair from that in which the plants are situated.—*James O'Brien.*

Masdevallia tridactylites.—A lovely specimen of this little gem has just bloomed with Mr. W. B. Latham, at the Botanical Gardens, Edgbaston, Birmingham, with seventy or eighty flowers open at one time. It is one of those plants of which small specimens are regarded contemptuously by all but lovers of botanical plants, but which when bloomed as at Edgbaston commands attention and admiration from all. The plant resembles a dwarf tuft of grass only 2 ins. or 3 ins. in height, the leaves being upright and fleshy; the flowers are borne on thread-like stalks, rising an inch or two above the leaves, the flowers are reddish-brown, the body resembling that of a slender cockroach, two yellow tails projecting at angles at the base and one from the apex. Seen at a little distance, they look like so many insects hovering over the plant, for the stalks are almost invisible. Near allies are M. triaristella and M. gemmata, which seems to be identical with M. trichæte, is somewhat like it in flower, but has flat recurved leaves. The whole section is invaluable to those who have a little space in a cold house and wish to furnish it with nature's beautiful pigmies.—*J. B.*

Miltonia Regnelli purpurea.—A flower of the best form of this rare plant comes from Thos. G. Munyard, Esq., of Kingston Hill. The flower is 3 ins. in length and 2 ins. in width; the labellum large and oval, violet-mauve, and the sepals and petals delicate rose with a white band in each. The variety is said to be very robust in growth, bearing five to seven flowers on a spike and the spikes measuring 18 ins. to 2 ft. in length.

A Yellow Lycaste or Bifrenaria also comes from the same gentleman. It resembles Lycaste Harrisonianum in form, but the flowers are wholly yellow, the petals having a slight green tinge in them. There are four flowers on a spike, and they emit a very penetrating and pleasing odour. It seems to be of the Bifrenaria (Lycaste) inodora section, and will probably be the B. inodora xanthina, described by Professor Reichenbach from Linden's specimen in 1866, notwithstanding its sweet scent.—*J. O'B.*

HORTICULTURAL SOCIETIES.

Royal Southampton Horticultural, *August 1st and 3rd.*—This society held its Annual Summer Exhibition in Westwood Park, and it may truly be said to have been one of the very best the society has ever had. Everything that is calculated to promote and sustain a good provincial horticultural show is embodied in the society under notice; it is well supported by the nobility and gentry of the county, and the leading citizens of the town and neighbourhood. The Council, consisting mostly of business men, bring their keen commercial knowledge to bear upon the management, in conjunction with the practical suggestions of their horticultural colleagues; it is ably presided over by Major-General Lacy and Captain Gibbs, and having in Mr. Fuidge a most energetic and courteous Secretary, and a most suitable and convenient park in the outskirts of a flourishing commercial seaport town, it is therefore, we repeat, most favourably situated for the holding of a successful and representative horticultural meeting. The exhibits on the present occasion—even the "large plants" of Mr. Cypher and others—were as fresh as if they had been at home from their "infancy," instead of having been to most of the leading shows in the country, and their grand condition doubtless tended to stimulate a love for plant culture in the minds of many who saw them.

Plants.

In the class for twelve stove and greenhouse plants, six in flower and six fine-foliage, Mr. James Cypher, of Cheltenham, was easily first, out of three lots staged, showing a large, even, fresh lot of plants, particularly noticeable being his grandly-coloured specimens of Croton Sunset, 6 ft. through; C. Queen Victoria, of about the same dimensions; Phœnocoma prolifera Barnesii, 5 ft. through, and profusely covered with well-developed fresh flowers; Allamanda Hendersoni, Dasylirion acrotrichum, Dipladenia Brearleyana, Erica Thompsoni, Encephalartos villosus, having fronds 10 ft. long, and a well-flowered plant of Stephanotis floribunda; second, Mr. Rann, gardener to J. Warren, Esq., Handcross Park, Crawley, whose best plants were a grandly-flowered Statice profusa, and well-coloured Croton interruptus (9 ft. over) and C. Warreni, about the same in size. Mr. Tudgey, Waltham Cross, was third, his best plants being Erica tricolor superba, E. Wilsoni, and Ixora Williamsii. For a like number of plants not open to exhibitors in the preceding class, Mr. J. Mould, Pewsey, Wiltshire, was a good first, showing, among others, good plants of Dipladenia Brearleyana, Erica insignis, Allamanda Hendersoni, A. nobilis, Dracæna Goldiana, and Statice profusa; second, Messrs. Ransome, nurserymen, Hill Lane Gardens, Southampton, whose best plants were of Ixora Williamsii and Statice profusa; third, Messrs. Oakley & Watling, nurserymen, St. Mary's Road, Southampton. Mr. Wills, gardener to Mrs. Pearce, The Firs, Bassett, was first with a similar number of plants (open to gardeners only), staging a good, even, well-grown lot, the best of which were Clerodendron Balfourianum, Bougainvillea glabra, Kalosanthes coccinea, a grandly-flowered plant, and Phœnocoma prolifera Barnesii. Mr. N. Blandford, gardener to Mrs. Haselfoot, Moor Hill, West End, Southampton, was a good second, having remarkably good plants of Allamanda Hendersoni and Clerodendron Balfourianum; and Mr. Amys, gardener to the Hon. Mrs. Elliot York, Hamblecliff, Southampton, was third. In the class for nine miscellaneous plants, distinct, Mr. Molyneaux, gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, was a good first, staging a good, even, fresh, well-grown collection, in which were well-coloured Crotons variegatus and Queen Victoria, Alocasia macrorhiza variegata, a very good specimen, and Chamædorea glaucifolium, a handsome Palm, with long graceful fronds; second, Mr. Budd, gardener to F. G. Dalgety, Esq., Lockerley Hall, Romsey; third, Mr. Reynolds, gardener to Colonel the Hon. H. Crichton, Netley Castle, Southampton; and fourth, Mr. Peel, gardener to Miss Todd, Sidford Lodge, Shirley. Groups of

Miscellaneous Plants

arranged for effect are always interesting features in this excellent show, and were particularly so on the present occasion, presenting in the capacious tent at the top of the grounds a beautiful floral picture. There were ten groups, five belonging to professionals and nurserymen, and five arranged by amateurs. In the former class Mr. Wills was first, Messrs. Ransome second, Mr. Reynolds third, and Mr. Blandford fourth, all arranging tastefully, suitable, and well-chosen plants. Mr. Blandford was awarded a second prize for a collection of small, nicely-flowered plants of Orchids, which included nice pieces of Odontoglossum vexillarium, O. Roezlii, and Saccolabium Blumeii. For a miscellaneous collection of nursery stock, Messrs. Oakley & Watling were awarded the first prize, Mrs. Kingsbury the second, Mr. G. Windebank the third, and Messrs. Ransome the fourth; an extra prize being accorded to Mr. W. H. Rogers, Red Lodge Nursery, Southampton, for a nice fresh lot of chiefly hardy plants; Messrs. Elcombe & Son, Romsey, being highly commended for a similar collection. Mr. Wills had the best eight Begonias in flower; and Mr. Osborne, gardener to H. J. Buchanan, Esq., Wilton House, Southampton, Mr. Blandford, and Mr. Windebank had the second, third, and fourth best lots. In the class for four plants of Double Begonias, distinct, two lots only were staged, well-flowered plants, which secured for the exhibitors, Messrs. Wilts and Osborne, first and second prizes in the order named. The class for six stove or greenhouse Ferns brought out three exhibitors, Messrs. Wills, Amys, and Peel, who all showed well and secured the prizes in the order in which their names appear. The nurserymen's class for four stove or greenhouse Ferns only brought one exhibitor, Mr. J. Mould, who was awarded a first prize for a not very grand collection.

Ferns, Florists' Flowers, &c.

In a similar class, for gardeners only, Mr. Blandford was a good first, showing nice plants of Lygodium scandens, Adiantum cuneatum, A. concinnum, and Davallia Mooreana; second, Mr. Budd; third, Mr. Reynolds. Messrs. Wills, and W. Joy, nurseryman, Shirley, had the best two collections of six Fuchsias, distinct, and in the following class for a like number of plants from which exhibitors in the preceding class were excluded, Mr. Betteridge was first, and Mr. Bush, Thornhill Park, Bittern, second. Messrs. Windebank, Wills, and Blandford, were first, second, and third in the order named for six Pelargoniums, Zonal or Nosegay, distinct; and for a like number of doubles, or semi-doubles, distinct, the prizes went to Messrs. Ransome, Mr. Wills, and Mr. Windebank, all showing creditable specimens. In the next class, which was for four plants of the same description, the exhibitors in the preceding class not being allowed to compete, the first and second prizes went to Mr. Betteridge and Mr. R. West, gardener to — Wigram, Esq., Northlands, Salisbury, only two lots being staged, as in the following class for two Golden Tricolor, two Bronze, one Silver Tricolor, and one silver-edged Pelargoniums, the prizes in which were awarded to Messrs. Wills and West for neat, well-grown plants. Four lots of six Celosia pyramidalis were staged, and Messrs. Amys, Osborne, and Wills were placed first, second, and third, all showing admirably-grown plants of an excellent strain. The same exhibitors staged six pans each of well-grown Achimenes, distinct varieties; first, Mr. Osborne; second, Mr. Wills; and third, Mr. Amys.

Mr. Allen was the only exhibitor of eight Gloxinias, for which he was deservedly awarded the first prize. Messrs. Wills, West, and Amys took the awards for six Coleuses of pyramidal growth, and Mr. Busby staged the best six pans of Mosses, being closely followed by Mr. Wills. Mr. Wills had the best specimen Orchid, and Mr. J. Mould the best specimen Heath, Erica Austiniana, a good, fresh, well-flowered plant. The best fine-foliage plant came from Mr. Rann, a grand highly-coloured plant of Croton Youngii, 8 ft. over. In the specimen flowering plant class, Mr. Blandford was a good first with Allamanda Schottii, Mr. Osborne second with a nice plant of Anthurium Andreanum, and Mr. Cypher third, with Ixora floribunda nana. Mr. Wills was a good first in the specimen Fuchsia class, with a fine, well-flowered plant of Elegans; he was also again to the front with six Petunias, showing neat, well-flowered plants. Mr. Amys had the best six pots of Mignonette, Mr. Allen the second best, and Mr. Reynolds the third best, all showing well.

Amateurs' Classes.

The classes provided for amateurs were well contested, and the exhibits, on the whole, of excellent quality. There were, as already stated, five claimants for the prizes offered for a group of miscellaneous plants, arranged for effect, to occupy a space of 10 ft. by 6 ft.: first, Mr. F. E. Chamberlain, Fitzhugh, Southampton, with a very good arrangement of neat, fresh, well-flowered plants; second, Mr. W. Betteridge, Old Bassett; third, Mr. Chas. Burch, 1, Padwell Road, Southampton; and fourth, Mr. E. Chamberlain, Alma Road. For four Fuchsias, Mr. Burch was awarded the second prize, and Mr. E. Chamberlain the third, and with a like number of Ferns, distinct, Mr. E. Chamberlain was first, and Mr. F. Chamberlain second. Mr. Betteridge was first for four Zonal or Nosegay Pelargoniums, distinct, Mr. Burch second, and Mr. F. E. Chamberlain third. Mr. Betteridge was again placed first for four Petunias, distinct, nice plants, and Mr. E. Chamberlain second. Once more Mr. Betteridge was to the front for four Begonias in flower, Mr. C. Privett, Top Avenue, being accorded a third prize. The invincible Mr. Betteridge followed up his previous victories in the class for a specimen greenhouse plant in flower, showing Begonia relenta, Mr. Hobday, Fremantle, being second.

Table Decorations.

Four tables were very neatly arranged with plants, fruits, and flowers, and otherwise completely set for dessert to accommodate eight persons. Grasses were used most effectively, intermixed with choice and suitable flowers: first, Mr. Cypher; second, Mr. J. R. Chard, Floral Depôt, Clapham; third, Miss Bessie Flight, Twyford, Winchester; fourth, Mr. F. E. Chamberlain. Mr. Cypher had the best dressed epergne, Eucharis, Dipladenias, Lapagerias alba and rosea, &c., being used, with Ferns in the base; second, Mr. F. E. Chamberlain; third, Miss B. Flight, and Mr. J. R. Chard was fourth, all tastefully arranged. Miss B. Flight and Miss Chamberlain were first and second respectively with three stands or vases arranged with flowers and foliage.

Cut-flowers.

For the most tastefully arranged basket of cut-flowers, Miss Stratton, Northcroft, Portswood, was first, Mrs. Thomson, Norman Court Gardens, Salisbury, second, and Miss Flight third. Miss Stratton was again first for a basket of wild flowers and grasses, Miss Flight second, and Miss Hobday third. Mr. Cypher was first for a ball-room bouquet with an artistic arrangement of choice flowers and Fern fronds; Mr. Chard was a very close second, and Messrs. Keynes, Williams & Co., Salisbury, a good third. Mr. Chard was adjudged first for a bridal bouquet, a composition of choice flowers which elicited many flattering remarks from lady visitors; second, Mr. Cypher; third, Messrs. Keynes, Williams & Co.; Mr. Warden, gardener to Sir F. H. Bathurst, Bart., Clarendon Park, Salisbury, being an excellent fourth. Mr. Chard was placed first for six bijou button-hole bouquets, Mr. E. Chamberlain second, and Miss Hobday third, all for good arrangements. Mr. Budd was first for twelve bunches of cut-flowers, distinct (a dressing of Fern allowed), to be staged the same as Roses, and Mr. Thomson was a good second, and Mr. Amys third. Mr. Molyneaux was an excellent first for twelve varieties of hardy herbaceous cut-flowers; Mr. Guillaume, Oriental Place, Southampton, second; and Mr. Pope, gardener to the Earl of Canarvon, Highclere Castle, Newbury, Hants, third. Mr. Molyneaux was again at the head of the list for twelve trusses of Zonal or Nosegay Pelargoniums, distinct; for a like number of doubles, or semi-doubles, Mr. Molyneaux was placed once more in the front rank. There were only two lots of twelve Dahlias, distinct, staged, and the first prize went to Mr. Fipon. Only two exhibitors, Messrs. Keynes, Williams & Co. and Messrs. Cross & Steer, of Salisbury, put in an appearance in the class for twenty-four blooms, distinct, and they were awarded first and second prizes in the order in which their names are recorded. With twelve blooms, distinct, Mr. Warden was a capital first, showing nice, even, fresh blooms; second, Mr. Flight, Winchester; third, Mr. West.

Fruit.

Fruit was shown largely and well, the competition in the collection of eight distinct kinds being very keen, and the individual exhibits good, as also were the Grapes, the Madresfield Court Black Muscat being, in the opinion of the eminent fruit-growers who made the awards, the best example of this noble-looking Grape that has been staged in or out of London for some time. Black Hamburgh, too, was shown in fine condition by Messrs. Warden, Molyneaux, and Allen, and Muscat of Alexandria and Mrs. Pearson by Mr. Budd. Melons, Peaches, Nectarines, Apples, and small fruits were fairly well represented; Mr. H. W. Ward, Longford Castle, Salisbury, and Mr. F. Thomson, who had been first and second respectively the last two years in the collection, exchanged places this year, Mr. Budd maintaining his old position of third. Mr. Thomson's collection included good Madresfield Court and fairly good Muscat of Alexandria Grapes, good Barrington Peaches and Elruge Nectarines, White Marseilles Figs, Blenheim Orange Melon, Moor Park Apricots, and smooth-leaved Cayenne Pine. Mr. Ward's second prize lot consisted of similar kinds, his best dishes being Lord Napier Nectarine, Black Hamburgh Grapes, and a Captain Lark Melon weighing 11½ lbs. Mr. Budd's best dish was his Muscat of Alexandria Grapes—two well-coloured bunches. In the class for a collection of six kinds (Pine excluded), Mr. Molyneaux was the only exhibitor, showing Madresfield Court and Muscat of Alexandria Grapes, good Elruge Nectarines, Royal George Peach, Golden Perfection Melon, and Morello Cherries, a collection which would take some beating. In the class for three bunches of Black Grapes there were seven lots staged—first, Mr. H. W. Ward, with Madresfield Court; second, Mr. Warden, with neat well-finished bunches of Black Hamburgh, followed closely by Mr. Molyneaux with the same variety, and Mr. Thomson with Madresfield Court. In the corresponding class for three bunches of White Grapes, Mr. Budd was first with good well-coloured bunches of Muscat of Alexandria, being followed closely by Mr. Molyneaux with the same variety, Mr. Thomson coming in third, and Mr. Hills, gardener to Viscount Gore, East Cowes Castle, Isle of Wight, fourth. In the two-bunch classes, Mr. J. Axford was first, with Black Hamburgh; second, Mr. J. Allen, with the same variety; third, Mr. Cox, gardener to R. R. Wyndham, Esq., Corhampton House, Bishop's Waltham, with Madresfield Court; fourth, Mr. Pope. The last-named exhibitor had the best two bunches of White or Muscat of Alexandria, Mr. Osborne the second best, Mr. J. Axford the third, and Mr. Amys the fourth best. There were seven single bunches of Black Grapes staged in competition for the prizes offered for the best bunch: first, Mr. H. W. Ward, with Madresfield Court; second, Mr. Molyneaux, with the same variety; third, Mr. J. Allen, showing Black Hamburgh, good in bunch, berry, and finish; fourth, Mr. Saunders. In the corresponding class for the best bunch of any white variety there were six claimants for the prizes offered: first, Mr. Budd, with a neat, well-coloured bunch of Mrs. Pearson; second, Mr. Thomson, with Muscat of Alexandria, rather green; the third and fourth prizes going to Mr. Saunders and Mr. Ward for the same variety also, somewhat different in colour. There were only two Pine-apples staged, by Mr. Ward and Mr. Thomson, who obtained the prizes in the order named. Mr. Saunders, Longstock House, Stockbridge, had the best-flavoured Scarlet-flesh Melon in Blenheim Orange; and Mr. Ward, showing the same variety, was second. Mr. Thomson had the best Green-flesh Melon in Victory of Bath; Mr. Saunders the second best with Eastnor Castle; third, Mr. W. Cotton, Hamilton Nursery, with Green Hall Gem; and fourth, Mr. Ward, with Cox's Golden Gem. Mr. Windebank was first for six Peaches, showing nice, even, well-coloured fruits of Chancellor; second, Mr. Thomson, with Gros Mignonne; and third, Mr. Cotton. Five dishes of Nectarines were put up: first, Mr. Cotton, with Lord Napier; second, Mr. Budd, with Violette Hâtive; third, Mr. Ward, with Pine-apple. Mr. Saunders had the best six varieties of out-door fruits, showing Peaches, Cherries, Apricots, Gooseberries, Raspberries, and White Currants. For three dishes of dessert Apples, six of each variety, Mr. Windebank was first, with Irish Peach, American Peach, and Sugarloaf Pippin; second, Mr. H. J. Fyfold; third, S. Chapman, gardener to Col. Knatchbull, Chalford, near Andover; and for a like number of kitchen Apples Mr. Windebank was to the front again, showing Wiltshire Lass, Lord Suffield, and Dutch Codlin; the other prizes going to Mr. Fyfold and Mr. Chapman in that order.

Vegetables.

These were shown extensively and well, considering the season. There were four collections of twelve kinds, all good produce, arranged with admirable taste: first, Mr. Richards, gardener to the Earl of Normanton, Somerley House, Ringwood, who staged good White Elephant Onions, International and Reading Russett Potatos, Sutton's Intermediate Carrot, Green Globe Artichokes, Duke of Albany Pea, fine Canadian Wonder French Beans, Pragnell's Exhibition Beet, Perfection Tomato, Moor's Cream Marrow, Autumn Giant Cauliflower, and Purley Park Cucumber; Mr. Saunders was a good second, his best dishes being International Kidney Potatos, large and handsome in shape, Cream Marrow, and Tomatos third, Mr. Pope. There were ten collections of nine kinds staged: first, Mr. Molyneaux, with an admirable, clean, even-grown, and well-staged lot, showing a neat, even brace of Telegraph Cucumber, Midsummer Kidney Potato, good Cream Marrows, Giant Rocca Onion, Stratagem Peas, Reading Russett Potatos, Nantes Horn Carrot, &c.; second, Mr. J. Allen; third, Mr. Axford; and Mr. Busby fourth.

For eight varieties of Potatos, four kidney and four round, Mr. R. West, a name not unknown to Potato-growers, was placed first, with a very clean, even lot of tubers of Chancellor, Fillbasket, Beauty of Kent, Porter's Excelsior, American Purple, International Kidney, Reading Russett, and Mr. Bresee; second, Mr. Saunders; third, Mr. Axford; and fourth, Mr. Ward. Mr. J. Allen had the best twelve bulbs of spring-grown Onions, and Mr. Ward the second best, Mr. Busby the third, and Mr. Saunders the fourth; and in the corresponding class for autumn-sown bulbs, Mr. Richards was easily first, showing grand bulbs of Giant Rocca; second, Mr. Reynolds; and third, Mr. J. Allen. Mr. Molyneaux was first for a brace of Cucumbers, showing a similar brace to that referred to above; second, Mr. Richards, with Purley Park Hero; third, Mr. Amys, with Telegraph; and fourth, Mr. Ward, who also had Purley Park Hero. Cottagers' produce was also well represented in this department.

Miscellaneous.

Messrs. Cross & Steer, The Canal, Salisbury, contributed some excellent stands of Carnations and Picotees, not for competition, the most conspicuous among them being "Louise Ashburton" and "The Governor," of which this firm have a fine stock. Mr. F. J. Waterman, of 2, Bevis Place, Newtown, Southampton, exhibited some artistic rustic garden vases, fountains, arches, window-boxes, &c., which, in some cases being filled with Ferns, admirably illustrated their adaptability for such purposes; and Mr. Lankester had an admirable display of boilers and garden furniture.

Liverpool Horticultural Association.—The annual show of this association of local horticulturalists was held in the Sefton Park, on August 1st and 3rd, and in every way it was a very meritorious exhibition. The arrangements were perfect, everything that could be desired being done by Mr.

Edward Bridge, the energetic Secretary, ably assisted by the members of the Committee, who, with their most energetic and courteous Chairmam, Mr. J. Richardson, Curator of the Botanic Garden and Superintendent of the Public Parks and Gardens, are most ardent in their endeavours to further develop the usefulness of the society. The entries were very numerous, and in the principal classes the competition was very keen, and especially so in the cut-flower department. Liberal prizes are offered, so that exhibitors have every encouragement, and, in addition to carrying on the exhibitions, the society has organized a series of meetings for the benefit of horticulturalists in the district, and to encourage, as far as practicable, the writing of essays or papers by under-gardeners on subjects appertaining to the profession, prizes being offered for the best. These meetings bring out first-rate discussions, which are greatly to the benefit of those who attend them.

PLANTS.

For twelve stove and greenhouse plants, six foliage and six flowering, Mr. Mease, gardener to C. W. Newmann, Esq., Wyncote, Allerton, was an easy first, and we question very much if ever finer examples of Crotons have been seen before. His specimens of Queen Victoria and Weismanii were nearly 9 ft. high and the same through, magnificent plants, wonderfully well-coloured and having grand foliage; C. Disraelii was nearly as large. The other specimens included Prichardia pacifica, a grand piece; Gleichenia Mendellii, Latania borbonico, Erica Ne Plus Ultra, and E. emula, very fine and fresh, Clerodendron Balfourianum, Stephanotis floribunda, and Allamanda nobilis. Mr. Cypher, of Cheltenham, was second, with a good lot, containing fine examples of Croton Johannis and C. majesticus, Kentia Forsteriana and Australis, Cycas revoluta, Latania borbonica, Erica Paxtoni and E. Irbyana, Ixora Pilgrimi, Anthurium Andreanum, Dipladenia amabilis, and a good Phœnocoma. These were a good dozen, but lacked the size of Mr. Mease's plants. However, in the competition for six stove and greenhouse plants in bloom, this order was reversed, Mr. Cypher coming in first with a good Dipladenia amabilis, Allamanda nobilis, Erica ampullacea Barnesii, Ixora Reginæ, Erica tricolor major, and Phœnocoma, a fine clean, fresh lot. Mr. Mease had Clerodendron Balfourianum, Erica ampullacea, E. Williamsii, and E. tricolor Wilsoni, Bougainvillea glabra, Allamanda Hendersoni, and Dipladenia amabilis, also a good clean lot, but not so profusely flowered as Mr. Cypher's. In the class for ten stove and greenhouse plants, five foliage and five flowering, a grand lot was put up by Mr. Cox, gardener to W. H. Watts, Esq., Elm Hall, Wavertree, who was first with good, clean, well-grown plants of Ixora Reginæ, I. coccinea superba, I. Dixiana, a grandly-flowered specimen with over two hundred trusses, Allamanda Hendersoni, Statice Butcheri, Alocasia macrorhiza variegata, Latania borbonica, Croton Queen Victoria, &c.

Fine-foliaged plants were well shown, and here again the first prize for eight was well won by Mr. Mease with good, well-grown examples of Crotons Countess, Prince of Wales, Williamsii, and Mortii, Alocasia macrorhiza variegata, Cycas revoluta, Alocasia metallica and Lowii, a grand lot. Ferns were well shown, the best eight exotic coming from Mrs. Horsfall, The Priory, good clean plants of Alsophila Youngii, Dicksonia squarrosa, D. antarctica, Pteris scaberula, Davallia Moreana, Adiantum Farleyense, &c.; Mr. Cox, Elm Hall, who showed well, was second, and J. B. Bowring, Esq., Aigburth (Mr. Hurst, gardener), third.

Orchids were poorly represented. The first prize for four was won by Mr. Mease with Saccolabium Blumei, Thunia Marshallii, Cattleya Gaskelliana, and Cypripedium Swanianium; second, Mr. Cypher, with Cypripedium Stonei and C. Parishi, Cattleya Dowiana, Vanda tricolor, and Odontoglossum vexillarium. Zonal Pelargoniums were shown in number, and the quality was good. Begonias, Achimenes, Caladiums, Gloxinias, Petunias, Coleuses were also fairly represented, but call for no special comment.

Of table plants several collections of six were staged, but most of them were too heavy. This remark, however, does not apply to the first prize lot from J. H. Harrison, Esq., Holmfield, Aigburth (Mr. Fleetwood, gardener). The second prize was awarded to Mrs. Watts, Grassendale Park (Mr. Agnew, gardener), and the third to Mrs. Johnson (Mr. Cubben, gardener). Of groups arranged for effect we have seen much better on several occasions. The first prize for a group covering 250 square feet went to Messrs. R. P. Ker & Son, Liverpool, and the second to Mr. F. Francis, Wavertree. In the 150 square feet class, Mr. Mease, gardener to C. W. Newmann, Esq., came in first; W. H. Watts, Esq., Elm Hall (Mr. Cox, gardener), second; and F. G. Gossage, Esq., Camp Hill (Mr. Jellicho, gardener), third. These groups were all passable, but lacking in the lightness and brightness one now expects to see predominant.

CUT-FLOWERS.

In this department the Roses were remarkably good considering the unfavourable weather we have experienced. For forty-eight singles a splendid lot was put up by Messrs. Harkness, Bedale, who were first, while Messrs. Cocker & Son, Aberdeen, were second, and equal third, J. B. Hall, Esq., and Messrs. R. C. Mack & Sons, all showing good boxes of fine clean flowers. For twelve Teas and Noisettes, fine flowers were staged, and here J. B. Hall, Esq., came in first, Messrs. Harkness & Son second, and Messrs. Perkins, Coventry, third. For twenty-four flowers, J. B. Hall, Esq., was first, and A. Tate, Esq., second, both showing good flowers of the leading sorts. For twelve light-coloured varieties, Messrs. Cocker & Sons took the lead with Merveille de Lyon. In the corresponding class for twelve dark varieties, Alfred Colomb was shown well, this variety taking the first, second, and third prizes respectively, Messrs. Mack & Sons having the best. The prizes for the most tastefully aranged box of Roses were taken by Alfred Tate, Esq., and J. B. Hall, Esq. For eighteen varieties of stove and greenhouse flowers, Mr. Mease was an easy first, with one of the best lots seen this season, and superb they were indeed, consisting of good trusses of Cypripedium Veitchii, Oncidium Lanceanum, Anthurium Ferrierense and Andreanum, Allamanda Hendersoni, Kalosanthes, Ixoras, Eucharis, Dipladenias, Gloriosa superba, Erica cerinthoides coronata, Pancratum fragrans, &c. These were much admired. Of hardy herbaceous cut-flowers grand collections were staged, making a splendid display, and many novelties of sterling merit were shown amongst them. The leading prize winners were Mr. Mease, Messrs. James Dickson & Sons, Chester, and W. H. Shirley, Esq. Several fine bouquets were shown, and Mr. Cypher was first; Messrs. Perkins, Coventry, being second; and Mr. G. Downs, Lodge Lane, Liverpool, third. Wild flower bouquets were extensively shown, also model gardens, in some of which good designing was displayed. The epergnes were fair, but the Pansies and Dahlias were but poor.

FRUITS AND VEGETABLES, &c.

For a collection of eight dishes, Mr. Edmonds, gardener to the Duke of St. Albans, Bestwood, came in first with splendid Grapes, Peaches, Nectarines, Figs, Cherries, and a good Melon and Pine; second, Mr. Ward, The Gardens, Riddings, Alfreton, who showed a very meritorious lot; third, Mr. Mease, Allerton. For six dishes, A. R. Gladstone, Esq., Court Hey, Broadgreen (Mr. Elsworthy, gardener), was first with good Grapes, Melons, Peaches, Figs, &c. The Pine-apples were of fair quality only, but the Grapes were very fine. The first prize for four bunches, two black and two white, went to J. Evans, Esq., J.P., Hurst House, Prescot (Mr. Young, gardener), who had good Madresfield Court, Forster's Seedling, Black Hamburgh, and Muscat of Alexandria, a really grand lot; second, R. Pilkington, Esq., Rainford Hall (Mr. Middleton, gardener); third, the Duke of St. Albans (Mr. Edmonds, gardener). The best two bunches of black Grapes came from Mr. Barker, gardener to Alderman Rayner, Rock Ferry, very fine Hamburghs, good in colour and berry; second, Mr. Brownhill, gardener to J. Hargreaves, Esq., Rock Ferry; third, B. Bowring, Esq., Beechwood.

For two bunches of Muscat Alexandria, R. Pilkington, Esq., St. Helens (Mr. Middleton, gardener), was first; W. J. Holland, Esq., Liscard Hall (Mr. Delworth, gardener), second; and W. C. Clarke, Esq., Orleans House, Sefton Park, third; these were all good in bunch and berry, and well finished. In the class for two bunches of any White Grape, the Duke of Buccleugh was shown in fine form by several. First, Mr. Bennett, The Gardens, Rhug, Corwen; second, S. S. Parker, Esq., Sudley Road, Aigburth; third, Rev. J. Watts. For two bunches of any black variety, Hamburghs excluded, first, Alderman Rayner, Rock Ferry (Mr. Barker, gardener); second, J. H. Oakes, Esq., Riddings, Alfreton (Mr. Ward, gardener); third, E. Evans, Esq., Prescott (Mr. Young, gardener). Melons, both scarlet and green-flesh, were numerously shown, and the first prize for green-flesh went to Mr. Rhodes, gardener to Mr. Horsfall, and for the scarlet to Mrs. Paterson, Rock Ferry (Mr. Ferguson, gardener). Peaches and Nectarines were well to the fore, some splendid fruit being shown. Of Strawberries and Cherries we have seen plenty better this season. Baskets of fruits arranged for effect were exhibited by Mr. Mease and Mr. Elsworth, who took the prizes in the order named.

Considering the dryness of the season, vegetables were well shown, the collection being very meritorious. For twelve varieties, Col. Wingfield, Onslow Hall, Shrewsbury, was first with a good lot, and in the class for local exhibitors living within ten miles of Liverpool, Mr. Mease was first. The Peas were very fine, and the entries numerous. Potatos were also shown well, and Tomatos, but the Cucumbers were very poor.

MISCELLANEOUS.—The Liverpool Horticultural Co., Mr. J. Cowan, manager, showed, not for competition, some good Tea Roses, well grown and flowered, a grand lot of Lilium speciosum varieties, miscellaneous stove and greenhouse plants, some Orchids, good Petunias and Ferns, and samples of their pot-Vines, which are very good. Altogether they formed a very fine display. Messrs. R. P. Ker & Sons contributed a collection of stove and greenhouse plants, foliage and flowering, containing many novelties, some of which were certificated, and samples of their Vines, &c.

Messrs. F. & A. Dickson & Sons, Chester, had a miscellaneous collection of stove and greenhouse plants, and Messrs. Pearson & Sons, Chilwell, boxes of cut Pelargoniums. Mr. F. Perkins, Leamington, had his Pelargonium Volunte national alba in fine form.

HORTICULTURAL REQUISITES.—Mr. Joseph Bramham, 104, Dale Street, Liverpool, showed specimens of his boilers, wire-work, and garden implements for which he is so well-known, and the many awards he has taken are sufficient to recommend him; Messrs. Forster & Pearson, Beeston, Notts, showed greenhouses and frames; and Messrs. W. Glassey & Co., Liverpool, garden seats and chairs. Messrs. David Lowe & Son, Manchester, had a greenhouse; and Mr. Webster, Wavertree, some frames and greenhouses. Mr. Fred Mee, Liverpool, exhibited boilers and heating apparatus, for the excellence of which he is so well noted; Mr. Cæsar, Knutsford, rustic work, summer-houses, &c., some of the best we have seen; Mr. P. B. Hasken, Liverpool, samples of Teak-wood and Bamboo tubs, boxes, &c.

Great credit is due to all concerned with this exhibition, and especially to the managers of the various departments, for not a single hitch occurred, and we are pleased to hear that the attendance on Monday was much larger than on any previous occasion.

ANSWERS TO CORRESPONDENTS.

BOOKS.—*James Wilson.*—Donn's *Hortus Cantabrigiensis* has been out of print a long time, but we occasionally see a copy on the second-hand bookstalls.

SEDUM ACRE.—*Bee Keeper.*—This is an excellent plant to grow for Bees, flowering at the end of June and beginning of July. We have seen them visiting the flowers in great numbers, even in districts where they are not kept to any great extent.

BEDDING PLANT.—*J. S. C.*—Your plant is Klenia repens, a succulent greenhouse plant, used sometimes in a small state, not so often now as a few years ago, as a bedding plant.

EARLY GRAPES.—*Scotus.*—If you want them very early it is better to start the pot-Vines in August than October, if the canes have been grown with that object in view, and are now well ripened.

PELARGONIUM.—*Junus.* — The largest specimen Fancy Pelargonium we remember to have seen measured 16 ft. in circumference. It was exhibited at the large exhibition held in Lower Aston Grounds, Birmingham, in July, 1875, but we have forgotten the grower's name.

VARIETIES OF FRUIT.—*J. McA.*—If the schedule says "six distinct varieties of fruit," you are certainly entitled to show six distinct varieties of Grapes, of Apples, or of Pears, if you like, but there can be no doubt that six distinct kinds were intended.

NAMES OF PLANTS.—*W. E.*—1. Tradescantia zebrina; 2. Tradescantia repens aurea variegata; 3. Cyperus alternifolius; 4. Isolepis gracilis; 5. Nephrolepis tuberosa; 6. Blechnum

occidentale; 7. Pteris cretica albo-lineata; 8. Hydrangea hortensis; 9. Abutilon vexillarium variegatum; 10. Lysimachia vulgaris; 11. Erica Mediterranea (?) 12. Berberis nepalensis; 13. Clematis rubella (?) Pray be merciful another time. Six specimens is quite as many as we can undertake at once.—*A Constant Reader.*—1. Pteris serrulata cristata; 2. Adiantum concinnum latum; 3. Pelargonium citriodorum; 4. Pelargonium crispum; 5. Lastrea decomposita; 6. Tradescantia virginica; 7. Not recognized; 8. Hemerocallis fulva.—*R. Marsden.*—1. The Hop Hornbeam, Ostrya vulgaris; 2. Lilium Martagon, purple; 3. Cystopteris fragilis; 4. Malva (?)

COMMUNICATIONS RECEIVED.—W. S.—R. D.—Dr. W.—D. B. K.—R. E.—V. C. & Co.—K. W. & Co.—W. L. & Co.—M. T.—E. D.—A. O.—T. S.—H. C.—K. T.—J. D.—J. White.

Trade Catalogue Received.

HENRY R. ILLMAN, Hereford.—Choice Roses, Fruit Trees, Shrubs, Hardy Perennials, Seeds, Bulbs, &c.

LONDON SEED TRADE.

August 5th, 1885.

MESSRS. HURST & SON, 39, Seed Market, Mark Lane and 152, Houndsditch, report no new feature at to-day's market. Absence of rain prevents the usua-demand for Trifolium, &c., but prices all round continue firm. New Rape, being very cheap and of satisfactory quality, is in moderate request; Mustard also meets a steady sale; Clovers are unchanged; New English Italian Rye Grass is offering, but prices are not fixed. No change in value of Bird Seeds.

COVENT GARDEN MARKET.

August 6th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Cherries, ½ sieve	0 4–14 0	Pine-apples, St. Michaels, each	3 0– 5 0
Grapes, per lb.	0 8– 2 0	Red Currants, ½ sieve	3 0– 3 6
Melons, each	2 0– 3 0	Black do.	4 0– 4 6
Peaches, per doz.	2 0– 8 0	Strawberries, per lb.	0 3– 0 9
Pine-apples, Eng., lb.	2 0– 3 0		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	1 0–	Herbs, per bunch	0 2– 0 4
Asparagus, English, per bundle	–	Horse Radish, bundle	3 0– 5 0
Beans, French, per lb.	– 1 0	Lettuces, Cabbage, per dozen	2 0–
Beet, per dozen	2 0– 3 0	— Cos, each	0 1–
Cabbages, Spring, doz.	1 6– 2 0	Mushrooms, p. basket	1 0– 2 0
Carrots, per bunch	0 6–	Onions, per bushel	5 0– 7 6
Cauliflowers, English, per dozen	4 0– 6 0	Parsley, per bunch	0 6–
Celery, per bundle	1 6– 2 6	Radishes, per dozen	1 6–
Cucumbers, each	0 6– 1 0	Small salading, per punnet	0 4–
Endive, French, per dozen	2 6– 3 6	Spinach, per strike	2 0–
		Tomatos, per lb.	1 0–
		Turnips, per bunch	0 6–

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0– 4 0	Lily of the Valley, 12 bunches	–
Anemone, 12 bun.	–	Marguerites, 12 bun.	2 0– 6 0
Arum Lilies, 12 blms.	2 0– 6 0	Mignonette, 12 bun.	1 6– 3 0
Asters, 12 bun.	0 4– 6 0	Moss Roses, 12 bun.	12 0–18 0
Azalea, 12 sprays	–	Narcissus, various, doz. bun.	–
Bourvardias, per bun.	0 6– 1 0	Pæony, 12 bunches	–
Camellias, 12 blooms	–	Pelargoniums, per 12 sprays	0 6– 1 0
Carnations, 12 blooms	1 0– 3 0	—scarlet, per 12 sprays	0 4– 0 6
Carnations, 12 bun.	2 0– 4 0	Pinks, various, 12 bunches	1 0– 4 0
Chrysanthemums, 12 bunches	–	Primula, double bun.	0 6– 1 0
— large, 12 blooms	–	Primulas, Chinese, bun.	–
Cornflower, 12 bun.	2 0– 4 0	Pyrethrum, 12 bun.	2 0– 4 0
Cyclamen, doz. blooms	–	Rhodanthe, 12 bun.	6 0– 9 0
Cineraria, per bunch	–	Roses (coloured)	1 0– 2 0
Day Lily, 12 bunches	–	Roses, indoors, p. doz.	1 0– 3 0
Epiphyllums, 12 blms.	–	Roses, per dozen bunches	2 0– 6 0
Eschscholtzia, 12 bun.	–	Spiræa, 12 bun.	–
Eucharis, per dozen	3 0– 6 0	Stephanotis, 12 spr.	3 0– 4 0
Gardenias, 12 blms.	2 0– 5 0	Stocks, 12 bunches	2 0– 4 0
Heliotropes, 12 sprays	0 6– 1 0	Sweet Peas, 12 bun.	2 0– 4 0
Hyacinths, Roman, doz. sprays	–	Sweet Sultan, 12 bun.	4 0– 6 0
Iris, 12 bunches	–	Tuberoses, per dozen	0 4– 0 6
Lapageria, white, 12 blooms	2 0– 3 0	Tulips, per doz.	–
Lapageria, red, 12 blms.	1 0– 2 0	Violets, doz. bun.	–
Lavender, 12 bun.	4 0– 6 0	— French, per. bun.	–
Lilium candidum, 12 blooms	–	— Parma, per. bun.	–
— Longiflorum, 12 blooms	2 6– 6 0	White Jasmine, bun.	0 6– 0 9
Lily of the Valley, doz. sprays	–	Woodroffe, 12 bunches	–

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, doz.	6 0–24 0	Heaths or Erica, var., per doz.	–
Arum Lilies, per doz.	–	Hyacinths, doz.	–
Asters, per doz.	0 4– 6 0	Hydrangea, per doz.	8 0–12 0
Azalea, per doz.	–	Ivy Geraniums, per dozen	3 0– 6 0
Balsams, per doz.	3 0– 6 0	Lilium longiflorum, per doz.	18 0–36 0
Begonias, per dozen	4 0–12 0	Lilium lancifolium, per doz.	9 0–12 0
Bouvardias, dozen	9 0–18 0	Lobelias, per doz.	3 0– 6 0
Calceolarias, per doz.	4 0– 6 0	Marguerites, per doz.	6 0–12 0
Cineraria, per dozen	–	Mignonette, per doz.	4 0– 6 0
Cockscombs, dozen	3 0– 6 0	Palms in variety, each	2 6–21 0
Cyclamens, doz.	–	Pelargonium, per doz.	6 0–18 0
Cyperus, per dozen	4 0–12 0	Pelargoniums, scarlet per dozen	2 0– 6 0
Deutzia, per dozen	–	Petunias, per dozen	4 0– 6 0
Dracæna term., doz.	30 0–60 0	Poinsettia, doz.	–
— viridis, per dozen	12 0–24 0	Rhodanthe, per doz.	6 0– 9 0
Epiphyllums, doz.	–	Spiræa, per dozen	–
Evergreens, in var., per dozen	6 0–24 0	Stocks, per dozen	–
Ferns, in var., dozen	4 0–18 0	Tropæolums, per doz.	2 0– 4 0
Ficus elastica, each	1 6– 7 0		
Fuchsias, per doz.	3 0– 9 0		
Foliage Plants, various, each	2 0–10 0		
Genista, per dozen	–		

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COARSE SILVER SAND, 1*s.* 9*d.* per bushel; 15*s.* per half ton; 26*s.* per ton; in 2-bushel bags, 4*d.* each.
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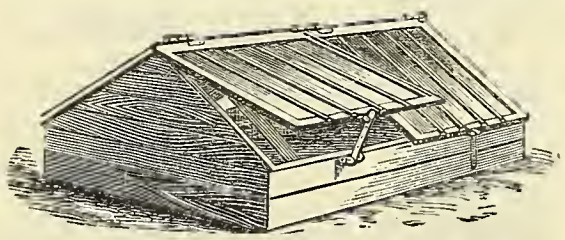

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12 ,, 4 ,, ...		4 15 0
6 ,, 5 ,, ...		3 15 0
12 ,, 5 ,, ...		6 10 0

The glass is nailed and puttied in.

THE GARDENS, BURGHLEY, STAMFORD, September 11th, 1884.

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,, ,, ,, white ,, ,, ...	1 6	10 6
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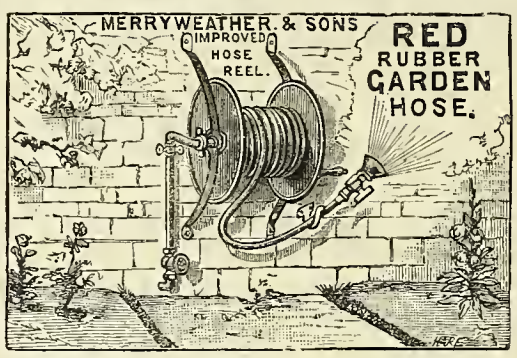

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THE GARDENING ILLUSTRATED WORLD

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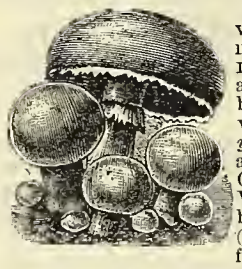

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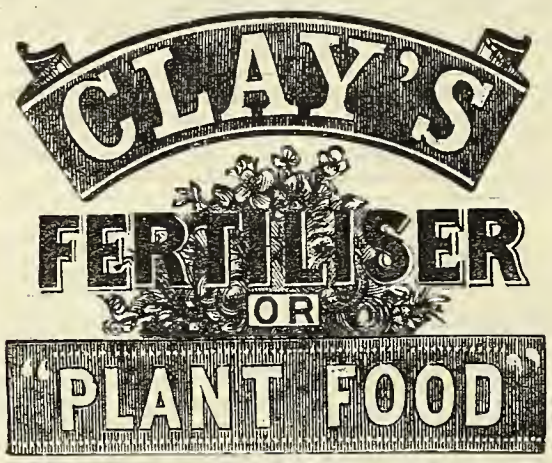

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, AUGUST 15TH, 1885.

The Face of Nature.—It is a common thing to speak of the surface of the earth and its productions as the "face of nature," and the symbol is by no means inappropriate. Nature certainly at times very much resembles a dirty, begrimed, withered visage, and when seen in that condition it is exceedingly unpleasant to look upon. But give the face of nature a washing, a thorough cleansing from dirt, soot, and other grimy substances, and it becomes as fresh and as delightful as does the dirty human visage after it has been transformed by a vigorous ablution. How distressingly nature's face needed cleansing those residing near towns, and specially beside dusty thoroughfares, could tell sadly but a few days since. But not merely did the cleansing process become needful, moisture was also sadly wanting to revive and invigorate exhausted, withered, and almost dying vegetation. Fields, woods, hedge-rows, gardens, nay, all vegetation, in many districts had become so miserable through long-continued drought that nature gave no pleasure, indeed, its wretched state only created pain.

After many weeks long waiting and severe ordeal of drought, the flood-gates of the fleecy water-carriers of heaven were once more opened, and the earth rejoiced under the influence of the refreshing beverage. The effect seems to have been almost magical upon vegetation, for with the cleansing of dust and grime and the moistening of the leafage, new life and vigour seems to have set in, and gardens, fields, and hedge-rows once more assume beauty and cheerfulness, too long wanting. It is true the rains have not been great, and the soil is moistened but slightly, still it is productive of a change so welcome that we dare not cavil. With the harvest in its full tide, a long spell of rainfall would be a disaster, whilst a thorough soaking of the soil down to the roots of the late Potatos, Winter Greens, pastures, &c., would, if temporary in operation, be productive of incalculable good.

Already the moisture has benefited the tree-fruits immensely, and Apples, Pears, and Plums, with Nuts, seem to have increased in size visibly. It is doubtful whether a deep ground rain, penetrating to the very roots, would not now be harmful as likely to be productive, after comparative rest, of renewed sap movement, and thus tend to thrust off the fruit whilst inducing unusual tree growth. Occasional showers and cooler temperature will now do a wonderful deal of good, and as a result we hope to see our hardy autumn fruits very much better all round than could have been anticipated a week or two since, when leaves and fruit were fast falling. Whilst moderate rains will do the Corn more good than harm, they will prove of the utmost beneficence to the root and green-field crops, indeed but for their interposition, white Turnips would have been impossible, and other roots small. Now all is changed for the better, wide breadths of Turnips have been got in in excellent time, and roots generally have received a new lease of life.

Market gardeners were in despair at the difficulty experienced in getting out green crops for the winter. Vast quantities of plants have been put out but to die, others have been kept alive by costly watering, whilst myriads of plants have been spoiling in the seed beds. These will now go out, and indeed have been got out largely, although the rainfall has not penetrated the soil so deeply as is desirable for their good. Winter Greens will not be too abundant presently, but no doubt rapid growth will be made. Potatos are the most difficult crop to connect with the change in the weather, for all the early kinds are ripe and beyond recovery, the second earlier can get no good from the moisture, whilst it is expected that the late kinds will very largely supertuberate, the plants having been so severely checked. Should such result follow there is reason to hope that with growth beginning early, a really good crop of new tubers may be lifted in October.

The Hollyhock.—There seems good reason to believe that our old favourite hardy border flower, the Hollyhock, will soon again re-occupy its once prominent position in gardens. For many years it was the most striking of plants in gardens when in bloom, and had become a popular exhibition flower, indeed, stands of a dozen or two dozen of spikes, each from 2 ft. to 3 ft. in height, and literally masses of bloom, were objects which could hardly be excelled for attractiveness. Presently a fell disease seized upon our favourite flower; a pestilential fungus as destructive to the Hollyhock as the Peronospora infestans has been to the Potato plant, perhaps more so in fact, preyed upon the leaves and stems of the plants as they grew each year, until finally myriads succumbed and the Hollyhock was in danger of complete annihilation. It is doubtful whether of all those grand kinds sent out by the recently deceased Mr. Chater, of Saffron Walden, or from Edinburgh, Forest Hill, and other places, one old-named kind now lives. If any have survived the fungoid epidemic, then they must have proved most meritorious kinds indeed.

But in spite of this destruction, Hollyhocks still exist, although it is very possible that for what we now have we are chiefly dependent upon the continental seed raisers, who, more favoured than we, have been enabled to keep seed strains of the plants in existence. It may be that here we had somewhat crippled the constitution of the Hollyhock by our unnatural methods of propagation, methods simple enough to florists, but possibly detestable to nature. She has very kindly furnished these flowers with free seeding properties, and therefore it seems evident that if we would increase and multiply, then we should employ the means nature has thus so liberally placed at our disposal.

But though through seed we get variety, and often wondrous and very beautiful variety, yet we may not trust nature absolutely to reproduce from seed what she has previously created, where Hollyhocks are concerned, and hence our raisers when they had a fine variety increased it by propagating from cuttings and other ways, all of which, it is feared, did tend to some extent to weaken the constitution of the plant. Certain it is now that with the dreaded fungus much less destructive than formerly, yet plants increased by propagation are much more readily affected by it than are those raised from seed, hence we see that in the seed-raising process some strength is obtained which is wanting in other ways. We have the authority of Messrs. Sutton & Sons, who have had great experience in raising Hollyhocks from seed, for the above statement, and feel assured that it is true, because to seedling raising almost alone do we owe the existence of Hollyhocks now.

It is a good time to allude to this matter now also, because, with the plants in bloom on the one hand and commanding admiration on the other, it is a fairly good time to sow seed, although a month or two earlier would, perhaps, have been better. However, if seed be sown at once in pans, shallow boxes, or in a frame, and kept under glass, watered, and shaded during hot sunshine, it will not be difficult to have some strong plants to put out in November, and these should carry fine spikes of bloom next autumn. Whilst for seed production Hollyhocks can hardly bloom too early, yet, when the production of fine blooms and spikes is the chief desire, there is gain in having the plants to bloom a little later and when a little cooler than otherwise. The bloom spikes, if very strong, may be stopped at a height of 6 ft. with advantage, and each one should have the support of a stout stake. The more double the blooms are the better they are appreciated, but still fine single blooms are very pleasing. However, any good strain will give very fine double flowers in several rich distinctive colours, and for an outlay of half-a-crown enough seed may be obtained to produce a small army of plants.

Gardening Miscellany.

Flower Shows for Next Week.—*Tuesday:* Annual Flower Show at Basingstoke.—Weston-super-Mare Annual Show. *Wednesday and Thursday:* Shropshire Horticultural Society's Annual Summer Show in the Quarry, Shrewsbury. *Thursday:* Wiltshire Horticultural Society's Show at Salisbury. *Friday:* Flower Show at Exeter.

Mr. W. Jarman, for thirteen years gardener at Westwood Lodge, Thanet, has been engaged as gardener to J. Farmer, Esq., Chapel Hill House, Margate.

On Saturday last, a deputation from the Fruiterers' Company waited upon the Lord Mayor at the Mansion House, to make the usual presentation of the season's fruits. As in previous years, the fruit was of the choicest description, and the Lord Mayor warmly thanked the Company for the present.

The forty-sixth anniversary meeting of the Royal Botanic Society was held on Monday, Mr. J. P. Gassiot, vice-president, in the chair. The reports of the council and auditors for the year were read. The receipts have been from all sources £6,453 3*s.* 10*d.*, a very good average, while the expenditure, notwithstanding the heavy outlay for building, has been £300 less than that of last year. The attendance of visitors at the exhibitions held during the spring and summer months continues on the increase. More especially was this noted as regards the evening fête, when the numbers reached 8,450, an increase of 500 over last year, which had hitherto been considered the best. During the last five years 3,824 free orders of admission, of from three to six months, have been given, and 245,426 cut specimens of plants and flowers distributed to the various medical and art schools of the metropolis.

At a meeting of the Belgian Chamber of Horticulture, held at Ghent, on Monday last, Certificates of Merit were awarded to Messrs. Vervaet & Co. for Dendrochilum filiforme; to Mr. James Bray for Cattleya Dowiana and Cypripedium Stonei; to Mr. A. D'Haene for Pandanus D'Haenei; and to Mr. A. Peeters, Brussels, for Cypripedium Morganæ.

Turner Memorial Dahlia Prize.—The Committee of the National Dahlia Show have decided to offer a special prize as a memento of the efforts made in the establishment of this show by the late Mr. Charles Turner, of Slough. The prize is to take the form of a Silver Cup, value ten guineas, to be competed for by amateur cultivators only, and to be offered for twelve Show and six Fancy Dahlias. The cup is to be competed for annually until it has been won three times by the same exhibitor, when it will become his property. In the meantime the winner of the cup at each competition is to hold it for one year only. Intending competitors must send in their entries before August 28th, to the Hon. Secretary, Mr. T. Moore, Botanic Garden, Chelsea, London, S.W., in cordance with rule two of the published schedule.

THE TURNER MEMORIAL.

At the meeting held at South Kensington on Tuesday, over which Mr. Shirley Hibberd presided, it was generally felt among those present that it was not desirable to interfere in any way with the Memorial Prize, which the Dahlia growers intended to offer for competition at the forthcoming Crystal Palace Dahlia Show, but that a larger scheme should be carried out; consequently, on the motion of the Chairman, seconded by Dr. Masters, it was resolved unanimously that in consideration of the eminent services rendered to horticulture by the late Mr. Charles Turner, a fund be raised, the interest on which shall be devoted to a series of Turner Memorial Prizes for florists' flowers, in a manner to be subsequently decided upon. It was also resolved that those present should form themselves into a committee, with power to add to their number, to carry out the project. Mr. H. M. Pollett was appointed Treasurer, and Mr. James Douglas, Honorary Secretary, to either of whom subscriptions may be paid. The "Prince of Florists" was so universally respected, and throughout his career rendered such good suit and service to floriculture, that we trust the memorial to be raised will be worthy of the man, and of the great floricultural brotherhood who honour his name. As will be seen on p. 787, the committee who have charge of the affairs of the National Dahlia Show have decided to give a Turner Memorial Challenge Cup, of the value of ten guineas, to commemorate his connection with that body; and we trust that the appeal which will now be made in aid of the larger scheme will result in such a fund being raised as will permit of medals being given annually for the best new additions that may annually be made to the flowers he loved so well besides Dahlias—Auriculas, and Carnations and Picotees.

STARVED WELLINGTONIAS.

From experiments I have made this year on a specimen of Wellingtonia gigantea, which has only just managed to live for several years, making but very little growth, and looking very shabby all the time, I have little doubt that a great number of those in a similar condition which I have seen in different parts of the country, and of which it is generally said the situation does not suit them, are really like mine was, simply languishing because they cannot get enough water to enable them to grow vigorously. My specimen, some 10 ft. in height, at length became so brown and unsightly that last spring I thought I would cut it up, but before doing so I resolved to try what a thorough drenching of water would do. Accordingly, early in June I had a bank put round it at about 4 ft. from the stem, and within the circle I laid the hose on until the whole of the ball must have been thoroughly soaked.

I continued the waterings at intervals, and in the course of a fortnight or so I was pleased to see the whole tree—points, branches, and even the main stem—bristling with young growths. At the same time the wood seemed to expand, and the old hard bark has now peeled off, and the new bright brown one takes its place. The tree, which is now perfect in every respect, I am sure would not have recovered from its former misery without the frequent drenchings of water. Another scrubby Wellingtonia in this neighbourhood, which has been treated to the same simple prescription, has also made great progress, and I should advise all whose Wellingtonias do not grow well to serve them in the same way, but it is of no use giving them a canful or two of water—you must try to drown them.—*James Naylor, St. Hilda's Nursery, Roxeth, Harrow.*

The American Exhibition of 1886.—We learn from *The American Eagle* that the site selected at West Kensington will furnish ten or twelve acres of ground for these purposes, and afford ample space for the display, in climatic sequence, of exclusively American Conifers, and other plants, shrubs, and flowers, including an avenue commencing with those found in the Northern and Eastern States, and ending with those of the Southern and Western States. The Exhibition will include a Californian wine-shop, Florida fruit stores, an Indian village, and Indian canoe-makers and mat-weavers. Restaurants, with the products of the Eastern and Pacific coasts and of the Northern and Southern States, characteristically prepared and served by white and coloured male and female cooks and waiters, will help to mark the peculiarities and variety of American social development.

FERNERY AT SHIPLEY HALL.

I must compliment you on the cleverly-executed engraving of the Shipley Hall Fernery, at p. 761. Being an old lover of Ferns I recognize many of the plants, including the graceful Adiantum amabile, which is so pretty when grown as represented. Of the Nephrolepis, which hang over so effectively from the right-hand side, I am not certain, and I should be pleased if you would give me their names. The complete list of the plants growing in the Shipley Hall Fernery, and also the temperature at which it is kept, would be acceptable to me, and I cannot help thinking to many others.—*H. Bennet.*

Having forwarded our correspondent's note to Mr. Elphinstone, at Shipley Hall Gardens, he has kindly replied:—"For the information of your correspondent, and others whom it may concern, I send you a list of the Ferns growing in the Fernery, of which I consider you gave a magnificent illustration. The temperature kept in this house in winter is 55 degs. Fahr., but I have known it for a week to be as low as 47 deg. In summer we have no fire-heat."

Adiantum Capillus-Veneris
,, amabile
,, assimile
,, Bausei
,, Brasiliense
,, concinnum
,, ,, latum
,, curvatum
,, Farleyense
,, Flemingii
,, fulvum
,, formosum
,, gracillimum
,, hispidulum
,, macrophyllum
,, pentadactylon
,, reniforme
,, Victoriæ
,, Lathomii
,, rubellum
,, Sancta Catherinæ
,, setulosum
,, speciosum
,, tenerum
,, trapeziforme
,, Veitchii
,, Williamsii
Alsophila excelsa
Asplenium Veitchianum
,, bulbiferum
,, diversifolium
,, flaccidum
Balantium culcita
Blechnum brasiliense
,, corcovadense
,, occidentale
Cibotum Schiedei
,, spectabile
Cyathea dealbata
,, Smithii
Cyrtomium falcatum
Davallia elegans
Davallia Tyermannii
Dicksonia antarctica
Didymochlæna truncatula
Doodia aspera
,, media
Goniophlebium subauriculatum
Gymnogramma decomposita
,, tartarea
Litobrochia leptophylla
Lomaria chilense
,, gibba
Marattia elegans
,, fraxinea
Microlepia hirta cristata
,, platyphylla
Nephrodium molle
Nephrolepis exaltata
,, davallioides furcans
,, pectinata
,, tuberosa
Onychium japonicum
Phlebodium aureum
,, sporodocarpum
Polypodium effusum
Pteris argyrea
,, cretica
,, ,, albo lineata
,, hastata
,, serrulata
,, ,, cristata
,, ,, major
,, straminea
,, tremula
,, umbrosa
,, Ouverardii
Stenochlæna scandens
Woodwardia radicans
Sclaginella Martensii
,, denticulata
,, stolonifera

THE SEASON AND ITS EFFECTS.

The month of July, 1885, will long be remembered as one of the driest on record. We have now had four dry summers in succession, though those of 1882 and 1883 were not so excessively dry as that of 1884 and the present have been, and readers in some parts of the country will very likely be surprised to see them specified as such, as the rainfall varies considerably in different parts of the country. I think that many of us who have to deal with light shallow soils would gladly welcome a wet season for a change. These very dry soils reduce the produce of the kitchen garden by fully one half, and with the exception of fruit, which ripens badly under a cloudy sky, all garden crops, perhaps excepting Beet, were abundant with us during the wet summers experienced a few years back. Our soil being stony and resting on a substratum of sand and pea-gravel, any excess of rain is quickly drained away. If water at a proper temperature could be put on it in sufficient quantities, it would not matter how dry and sunny the season was, but there are, I fear, comparatively few who have either the water or the means of applying it in unlimited quantities, and often where the supply is abundant, if it has to be drawn from deep wells or is supplied direct from the mains of the water companies, it is at far too low a temperature to apply without its paralyzing to some extent the vegetable growth by the sudden reduction of temperature. Water from ponds and lakes or sluggish streams is not open to this objection.

I have before advocated mulching the ground in a liberal manner as a safeguard against drought, and being convinced by the experience of this summer of the superiority of this system, as against the giving of mere driblets of water, which is the most that many can do, however willing they may be, because they lack material and time to do better. As an instance of this, I may mention that we are at present, and have been during this long drought, gathering Peas which have not had a drop of water artificially applied to them, and this in soil where some Chestnut trees close by are perfectly denuded of foliage, and till this last rain many other trees were flagging. On clearing off some of the crops of Peas, the soil between the rows was still moist, whilst the ground unprotected from the sun's rays had scarcely a particle of moisture in it, and I do not know if baking it in an oven would have made it dryer. Mulching, as generally practised, is not done soon enough, and then only half done. We mulch our Peas when we sow them, covering the whole of the ground, and let them grow up through the litter, or whatever material is used. I may say that for the earliest sowings, long straw, should the season be wet, will perhaps be found too heavy over the rows, and some half-decayed leaves or other similar light material will be better. Ours never get earthed up, and we find no difficulty with the birds, as they do not find the Peas out till after they get above ground. Pea guards and scare-crows are quite unnecessary.

Quarters intended for later crops should be got ready in good time, and before the soil gets dry have the mulching put on. It can easily be drawn aside to admit of the seed-sowing, and be replaced over the rows. This entails (as we put on not less than 3 ins. thick) a considerable amount of labour, but seeing the saving of time effected in other directions, it is labour well expended, for it saves all hoeing, and there is but little weeding required. All small annual weeds cannot get through the dressing, and this alone compensates us for the trouble; and when the crops come off, the decayed mulch remains as a dressing for the ground, which will also be in better order to receive a crop in a season like this, because all the moisture will not be dried out of it.—*W. B. G.*

ANOTHER NEW EUCHARIS.

Eucharis Mastersii.—Yet another species of this beautiful genus has been added to our list of garden plants, and once more we are indebted to the energy of the well-known firm of Messrs. F. Sander & Co., of St. Albans. It has been named, at their request, in honour of Dr. M. T. Masters. The figure and description appears in the August number of *The Botanical Magazine.* It it intermediate in character between the well-known E. grandiflora and E. Sanderi. It has entirely the same habit and leaf, and the same large pure white perianth segments, but is different from both of them in the corona, or staminal cup, for such it really is and not a corona. In the present plant the free portion of this cup forms a narrow but united collar-like rim to the perianth tube, with two détoid teeth between the base of each filament. The colour is white with pale green stripes. It flowered at St. Albans in February of the present year. As the plant is not yet in commerce, it is impossible to speak of its value from a decorative point of view, though no doubt it will prove as useful as E. Sanderi, if not more so. As the flower is a little smaller than those of E. grandiflora, it is not likely to be quite equal to this highly decorative plant.

NOTES FROM GARDENS.

Croydon Lodge, the residence of Stephenson Clarke, Esq., is situated only a few minutes' walk from the West Croydon Station, and few people, we imagine, would expect to meet with such a well-kept garden in a busy town; but the place is surrounded by tall forest trees, and thus all eyesores are shut out from view. The house is a fine building of ancient date. On the front, facing the carriage drive, is a handsome verandah, supported with pillars, which are clothed with various sorts of creepers; between each baskets are suspended, containing various summer-blooming plants, and on the ground are large specimens of Agapanthus umbellatus and Hydrangeas, one mass of bloom. Adjoining the house is a large conservatory, recently built, and as the doors of some of the rooms open into the house it makes a nice promenade in the evening.

There are three groups of plants down the centre, the middle one including a large Latania borbonica and the end ones fine plants of Cyathea dealbata

and C. medullaris; a stage along the front is nicely arranged with flowering plants, &c. The sides of the house are shaded from the eaves with the Parisian blinds, which act on rollers, and Mr. Carr, the courteous head-gardener, speaks highly of them; they have been in use four years, and are practically none the worse.

Passing on we come to the lawn, bounded on one side with a raised Rhododendron bed, 100 yards long, among which are quantities of Lilium auratum, fine plants several feet higher than the Rhododendrons, with spikes averaging twenty blooms each. The bulbs are left undisturbed in the soil all the winter, and no one could wish for better results. Ribbon borders, herbaceous plants, and Conifers, have a telling effect on other parts of the lawn.

There are a number of glass-houses here, and others are in course of erection; but I do not intend to go through each individually. The first lot is a range of six large houses, two of them being vineries, with a good crop of medium-sized bunches of Grapes, of excellent quality as regards the size of the berries. Another is used as a stove and Orchid-house combined; some of the Vandas are 6 ft. high, with perfect foliage to the pots, and showing bloom for the second time this year.

The Phalænopsis are the admiration of all who see them; they hang from the roof over plants of Eucharis amazonica, which are liberally supplied with liquid manure. The largest plant of P. Schilleriana has a dozen full-grown leaves 16 ins. long and very broad; it annually produces fine spikes of bloom; P. grandiflora has flowers now 4 ins. across.

There is no doubt the natural moisture around, together with the ammonia arising from the plants beneath, are the chief cause of the Phalænopsis growing and blooming so vigorously. Cœlogynes, Cattleyas, Dendrobiums, and Calanthes are also making good growths in the same house. Leaving the range, we come to a hip-roofed stove 52 ft. long and 16 ft. wide. On the roof is trained Stephanotis floribunda and Dipladenia, on the principle advocated by Mr. Elphinstone at p. 757. The latter are in three varieties, hundreds of bloom are expanded, and the whole presents a charming appearance. On the front stage are quantities of useful table plants in various sized pots, while the back stage contains many large specimens, which certainly would make Mr. Carr a formidable rival at the local shows were he allowed to exhibit. I noticed fine plants of Allamanda nobilis, A. Hendersoni, Asparagus plumosus, Clerodendron fallax, with many spikes of its showy blossoms; large, well-coloured Crotons, Dipladenia boliviensis and carrisima, Dracæna Youngi, with forty fine, dark-coloured leaves, Ixoras, also fine specimens of the too seldom seen Meyenia erecta and the variety alba; they are beautiful things when grown as they are here. Two other houses are filled with cool and intermediate Orchids on one side, and flowering Begonias, Ferns, &c., on the other. Several are in bloom, including Cypripedium niveum, Dendrobium Deari, Odontoglossum Bictonense alba, Cattleya gigas, and an Acineta (?), which I have not seen before, with pale yellow sepals and petals, with a chocolate throat; it bears four spikes of thirty blooms.

Philesia buxifolia is grown wonderfully well in the cool house, and has at the present time many showy small Lapageria-like blooms. This old-fashioned plant is not grown nearly so much as it deserves to be. In a frame close by are some filmy Ferns, most noticeable being some good plants of Hymenophyllum Wilsoni, Todea superba, and Trichomanes radicans Two more low span-roofed houses are devoted to tuberous Begonias and Gloxinias for winter blooming. The next range includes Cucumber and Melon-houses, with good crops of fruit, while the last two are Orchid and Peach-houses. Lord Napier Nectarine ripens well without forcing, and is much appreciated on the table. Peaches Royal George and Stirling Castle are very fine, especially the latter.

Chrysanthemums are done well at Croydon Lodge, and in winter take the place of the fruit-trees in pots in the Orchid-house; they are well worth a visit when in bloom. Apples and Pears are very plentiful this season, and the stone fruit on walls are a good crop. Bees are studied, and very profitable they are; some twenty modern bar-framed hives are in use, and many pounds of honey are annually taken from the supers. The kitchen-garden, although small, is cropped to the best advantage. Mr. Clarke takes great interest in anything appertaining to horticulture, and his gardener is to be congratulated on the satisfactory manner in which all gardening operations are conducted.—*G. W. C.*

PTERIS SERRULATA CRISTATA COMPACTA.

PTERIS SERRULATA CRISTATA.

There are now so many forms of this useful variety, and, as when raised from spores, all are more or less liable to sport, it would be useless to give each a distinctive name, yet we now and then come across varieties which deserve some distinction. For instance, that which is generally known as the "Chiswick variety" of the major form is perhaps the best, while Mr. H. B. May's variety of the compact form shown in the accompanying illustration is certainly one of the best of its class. The plant is very dense and compact in habit, and the fronds beautifully crested. Many of the crested forms are very pretty in a young state, but after they attain a certain size the fronds will not maintain their position, as, owing to the pinnæ being so heavily tasselled, they fall over; but this is not the case with Mr. May's variety, the fronds of which stand up boldly and maintain thei character; and, as may be seen from successive batches raised from spores in his nursery at Edmonton, it comes very true. The merit of this variety has been recognized by the Committees of the Royal Horticultural Society and the Royal Botanical Society, who have each awarded it a First-Class Certificate. Our illustration was taken from a photograph of one of the plants exhibited at South Kensington last autumn.

PASSIFLORA PRINCEPS.

This grand winter-flowering Passion flower I saw a short time since remarkably well flowered at Milford House, the residence of E. Russell, Esq. The plant referred to was covering one side of a small span-roofed intermediate house, and is planted out in a space of about 2 ft. square. I measured some of the racemes, and found that they had flowered for 2½ ft., leaving in flower and in a bud state another 2 ft., and allowing for further extension as the flowers advance in size will make fully 5 ft. of flowers, from the commencement to the finishing of the racemes. The raceme I measured was not a single one, but one of a quantity, and I should think the smallest would reach considerably over 2 ft.

I inquired from the gardener, Mr. O'Dwyer, the treatment it had received to give such results, and found previous to the property coming into the possession of its present owner, that the house in which it is growing had been only kept as a cool greenhouse, and in which this Passiflora made strong growth each summer, but for lack of heat died back to near its base each winter; and although a strong healthy plant at the present time, it is the first time it has given any flowers, and this I am persuaded is the result of allowing the plant to become thoroughly established and strong. True, in this case perhaps want of knowledge in the first place as to its requirements led to the present satisfactory state of things. I suggest this latter remark, as on the opposite side of the same house is a Tacsonia exoniensis which looks as if the tables are turned, as although it was flowering, it does not look in a flourishing condition, and looked as if previously that it had been doing better than is now the case. At all events it showed unmistakably that it objects to heat, and although it is in flower, the latter are wanting in substance to what those grown in a cooler house would be, but which is not of so much importance as if the flowers were longer lived, neither are they so freely produced.—*E. Dumper.*

New Gutta-percha Tree.—Instigated by the threatened dearth of the Gutta-percha tree, M. Heckel has sought a substitute, and claims to have found it in the Birtyrospermum Parkii (Kotschy) of equatorial Africa, and abundant in latitudes between Upper Senegal and the Nile, especially in the forests of the Niger and Nile regions. It affects the argillaceous and ferruginous soils of Bambarras Boure and Fonta-Djalon, where the Africans gather its fruit, which yields a grease called *karite*. The juice or milk is obtained by incision from the bark, and on evaporation resembles gutta-percha. M. Heckel states that he has sent seeds to various French colonies, and also to England, in the hope that the latter country will try the experiment of introducing the tree into her vast tropical possessions. M. Heckel also calls the attention of English botanists and chemists to the divers Indian Bassias, as he is led by analogy to infer that they might furnish milky products similar to the Bassia Parkii.

SCOTTISH GARDENING.

Summer Treatment of Fruit Trees.—At this season some cultivators think, because the dog days are drawing to a close, the nights getting cooler and the days shorter, that it is not of much importance to water trees, even after a hot and dry period such as we have had for a long time. The question to be considered is, Can the watering be done thoroughly? Otherwise it is better left alone; nothing can be more unnatural or killing to fruit trees than keeping the surfaces over their roots moist and cool while the feeding portion of the roots are dry and parched. Such is too often done with all kinds of plants, indoor and out. Fruit trees are not all situated alike. They may profit by the absence of moisture at their roots in some positions, while in others they may be seriously injured. Where soil is shallow, poor, and light, a good soaking or two of manure-water followed by mulching would do much good, especially for next season's work. If trees are crippled for want of the needful this season, it means courting failure next year.

Apricots, being trees which have come specially under my observation, suffer very readily when their roots are parched at this season; they are apt to go prematurely to rest, and should a wet and warm November or December set in, a fresh flow of sap will take place, and may be the forerunner of buds dropping as soon as they expand, or the dying of branches may become a formidable evil, continuing year after year to decimate the trees. In artificially made borders, where concrete or paving is sometimes used, there is the greater need to give due consideration during the growing and fruiting season to the requirements of the roots. When examining and admiring the healthy fruit trees, both on walls and elsewhere, at Dunkeld the other day, I thought that I never had seen wall trees in such suitable quarters before; the natural formation of the ground being on a steep descent from north to south, allowed not only the trees but their roots to have unlimited benefit from the sun. Some borders sloping outwards, from walls to walks, were from 3 ft. to 6 ft. above the level of the walks. Though no excess of wet can do harm, we also think drought is defied. Judging from the fine crops of vegetables luxuriating on these banks in such a dry season as the present, it appears conclusive to us that the fruit trees have their requirements well met. Healthy foliage with promising crops, as in the gardens referred to, indicate that Mr. Fairgreive is likely to retain his honours as a successful cultivator and exhibitor of hardy fruits in a manner which would be creditable to growers living hundreds of miles south of the Tweed. We hope to be able to refer to these fruit trees in detail at some future time.

While the roots are not neglected with the water-pot when they require it, the trees themselves must have skilful attention. Some make short work of tree dressing, putting them in the same level as their hedges; then in spring the frost, as usual, "did it." Apricots should be gone over carefully to see if there are no "robbers," and such gross shoots, unless absolutely wanted to fill up spaces, should be well stopped or removed to allow their weakly neighbours to have justice done them. Short, stiff shoots should be retained, if wanted, to bear next season. Sprays which cannot carry crops of fruit should be cleared away, as such only shut out sun and air. Where the whole tree is of free growth, not likely to form fruiting buds fit to set next spring, the remedy which we have already advised (root-cutting) may now in a moderate degree be put into practice—tops and bottoms are then being treated alike. If gum should be oozing out from the bark, the wounds (if any) should be made clean and well rubbed with lime made into a substance like thick paint. Suckers should not be tolerated.

Plums are very much like Apricots in their habits and requirements. They can do with more knife-work than Apricots, and artificial spurs can be formed with impunity, but the more naturally the trees do their own work the more likely are they to thrive. Systematic thinning and stopping the shoots must have due attention, as advised for Apricots. Green-fly, as well as the thicker-coated black aphis, may be troublesome, and if left alone the vermin become destructive to young growths. Where the latter will admit of it, they should be topped, and all the young growths be removed, and buried or burnt. Tobacco-powder and soft soap mixed into a liquid with water and carefully syringed over the trees cleared a deluge of the green insects from a wall of young Plums lately, and the same effectually destroyed the black enemy on a lot of young Plums. The shoots of the latter were dipped into the liquid before they were tied to the wall, a handy man going over a large space in the course of an hour, and little waste is thus sustained.

Most of the work to Plums should be finished this month, and the less left for winter the better. Great care should be exercised to direct leaders so that they grow equidistant over the walls, allowing the weakly ones to have as much advantage in growth over the strong ones as possible. When young trees have covered the space allotted to them they should have their shoots all on a par with each other, and by careful stopping of rampant growths equalization can be managed pretty fairly. Cherries are managed as simply as any trees can be. If a good start is made with young trees (I prefer maiden trees to trained ones), and the shoots are nailed out in the fan shape, with careful attention to stopping, a good-sized tree can be grown the first season after planting. The centre shoots require checking with finger and thumb. Young growths are increased, which may be utilized as permanent branches. We have a number of young Morellos which were planted last season, and scarcely a knife has been used on them yet. Some are trained upright, some fan-shaped, and others horizontal. When they came as "maidens" from a nursery, they were planted, and most of the young lateral growths were laid out at full length, and now a wall is fairly covered, and a sprinkling of fruit over it also.

Morello Cherries, when grown to full size and the space allotted to them is covered, may be induced to form natural spurs, but to keep on stopping and cutting the wood short means growth minus fruit. It is better to get them into a fibry state at the roots, keeping them within bounds in solid soil, then the growths are short, stiff, and fruitful. All out-growing shoots should at this season be rubbed off, the trees kept thin, and the shoots for fruiting next year be kept close to the wall. We do not speak of what may be done with Morello Cherries as bush fruits, which are sometimes tried in northern districts in the full sun with tolerable success. When Morello Cherries, or, in fact, any kind of Cherries, are allowed to grow grossly they are very subject to suffer from gumming, and die off; a calcareous, hard-rammed soil removes much of this difficulty.

I have read that when this Cherry is grown under glass it loses much of its acidity and attains a flavour which ranks it as a dessert fruit. Where Morello Cherries are grown as a market fruit and do well they are very remunerative, but when much knife-work is done to them they bear in very scanty proportion. The shortening of them back should be avoided if possible; rather depend on bringing them into subjection by action at the roots, and the present time is very suitable; if fruit is ripening it may be better to wait till it is gathered. If the walls are covered with branches equidistant, and the shoots close to the wall at starting time retained for bearing, little tying of the young wood is necessary. At the Royal Gardens, Windsor, many years ago, I had pointed out to me the fine crops of Morello Cherries, and was shown how the young wood was kept regular over the tree, so that when the shoots which had borne fruit were annually removed the young ones took their place and remained unnailed or fastened, but then they were so short and stiff that they appeared like long spurs. The fruit was abundant and very dark, but nothing like the size I have seen Cherries in some other parts of England and some parts of Scotland. Other kinds of Cherries I have always found to do best with a proper system of spurring and occasionally removing old wood to make way for new growth.—*M. T.*

Geranium ibericum.—This is probably the largest flowered kind among the taller growing species. It forms neat symmetrical bushes about 2 ft. high, and produces an abundance of flowers of a rich purplish-blue, as large as a florin. It is very distinct in this respect, and a good summer-flowering perennial.

SELECT HARDY PERENNIALS.

(*Continued from p. 775.*)

Geum coccineum plenum is one of the brightest among summer-flowering perennials, and in all respects a first-class plant. It is a variety of the very old-fashioned "Scarlet Geum," though a vast improvement upon it. The flowers in this case are of a bright dazzling scarlet, double, and borne in great profusion for a considerable time. It grows about 2 ft. high, and forms compact tufts of hairy leaves, from which spring numerous, somewhat branching, flower-stems. It is impossible to ever-estimate its value, and no collection can be complete without it; even where hardy plants are not grown extensively, this finds a home. No plant is more easily managed, and none more cheaply procured; it comes true and freely from seed, and wherever seen in flower meets with many admirers. I may add that it commences flowering in June and continues till quite late in the autumn.

Geum montanum.—From the brilliant scarlet of the above we pass to the golden-yellow of the "Mountain Avens," which, in its way, holds a somewhat unique position, for either on the rockery or in the front row of a border this is very effective in early spring. It forms compact tufts of leaves close to the ground, and produces on stems about a foot high its showy golden blossoms. Being very hardy, and suited to almost any ordinary garden soil, from stiff clay to light sandy loam, is sufficient to prove it of easy culture. It may be increased by division of the root-stock in early spring, after flowering on in early autumn. The seed of both species may be sown as soon as ripe, or kept till later on. They usually germinate very freely.

Gillenia (Spiræa) trifoliata.—Though a desirable border plant, this is by no means common. It is a very pretty plant, growing 2 ft. 6 ins. high, forming an erect bush; the stems somewhat slender, wiry and branching, are terminated by panicles of white flowers. It is of rather slow growth, which may in a measure account for its comparative rarity, and is best increased by division.

Gnaphalium Leontopodium, "Edelweiss."—There are few among us who have not heard something of this much sought for plant. To discover its whereabouts and to return with some specimens rudely torn from the rocky earth in which it grows, seems one of the attractions for many visitors to its native home, and this has been carried on to such an extent as to almost threaten its extinction. Few plants probably are so popular as this one, for now it may frequently be seen in large towns exposed on cards for sale. Though of considerable interest, it cannot be regarded as beautiful or in any way a useful plant; still it is one which effects a ready sale, and has many admirers. Strictly speaking, it is a true hardy perennial, though the results I have obtained from it as such are not equal to my experience of it when treated as a biennial, and when grown as such it makes much finer heads of flowers. It is grown and treated by Mr. A. Brown, gardener to S. E. Bouverie Pusey, Esq., of Pusey House, Faringdon, Berks, in this way, and is used as an edging to some few flower beds. It grows vigorously here, and produces its woolly heads with great freedom. The true flowers are yellow, and rather inconspicuous, and are enveloped by a whorl of oblong leaves, densely set with short white down. It prefers a sandy loam with plenty of grit. Seeds sown as soon as ripe will make plants sufficiently large to flower next summer.

Gunnera scabra.—This is a giant of enormous proportions among hardy perennials, and is, when established, a noble foliage plant. If the reader will imagine a gigantic Rhubarb with leaves about 5 ft. in diameter on stout stems thickly set with short thick spines, and averaging from 4 ft. to 6 ft. high, he will have a good idea of the dimensions of this Gunnera; still it takes years, undisturbed, to attain these dimensions even in the most favoured localities. It is best suited for isolated positions on the lawn, and as it makes plenty of roots a deep soil is preferable. It is said to be partial to damp, though much the finest specimen I have seen was some twelve years since in the Exotic Nurseries, Tooting, a soil characterized by extreme lightness, rather sandy, and resting on a thick bed of gravel. Its native home, however, is among

the damp shady ravines of the Andes, which fact probably has given rise to its prefering such a position. As the Tooting specimen was fully 12 ft. across each way, it may safely be assumed that a damp position is not absolutely necessary.

Gypsophila cerastioides.—For a compact habited plant smothered with large white flowers and growing about 6 ins. high, this is most charming; it is a comparatively new species, quite hardy, and easily grown. It is readily increased by division, and being of free growth makes an excellent rock or border plant.

Gypsophila paniculata.—This is probably the most elegant of hardy-flowering perennials; a few sprays of it in any floral arrangement is always productive of good effect, its lightness and general elegance of form being unique. As a border plant it receives due appreciation, and when more generally known among bouquetists it will no doubt be largely grown for that purpose. It grows about 2 ft. high, forming a symmetrical, almost impenetrable bush of small white flowers. It is easily increased by division and seeds.

Gynerium argenteum, "Pampas Grass."—This is so often seen, and so generally well known, as to need no description or instructions as to its adaptability. Those who have had to deal with large plants of it, however, will remember to what extent hard winters disfigure it; this is caused from rot, principally by the snow settling in the crown. To remedy this evil they should, after a drying day in autumn, be tied up into a bundle or pyramid, which will protect the heart and also throw off snow and rain; when frosts are not longer expected they may be loosened out again, and fine specimens, so attractive in late summer with their elegant plumes, may thus be saved.

Harpalium rigidum.—This is one of the showiest of autumn-flowering composites, growing from 3 ft. to 4 ft. high, and producing quantities of large flowers of a bright golden-yellow, rendered the more conspicuous by the black disc in the centre. This plant is often a little troublesome on account of its rambling rhizomes, often appearing at distances of from 2 ft. to 4 ft. from where the original was planted, but as these are large, the evil, if evil it be, is easily remedied. It is indispensable in shrubberies and as a back-row border plant, and when once planted it will take care of itself.—*J.*

LÆLIOPSIS DOMINGENSIS.

This is a dwarf evergreen species with short pseudo-bulbs, of a light green colour, and with leaves also of a light green colour, 4 ins. in length. The scapes bearing the flowers proceed from the top of the pseudo-bulbs, between the two leaves by which they are surmounted, and are of a drooping branching character, bearing many very pleasing blossoms. The sepals and petals are of a light rose colour, the lip a brighter rose, striped with still darker veins, and the throat is yellow. It blooms during April and May, and lasts several weeks in a good condition. The plants come from St. Domingo, whence it takes its name.

This species will do either in a basket or on a block. If cultivated on a block or raft it requires more water, indeed, it must be watered daily in the summer months, when in vigorous growth. If grown in a basket it requires good drainage, with charcoal, and a small quantity of sphagnum or rough peat; moreover, it should be put into a small basket and hung up near the light, though a little sunshine will not do it harm, provided its scorching rays are kept from it. It requires to make a good free growth, and to secure this must have close attention during the active period of its life. We have found it to succeed when this care and attention have been given, but, otherwise, it has been a failure. When a suitable mode of treatment has been found it is best to keep to it, and the same may be said as regards the part of the house in which it is placed, for many Orchids will succeed in one part of a house, and not in another. We find, by experience, that if a plant is moved from a part of the house which it likes, or, in other words, a part which suits it, that plant will go back. The same thing applies to a great many other plants as well as to Orchids. Experience and close observation are a great help in successful plant-culture, and to find the best situation for the individual species is a most important thing. Though we have had long experience in plant-culture, yet this latter is never learnt; there is always something to be found out respecting plant life. Cultivators too often think, that if they succeed with certain plants, they know everything, but it is a mistaken idea; the limit of our knowledge is never reached, and we think it adds much to the pleasure to be derived from plant-growing that we have continually some new experience to acquire. Therefore, we repeat, in looking after our pets, if it is found that a plant does not succeed in one part of a house, try it in different parts, or different positions, until it does do well. As regards this Læliopsis, we have always found it thrive well in the Cattleya-house. It must be quite free from insects, and must not be cut about for propagating purposes, as it is one of those plants that does not like being disturbed. The material about its roots must be kept sweet, so that the roots may work about in it freely.—*B. S. Williams, in The Orchid Album.*

THE PINE APPLE NURSERY.

Messrs. E. G. Henderson & Son's fine ornamental conservatory, which is a lofty structure over 100 ft. in length, and about 80 ft. in width, is well worth being considered as among sights which all visitors to London nurseries should see. The plan of arrangement there carried out is very effective, as the whole of the plants, with the exception of those on a narrow staging on one side and the front, are grouped in well-arranged clumps on the hard smooth gravel which forms the bottom, and which, as each different arrangement alters, the shapes and positions of the groups form the walks in whatever parts they may happen to fall, and which by being occasionally sprinkled over with red sand are always bright and clean.

Here we may see the stately Seaforthia, Kentia, Dicksonia, or other noble Palm or Fern, rising to a height of from 12 ft. to 20 ft., and forming beautiful centres for groups of other feathery Palms, Ferns, Bamboos, &c. Here, too, we may see in the pretty fountain in the centre and in the ornamental water at the end, picturesque groups of aquatic and marsh plants, among which many of the rare water Lilies are generally flowering, and the beautiful white Aponogeton distachyon seems to be always in bloom. But perhaps the most interesting and striking feature in the whole place is the massive rockery, of which we give an illustration, on p. 793, which presents the subject so well before the eye as to render description almost unnecessary; suffice it to say that a most interesting and varied collection of Ferns and other good plants are to be found growing luxuriantly in it, among which lovers of good things may spend an hour or two pleasantly, and make a good selection of plants to fill like positions in their own gardens.

SLUGS, AND HOW TO TRAP THEM.

We are now having some good rains, and shortly we shall have these molluscs visiting us, and selecting our choicest flowers and plants to furnish them with dainty morsels. Many years ago I discovered by accident a capital trap for them. I was engaged on a certain estate near Bristol, and "lived in the house" during the time I was there. After supper one summer evening I took a jug of beer into the garden "to wet my pipe," and this jug I set on a heap of stones and roots which had sundry plants growing among them, while I took a stroll into the neighbouring village for a short time. When I returned I beheld a sight which was new to me, and made a valuable discovery. Outside and inside of my jug was alive with these pests. I did not drink that beer, but the slugs did, and as they showed the effects of imbibing, they were, like many other tipplers, treated with slight courtesy. They were not thrown into the street, but into a saucer of salt, where they soon fell into the sleep of death.

Our teetotal friends may learn from this that there is at least one good use to which beer may be put. The plan I have found to almost clear my small garden is to obtain a quart or two of fresh brewers' grains and lay about a tablespoonful in various places, covering them over with a piece of slate or tile, but not allowing the slate to quite touch the grains. This cover over them forms a capital trap. Go round early in the morning with a saucer or basin in hand containing some salt, have a piece of stick made smooth so as to carefully lift them into the vessel, where they will soon die. At intervals of two or three days lay fresh grain traps, and also go round a little before dusk with a saltcellar in hand, and if one is seen on his travels, drop a good pinch on him, and he also will soon go the way of all mollusc life and trouble you no more. Try the same plan in the morning, and with perseverance you will soon rid your garden of these persistent enemies.—*N. J. D.*

NEW GARDENING PATENTS.

[*Compiled by Messrs. Lulman & Co., Patent Agents, 8, Essex Street, Strand, London, W.C.*]

1,127. Portable Hand Pumps (S. B. Wilkins, Edinburgh).—Relates to portable hand pumps for extinguishing fires or for gardening or for other purposes. The pump is screwed on to the bottom of a pail, and the piston is actuated by a disc-crank and connecting-rod above. The bracket which carries the bearing for the crank-shaft is fixed to the top of the pail.

2,361. Sharpening Knifes of Reaping and Mowing Machines (R. H. C. Nevile and E. Whitworth, both in Lincolnshire).—Relates to a grinding or sharpening arrangement attached to the machine, and receiving motion from the driving-wheel of the machine. The grinding discs, operated through suitable gearing, are mounted upon a traversing carriage. The knife-holder is fitted on the under side with a rack into which meshes a pinion receiving intermittent motion through wheels, and worm gear from the shaft. This intermittent motion is obtained by forming the wheel with a considerable delay space to allow sufficient time for a section of the knife to be sharpened before the knife-holder is shifted by the rack and pinion. The traversing carriage is operated by a crank and connecting-rod, which receive their motion through the worm gear.

16,685. Spade (J. Lee, Hampstead Heath).—The socket is made in three parts, having three solid rivets cast on it, which fit corresponding holes in the blade. The upper parts of the two portions of the sockets are hollowed for the handle, and are secured by rivetting.

6,005. Garden Frames and Lights (C. E. Shea, Kent).—The sash is hinged to bars, which, at their opposite ends, are hinged to the frame. To allow the sash to completely fit, the bars are recessed in the frame, or the bars may be on the outside at the ends of the frame. The sash when raised may be supported by rods jointed to it at the corners, the ends resting on notched bars, or by bars pivoted at the sides of the frame, a pin being put then into a hole in the centre of the sash.

6,314. Rabbit-hutch (G. F. Morant, Dulverton).—The bottom consists of a reetangular iron frame covered with galvanized iron net-work. The sides and ends consist of separate frames secured to the bottom by screws and bolted to one another. Half the front frame is covered with network, and all the remainder is boarded. The sloping roof is composed of a wooden frame covered with galvanized iron, and is hinged at the top. Near one end of the hutch a vertical sliding-board with a passage hole in it forms a partition for a nest. At the other end is a trough and a hay rack of galvanized iron wire, and handles are provided to render the hutch portable.

The Gale on August 10th.—I read in to-day's papers that a telegram was placed in the hands of the ex-Premier on Saturday, before embarking in Sir Thomas Brassey's yacht, *The Sunbeam*, announcing that there would be a storm in the German Ocean on Monday, and I suppose it is this same storm which we are experiencing now. Be that as it may, however, I have never before seen the Peas, Scarlet Runner Beans, and Dahlias so much battered and bruised so early in the season. Chrysanthemums standing by the sides of the walks were blown over in all directions, and those which stood it out are the worst damaged of all, the tops being blown off and the leaves so much damaged as to render them useless. This gale has taught me a lesson, and in future on a storm approaching I shall lay the plants on their sides until it has blown over. The hint may, perhaps, be useful to others whose gardens are, like ours, at a high and exposed elevation.—*B. L., Lindley, Huddersfield.*

The Amateurs' Garden.

THE GREENHOUSE.

Cleaning and Painting.—Now that most plants may with safety be stood out, the present forms a good time for cleaning and painting the greenhouse, which should be done so as to be ready for filling and refurnishing again in the autumn. Before the paint is put on, it is always advisable to scrub and wash the woodwork and glass with soap and water, which will remove the dirt and give the paint a chance of covering the parts and drying properly, which it would not do with soot and dust under. For cleansing and making the walls look fresh, nothing is equal to lime-wash, but if the glare of white is objectionable, it may be toned down with a little blue in it, which soft tint of colour, being nearly that of the sky, agrees with most plants, and looks well as a background to them.

Achimenes.—Although these are generally considered as stove subjects, they do well when in bloom in a greenhouse, and may be grown most successfully in pits or frames, which are the best places for them during the summer, but they must be kept in a moist atmosphere by syringing or sprinkling them overhead, and have shade, which treatment is also requisite after the plants have done flowering, as then they should be assisted and looked after to maintain their foliage fresh and healthy till they have formed and matured their tubers, when they may be stored away in any dry shed.

Stocks.—These come in so useful early in spring, and are so exceedingly showy and valuable for decorative purposes at that season, that some should be sown, the best being scarlet and white intermediate kinds, and the Queen or Brompton, the first mentioned being very dwarf and compact, and the latter strong growers, with a branching free habit of bloom. As Stocks are somewhat difficult to handle and transplant, the better way of managing them is to sow a few seeds in 32-sized pots, and thin out when up, leaving three plants standing triangularly at equal distances apart. The most suitable soil to grow them in is good fibry loam, made firm, and the best situation during the winter is a pit or frame, where they should be plunged near the glass, and have plenty of air.

Heliotrope.—Sweet-scented flowers are always in request, and none are more acceptable than Heliotrope, which may be had in throughout the winter by growing on now and getting good plants. These for the present do best out-of-doors, where they should be plunged in full sun so as to get firm shoots, which, when the plants are put under glass, will bloom profusely if not stopped at the points.

Chrysanthemums.—These must now be well attended to and kept watered with weak liquid-manure, never allowing them to get dry, for if they suffer at the roots the leaves soon become shabby, and the plants leggy and poor.

THE FLOWER GARDEN.

Sowing Annuals, Perennials, &c.—Although hardy annuals, biennials, and perennials are generally sown in the spring, much finer and earlier plants may be obtained by raising them now, as instead of being small and weak at the season referred to, they will be large and strong, and soon come into bloom. The way to manage with the biennials and perennials is to select a well drained, light sandy piece of ground and rake the same fine and smooth, when the seed should be sown thinly in shallow drills, drawn 1 ft. apart, which will give plenty of room for getting between to weed and clean, and lifting or thinning the plants, without disturbing those left. To ensure the drill being of a uniform depth, which is a most important matter in getting the seeds to germinate, the better plan is to use a straight-edged piece of wood, or the measuring rod, which may be pressed down regularly, and after the seeds are sown, they should be just covered with very fine soil.

Hardy Annuals do best sown in patches where they are to stand, as then they can be thinned out and left to grow on without any check. Among the most desirable of these may be mentioned the Godetias, which are very showy in borders, as they produce in great profusion large Tulip-shaped flowers, that are exceedingly rich and varied in colour, the finest being G. Whitneyi, and the varieties, such as Lady Albemarle and others, raised from it. For spring beds, Nemophila insignis, the Virginian Stock, and Silene, must not be forgotten, as they are indispensable for making a display early, and associate well with such things as Violas and Daisies, both of which must now be looked after, and well watered to keep them growing and get them strong and ready for transplanting when the beds are cleared in the autumn.

Lawns.—Close cutting and watering, where it can be done, are the right courses to pursue with lawns, which should be kept at their very best now, as nothing adds so much to the beauty of flowers, and the enjoyment of a garden, as a piece of fresh green turf, which the eye never tires of, but to have the herbage fine, not only must the grass be cut frequently, but all weeds must be eradicated, as that is the only way to obtain and keep a good bottom.

Walks.—These too ought to be in the most perfect order, a condition they may easily be preserved in, if the gravel is of a binding nature, by rolling immediately after rain, which will make the surface smooth and hard, and prevent the growth of weeds, but should there be any of these showing, the quickest way to get rid of them is to water with strong salt water sprinkled on through the rose of a pot. If this is done while the weather is dry and hot, the weeds will shrivel up at once and the walks will remain free and clean for a long time, but if there are live edgings, care must be taken not to go too near the sides and wet them, or they will turn rusty and die.

THE FRUIT GARDEN.

The Vinery.—Vines on which Grapes are swelling should now have all laterals removed so as to let in light and air and divert the sap to the finishing up of the bunches, which require all the assistance that can be given them to get their berries to the full size and colour, the latter of which and the bloom will be much improved by having gentle fires by night to dissipate damp and keep the air in motion. To insure this being done, it is necessary to have the ventilators a little way open, or the moisture drawn out from the soil or floor of the house will condense on the Grapes. If the roots of the Vines are inside, let the border have a good soaking of liquid manure and the same out, unless we get rain enough to wet the soil through. The way to manage young rods that are being run up for fruiting next year is to give them plenty of air and keep a dry atmosphere, for as growth has now ceased, or nearly so, the thing is to get them well ripened, and this can only be done by the agent referred to.

Peaches and Nectarines Under Glass.—Trees of these from which fruit has been gathered will require close watching to keep them free from red-spider, which, if allowed to get on the foliage, will do much harm by preventing a proper nourishing and developing of the buds, and unless these plump up properly, the flowers are sure to come weak and deformed. One of the best remedies against these insects is to syringe the leaves heavily, for the spider cannot endure wet, and another is to water the borders, as a frequent cause of their attack is allowing the trees to become dry at the roots. The same remarks apply to those out-of-doors, which should have similar attention, and all shoots nailed or tied in, that the fruit may be fully exposed, as it is only sun and air that will colour it up properly and give it fine flavour.

Pears and Apples.—The weather has been such that neither of these swell, for both are starved through want of rain, to make up for the absence of which the only way is to water, but it is useless giving a little, as that would not get down to the roots. If liquid manure can be had, a soaking of it will have a most beneficial effect, especially on trees that have a heavy crop and look distressed through their load.

Raspberries. — These having now done bearing should be gone over and have the old canes cut out, the removal of which will let in light and air to the young ones, and if there are more of these at a stool than three or four, they ought to be reduced to that number, as there will then be quite sufficient to tie in and leave for fruiting next year.

Strawberries.—The way these are treated by some is cruel, as they are denuded of their foliage and have to make fresh leaves, and this at a time when they should be forming their crowns, which they are then unable to carry out properly, and the result is, that the plants go blind or fail to flower in the free manner they ought. Instead of stripping them in the manner referred to, all that should be done is to trim away the runners and clear the beds of all weeds, but on no account ought the rows to be dug between, or the soil disturbed beyond having the surface hoed, as to break it deeper destroys the roots, and Strawberries always do best when the ground they are in is firm on the top. Runners intended for making fresh plantations should be kept properly watered so as to get them well rooted and as strong as possible, and if not in pots they will be all the better for being put in fresh dug land, and there nursed on together till the beds are ready for them, when they will lift with good balls and may be transferred without feeling much check.

THE VEGETABLE GARDEN.

Mushrooms.—Somehow or other people have a notion that these are difficult to grow and require a house, instead of which they are very easy to manage, and succeed well out-of-doors or in any shed or cellar, the only condition necessary to ensure success being a damp, close atmosphere, which may be secured by covering the beds over with a thick layer of hay, as that keeps the air confined and damp, and the young Mushrooms come up thickly under it and are soon fit to cut. The way to start with them is to get a quantity of horse-droppings or short, fresh stable manure, and lay it in a heap to sweat and sweeten by losing some of its fiery heat and gases, which it will if kept turned daily for a week, when it may be put together in a ridge if out-of-doors, or in a thick layer if in a shed or cellar, but in either case it should be well beaten down so as to make it close and firm, and this may be done by a rammer, soon after which gentle fermentation will begin, and then the bed will be ready for spawning.

Before this is carried out it is best to test the heat, the proper temperature being about 75 degs., which sets the spawn running among the dung, where pieces the size of an egg should be dibbled or put in at about 9 ins. apart. If the bed is then slightly covered with a sprinkling of hay the warmth will be uniform, and after the hay has been on a fortnight it should be taken off and the bed soiled over by putting on it some fine earth or loam an inch thick, patting the same down with the back of a spade, so as to make it firm and smooth on the surface. This done, all that remains is to cover again with the hay and wait the Mushrooms coming, which they should do in from six to eight weeks, and the beds remain some time in bearing. If out-of-doors rain must be warded off by some thick covering, but in a shed or cellar it may be necessary to damp by an occasional syringing or sprinkling of the floors and walls, which will create an atmosphere like that of an autumn night, when Mushrooms are found springing up in most pastures.

Cabbages.—Plants of early-sown beds of these should be pricked out at once, or they will draw each other and get long-legged, but if moved they will remain sturdy and strong, with plenty of fresh roots, and when ground becomes vacant be in fine condition for planting. As the first batch often bolt or run, it is advisable to sow again, and if the early ones stand the second come in well for succession.

Turnips.—It is getting full late for these, but if put in at once there is yet time for some of the sorts to bulb, the quickest to become fit for use being the Milan and the White Stone, both of which are of mild, sweet flavour and capital cookers.

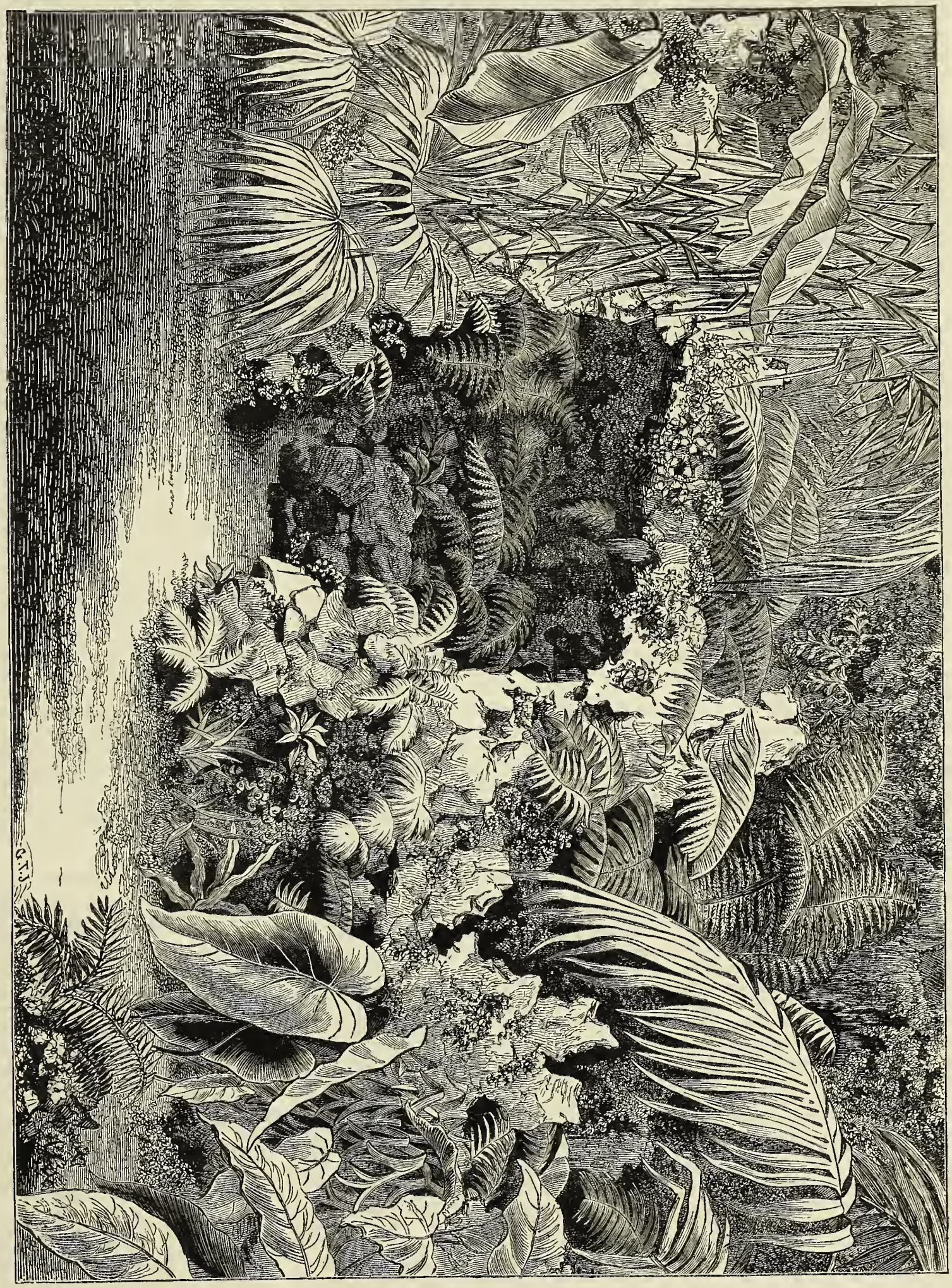
Radishes.—Summer weather is not favourable for good Radishes, but now it is cooler they turn in well and remain crisp and good, and it is therefore advisable to sow a bed now, the best being the Red and White Turnip-shaped and Wood's Frame.

Lettuce.—To have these late in the autumn a planting must be made at once, the most suitable for standing frost and turning in at the season referred to being the old Bath Cos and Hicks' Hardy Green, the first named being the most reliable for sowing to stand the winter and come in early in spring. For this purpose it is necessary to have the beds on a

warm, dry border, or when the plants are up to prick them out under the foot of a south wall or fence.

Celery.—This, being half aquatic in its nature, only succeeds well when kept watered, and as the plants are also gross feeders they will stand almost any amount of liquid manure, plentiful supplies of which will quicken the growth and make the Celery tender to eat.

Nothing but frequent soakings during hot weather will keep Peas and Scarlet Runners going, as if the first-named get dry mildew attacks them and Scarlet Runners throw off their bloom.



THE ROCKERY IN THE LARGE CONSERVATORY AT THE PINE APPLE NURSERY.

BARLOW MOOR, LANCASHIRE.

The Barlow Moor Flower Show was held on Saturday, August 8th, and though a first venture of a new society, was in every way a success. The villagers were early astir to give a public reception to D. Adamson, Esq., who was returning from his duties in connection with the passage of the Manchester Ship Canal Bill through the House of Commons, and the show falling on the same day caused the whole district to put on a holiday appearance. In classes for Ferns, stove and greenhouse plants, Mr. S. Baerlein, who secured first honours, showed good plants of Allamandas, Anthuriums, Cocos, Cyathea Burkei, Microlepia hirta cristata, &c.; J. G. Bolland, Esq. (Mr. J. Fletcher, gardener), also showing well. In his group we observed a Brainea insignis, 6 ft. across, full of perfect fronds; also Davallias polyantha and Mooreana, 8 ft. through, grand specimens. W. Brockbank, Esq., was successful with stands of black and white Grapes, also with a Melon Scarlet Premier; and a collection of hardy herbaceous plants from this latter gentleman was much admired, containing as it did many distinct and choice species and varieties.

J. Morris, Esq., was successful with a dish of Peaches, also with a dish of Nectarines. Mr. J. Dommet staged a collection of fruit, not for competition; and Mr. J. Pridgen also showed some fine black Grapes. Bouquets, cut-flowers, and also wild-flowers were numerous and good, model gardens having a space devoted to themselves. Vegetables were shown by J. Bolland, Esq., and J. G. Silkenstadt, who were awarded first prizes for an equal number of varieties. Messrs. W. G. Caldwell & Sons, Mr. J. Horley, and Mr. E. Mellor staged groups of plants, including some fine Crotons, Begonias, and small Conifers. The weather was all that could have been desired.

FLOWERS.

Seasonable Work in the Plant-houses.—Autumn Propagating: Attention must now be paid to any plants that are to be propagated from cuttings during the autumn, and the sooner the cuttings can be got in the better, as they not only root more freely than they will later on, but they will not be so liable to damp off. Many of the herbaceous and other hardy plants will strike best in hand-glasses, under a north wall. To succeed well, it is necessary that the following points should be carefully studied:—In the first place, the frames should be got ready, some clean ashes should be used for plunging or standing the pots on, and the mats or other material for shading should be at hand. The next thing is to have a lot of pots filled ready for use, and these should be well drained and filled with light sandy soil, with a little extra sand on the surface. In taking the cuttings off, care should be taken that they are not exposed long enough to get withered before they are put in. With many plants, if the cuttings are allowed to get withered, although they may root eventually, yet they will take much longer than if kept fresh, and will not start off into growth so freely afterwards. After the cuttings are put in, they must have regular attention with regard to watering, shading, and ventilation; the shading should always be put on before the sun is too strong, and taken off as soon as the sun is well off; the frames should be kept quite close during the day, but should always be opened for an hour or so in the morning, or in some cases the glasses may be left off all night during favourable weather. Water should not be used too liberally, especially for the first few days.

Chrysanthemum frutescens.—Plants that are intended for winter-flowering should now have a little encouragement. If the pots are well filled with roots and the plants already begin to show flower, they should have a little liquid manure occasionally, or any that require it may be potted on, and any old plants that have been flowering may be cut back, as these will give good cuttings, which, if struck any time during September, will make good plants for early spring work. We should add that for winter flowering the plants must not be grown on too vigorously or they will not flower well; and in cutting back the stock plants of the yellow variety (C. Etoile d'Or) the flower stems only should be taken off, as this does not break freely from the old wood; the white varieties, however, may be cut back to the bare stems, and will start again freely.

Clove Carnations.—The old crimson Clove may be included among the most useful spring-flowering plants. It will force well, and may be had in flower by the beginning of March. For early forcing, good strong plants must be secured, and they require a light, airy position, and careful attention with regard to watering. To get good plants, the layers should be taken off as soon as they have made sufficient root, and potted in 60-size pots. If potted in good light soil, they will very quickly root round the pots, and they should be potted on before they have become pot-bound; 48-sized pots will be large enough for flowering them in, except in the case of extra strong plants, which should have 32's. The plants may be grown on out-of-doors and introduced into warmth after they are well established; they will not require much heat to start them into growth, and after the flower buds show, the chief thing is to give them the benefit of all the sun and light that can be obtained. Besides the old crimson Clove, there are two other useful varieties, one a pale pink or flesh colour, which is a sport from the crimson, and Gloire de Nancy, a pure white; both for purity and size of flowers, this is one of the finest Carnations we have seen; it is also highly-scented.—*H.*

Chionodoxa Luciliæ.—This, the Glory of the Snow, has been denominated one of the most beautiful of hardy spring flowers. One realizes this fact when they see it at Belvoir Castle, Grantham, where Mr. Ingram uses it largely, and with the most charming effect, in his wonderful spring garden. In the rich vegetable mould with which Belvoir abounds, the bulbs take deep and firm root, and send up very fine spikes of blossoms of a very showy and charming character. Mr. Maw, describing the circumstances under which he found the Chionodoxa Luciliæ, says, "At the lower level it was out of flower, but near the summit of the mountain a mass was met with in full splendour, forming one of the most sumptuous displays of floral beauty I ever beheld; a mass of blue and white, resembling Nemophila insignis in colour, but more intense and brilliant." I see that Messrs. Barr & Son, of King Street, Covent Garden, are offering collected roots of the Chionodoxa, and they state that "amongst them will be found a beautiful dark variety of Scilla bifolia. This admixture is unavoidable, as Scilla bifolia and Chionodoxa grow together."—*R. D.*

Phormium tenax flowering at Dunrobin Castle.—A large, handsome specimen of the New Zealand Flax is now in flower in the Duke of Sutherland's garden at Dunrobin. The plant occupies a prominent position in the ornamental grounds facing the sea, and has seven spikes of flowers ranging from 12 ft. to 14 ft. in height. It has flowered once before, but not so finely as now. Mr. Melville, who so ably conducts the gardening operations here, informed me that the plant has been in its present position for six years, and has received no protection. When we consider that Sutherland is one of Scotland's most northern counties, the flowering of this plant in such a position says much for the salubriety of the climate.—*D. P. L.*

Allium giganteum.—In the August number of *The Botanical Magazine* is a figure of this large and striking species. It was collected by the well-known explorer and war correspondent, O'Donovan, during his adventurous expedition to Merv. The plant flowered in the herbaceous ground at Kew in June, 1883. The bulb is 2 ins. to 3 ins. in diameter; the leaves are 1 ft. 6 ins. long and 2 ins. wide, and the peduncle, which is 3 ft. to 4 ft. long, bears a dense globose head, some 4 ins. in diameter, of bright lilac flowers.

Sisyrinchium filifolium.—This elegant little plant is figured in the August number of *The Botanical Magazine*. It is a native of the Falkland Islands, perhaps one of the bleakest spots on the globe, considering the position of the islands. No tree grows there, and the only shrub which attains a few feet in height is the Veronica decussata of our greenhouses. The Sisyrinchium rears its head from out of the heather-like massess of Crowberry which cover the ground, exposing its lovely white bells to the bitter blasts from over the Antarctic ice. Each segment of the flower has three pink veins and a yellow blotch at the base. In the colony it is known as the "Pale Maiden." The bulbs were received by Mr. Burbidge in a sod of Lomaria alpina collected by Mrs. Brandon in the Falkland Islands, and flowered in April last.

Gaillardias.—Those who may desire to fill a large bed with free-blooming plants that will not only give a good display of varied bloom, but also a good quantity of flowers for cutting, should plant Gaillardias. These are easily raised from seed sown in the spring, and in gentle warmth to assist germination, or may be raised by means of cuttings, for these will root most freely if made properly and put in in the autumn. Whilst most of the single kinds favour orange and yellow hues, with bright reddish margins, he best are those having rich chestnut colours, or combinations of chestnut and yellow, with the former largely predominating. Some of these latter are very striking, and give hues not at all common in flowers, and as all have long stems these work into nosegays admirably. One of the most striking of all the family, however, is the dense double form known as Lorenziana. This is found also under several hues and combinations, but the very best is one of a rich chestnut hue, tinted or edged with yellow. The flowers are full, rounded, and very striking, and most valuable for cutting. Any gardener who has to supply the house with flowers will do well to get some of this double Gaillardia, and find in it a most valuable adjunct to the garden flowers. It seeds freely, comes very true, and may be propagated by means of cuttings easily. Plants so obtained show most even growth, and perhaps bloom the most abundantly. No doubt all kinds so increased show similar results. As the plants are fairly hardy, seed sown in a pan in September will give plants to dibble out into a cold frame in December, to stand the winter, and these transplanted with balls of soil make extra fine plants for summer blooming. Gaillardias are not at all common, hence they have the merit, as cut flowers, of furnishing something that is novel in floral combinations.—*A. D.*

Delphinium cashmirianum, var. Walkeri.—Most of our garden Larkspurs are rather tall plants, but here is a tiny little gem from the Himalayas which only grows a few inches high. The leaves are small and very hairy, and the flowers are pushed up from the leaf-axils, each on a separate stalk some 2 ins. to 3 ins. long. The colour is bluish-violet. The plant figured was raised by Mrs. Walker, of Chace Cottage, Enfield, from seeds sent from Rawul Pindee by her son, Colonel Walker. It is believed to be a high Alpine variety of D. cashmirianum, though not sufficiently distinct to be regarded as a true species, in spite of its dwarf habit.

Alpinia pumila.—This is a new species from the Lo-fau-shan Mountains of China, and is figured in the August number of *The Botanical Magazine*. One of its chief peculiarities is that it does not quite agree with any published genus of the order. It is doubtfully referred to Alpinia, of which it may prove to be a new section, though it may also prove to be a new genus altogether. It is a dwarf plant, some 6 ins. high, with ginger-like leaves and dwarf scapes of pale pink flowers. It flowered in the stove at Kew in April of this year. It was sent by Mr. C. Ford, of the Hong Kong Botanical Gardens, and was obtained by him during an exploration of this range of mountains, in common with several other totally new plants.

FRUITS.

Fruit Culture under Glass.—Melons: Plants intended for supplying fruit during the months of November and December should, like plants intended for fruiting in spring and throughout the summer and autumn months, be planted on the mounds before their roots become cramped in the seedling (3-in.) pots, but should the house in which they are to be fruited not be ready for their reception, shift the plants into pots a size or two larger than those in which they are growing, so as to prevent them from experiencing a check, which would assuredly follow a stunted growth. Plants now coming into flower should have their flowers impregnated with the small blossoms when the pollen is dry and a more airy and dry atmosphere is given to them, until the desired number of fruits from the crop is secured.

As soon as it can be ascertained which are going to swell, reduce the number to four or five—according to the condition of the plants and the size which the variety grown attains to—on each plant. In houses and pits in which the fruits are ripe and ripening, maintain a free circulation of fresh dry air so as to give flavour to them. The fruits of some varieties require to be left longer on the plants after they appear to be ripe than others, otherwise they will be wanting in flavour when cut. Cox's Golden Gem is one of these. Plants swelling their fruits should

have liberal supplies of liquid manure given at the roots, and the shoots should be kept well thinned out and stopped. Shut up the houses, pits, and frames in which such plants are growing sufficiently early in the afternoon to run the temperature up to 90 degs., with sun and plenty of atmospheric moisture at the same time. Put mats over plants growing in unheated pits and frames at night, and warm the water in the pipes of houses so heated sufficiently to prevent the temperature in the same from falling below 70 degs. or 65 degs. between sunset and sunrise. —*H. W. Ward.*

VEGETABLES.

The Kitchen Gardener's Calendar.—Tomatos: The weather which we have experienced during the last couple of months has been very favourable to the setting and developing of fruits on plants which have been kept well supplied with water at the roots during that period. Attend well to the thinning and stopping of the shoots and leaves, so that anything like overcrowding of either may be avoided, and that the fruit may be fully exposed to the influence of the sun, upon the presence of which depends so much the quality of the fruit; and see that the shoots are tacked to the wall with nails and shreds as soon as they require it to be done, otherwise they will be liable to get damaged by the wind. My experience of Tomatos is, that if the thinning and stopping of the shoots and leaves are neglected, that is, if they are allowed to become overcrowded, both shoots and leaves, especially if the season be a wet one, they will exhibit symptoms of disease in consequence. These affected parts should be at once cut clean away, and the wounds and plants dusted over with a mixture of fresh soot and lime, which will arrest the spreading of the blotches. I specially mention this fact so that if any of your readers' plants may happen to be similarly affected instead of quietly watching the progress of the disease, or, it may be, consigning the plants forthwith to the rubbish-heap, they may be induced to take action in the matter, not only by contesting the right of the enemy to be in the field, but also by asserting their right and power to drive him out of it.

General Work.—Peas and Beans intended for seed should be gathered as soon as the pods show signs of ripening, and be placed on shutters in pits or frames where they can have the sashes drawn over them to protect them from rain, or in dry sheds, where they can be shelved, labelled, and stored away on wet days. The old haulm should be cleared away, and the ground, by Dutch-hoeing and raking, put in readiness for the planting of late Broccoli. Clip Box-edgings in kitchen-gardens, in either round or square fashion, but in either case it will be necessary to use a line and good taste in the operation, and according to the manner in which it is performed, so also will be the effect, good or bad. Early Potatos, where not already done, should be taken up, sorted, and put away on shelves in the Potato-house—those intended for seed in one place, and those for table use in another. A portion of the ground so cleared will come in for the winter crops of Spinach and Cauliflowers. See that Lettuce plants are tied up in good time with a piece of matting, to get the heads well blanched, and that Vegetable Marrows and Ridge Cucumbers are cut before they get too large for use; indeed, these should be cut under rather than over sized.—*H. W. Ward, Longford Castle Gardens, Salisbury.*

The Propagation of Potatos.—*The Journal d'Agriculture Pratique* reports a communication from M. d'André, Professor of Agriculture in the Department of Aveyron, to the Central Agricultural Society, describing some experiments made by him in the propagation of Potatos by slips during the last four years. Having received some new varieties for cultivation in 1881, M. d'André determined to try the effect of transplanting rooted shoots from his main crops. Detaching about fifty such shoots from different varieties, he carefully planted and watered them, as the season was dry, to ensure their striking. They grew vigorously, and when he came to test the results he found that each transplanted shoot had produced, attached to its foot as in the case of Artichokes, tubers equally numerous and quite as large as those produced by the plants from which the shoots were taken. In the following year he repeated the experiment in a somewhat different manner. Instead of transplanting shoots of 6 ins. to 8 ins., he uprooted two partially-grown plants, detached all the shoots, on each of which a small tuber had formed, and planted them at a depth of 4 ins., with 26 ins. between the rows, taking care not to break any of the small sections of the roots. In this way, from two tubers originally planted, M. d'André obtained ninety-eight shoots, which produced 48 lbs. of Potatos. The most curious result, however, was that although the variety was a late one, it came to harvest, fully matured, six weeks before other sorts grown in the ordinary way.

FLORICULTURE.

The Carnation and Picotee.—These flowers are just now to the fore, and exhibitions of them are being held in different parts of the country, some of which are duly reported in the columns of The Gardening World. The Carnation has a notable history, and Parkinson in his *Paradisus*, published in 1629, says Miller, in his *Gardeners' Dictionary*, "has given a very full account, with figures, of the Carnations then in cultivation. He divides them into Carnations, or the greatest sorts in leaf and flower; and Gillyflowers, or such as are smaller in both respects." Of Carnations, Parkinson gives an account of nineteen, and of Gillyflowers thirty, varieties; but these long since went out of cultivation. The old name, Gillyflower, was supposed by Parkinson to be corrupted from July-flower; and Miller states that Ray has adopted the notion; but, he adds, it is erroneous, for it is evidently derived from the French *Giroflée* or *Giroflier*, and accordingly Chaucer writes it Girofler. We learn from the last-named author, the father of English poets, that the Clove Gillyflower was cultivated in this country as early as the reign of Edward the Third, and that it was used to give a spicy flavour to ale and wine, and from hence it was called "sops in wine." It seems to have been a flower of high estimation in Queen Elizabeth's time, for we find it often celebrated by the poets of her day.

The appellation of Gillyflower has been applied, apparently, as a kind of pet name to all manner of plants. The name was originally given by the Italians to the Carnation and plants of the Pink tribe, and was so used by Chaucer, Spenser, and Shakespeare. Afterwards both writers and gardeners bestowed the name on the Matthiola and Cheiranthus. At the present time the word has almost fallen out of use, but in books will be found applied to several flowers, particularly the Carnation Lychnis (Ragged Robin); Hesperis matronalis (Dame's Violet); to Matthiola incana (the Stock); Cheiranthus Cherii (the Wallflower); and to Hottonia palustris (the Water Gilliflower). In old songs the Gillyflower is represented as one of the flowers thought to grow in Paradise.

The Carnation, which is said to have been introduced first into England from Italy, derives its name, in the English language, from its colour—carnation, or flesh-colour. It has also been called Carnation from its having been used in chaplets and garlands for the head. Linnæus has named it Dianthus flos nobilis, fine or superior flower; Dianthus caryophyllus, we believe, now denotes the Clove only. We gather from Miller that Picotees were most in favour with the early florists, but that Flakes gradually, and in a great measure, took their place. In our own day, Picotees, from their more delicate appearance, receive the greatest share of admiration. It is said that the Carnation was a favourite flower with the Queen of Charles the First.

Carnations are divided into three main divisions in the present day, viz., Bizarres, Flakes, and Selfs, or Fancies. There are three classes of Bizarres, the scarlet, the crimson, and the pink and purple, but the two latter approximate so closely that it is difficult to separate them. "Bizarre is an epithet or adjective borrowed from the French, implying whimsical or fantastical; hence Bizarre, applied to a Carnation, means that it contains a whimsical or fantastical mixture of colours, of not less than three distinct tints or shades." Thus, there is the white ground with two other colours laid upon it. Flaked flowers are those having flakes of one colour running down the white petals; thus we get purple, scarlet, and rose-flaked flowers, and very beautiful they are.

Picotee is likewise a French word, an adjective feminine, and originally meant pricked or spotted. Are we to understand that the Picotee is the feminine of Carnation? Picotees are regarded as less robust generally than the Carnation, and of more delicate constitution; they are very beautiful and much admired for their softness and chaste beauty. Whether it is a true species as some have supposed, or simply a variety of the Carnation, remains to be seen, for it is still a disputed point.

Picotees are divided into four groups, viz., red edges, purple edges, rose or scarlet edges, and yellow grounds. The first three are sub-divided into heavy and light edges, according to the breadth of the marginal colour; but some are of an intermediate depth, and are known as medium edges. The scarlet edges include some very lovely flowers; the brighter the marginal colour, the more pleasing appears to be the contrast between the ground and the marginal colour. Thirty years ago there was in cultivation a group of yellow-ground Picotees showing much refinement of character, but extremely delicate in point of constitution. They may be said to have died out and become replaced by a race of a more robust constitution, but with less refinement; but they are very handsome and valuable for cut purposes.

James Maddock tells us in his treatise that about 150 years ago the "principal, or most generally esteemed, sorts of Carnations cultivated in England were called Bursters, because their blossoms consisted of a double pod. The interior one being in the centre of the other, and containing likewise a great number of petals, by its swelling caused the exterior pod or calyx to burst. The blossoms of these Bursters, when properly managed, and in full bloom, were not less than 4 ins. or 5 ins. in diameter, and the centre of each was well filled up with the petals of the interior pod, so as to make a very uniform and noble appearance, but it required much care and skill to cause them to blow to perfection."

"The attention of the florist was directed from the cultivation of Bursters by the introduction of a new description of Carnation from France" (a century and a half ago); "these were denominated Whole-blowers, in opposition to the former term of Bursters; their blossoms, in general, were furnished with only one pod or calyx, which, by a little management on the approach of bloom, was preserved in an entire state; the culture of them was, at the same time attended with much less trouble, in other respects, than that of the former, and they soon obtained a decided preference."

The earlier types of the Carnation and Picotee had fringed or serrated petals. The florist of that day set himself to work to get rid of this fringe and secure the perfectly rounded petal. That was the ideal he set before him, and to the attainment of it he steadily laboured. Whether rightly or wrongly, he set himself to secure this end, and he has succeeded. And it must be admitted that a finely-developed bloom of a Carnation or Picotee as set up by a florist is an illustration of a very high order of beauty, and everyone who labours to present to view in their most perfect manifestation the flowers he cultivates with so much care, is doing a good and worthy work, for which he shall have a due share of praise.

Preserving Timber.—Creosote, the commonest of the timber preservatives, is ordinarily forced into the pores of sleepers, piles, and other scantlings, by placing these in a closed chamber, exhausting the air, and then admitting the antiseptic fluid under heavy pressure. But the vessels permeating woody fibre contain much more water than air, so that, even after the removal of the latter, the creosote still finds its entrance into the timber barred, and only a comparatively small quantity of pickle is consequently taken up. Taking advantage of the different boiling points of water and creosote, Mr. Boulton has lately patented a plan whereby the creosote is made to enter the wood in the vacuum chamber at a temperature above that of boiling water, thus vaporizing the moisture contained in the timber, and making room for the entrance of the preservative fluid.

THE

Orchid Growers' Calendar.

Disa grandiflora.—Last spring I received some Disas as a present from the Cape, and have grown them till now in a frame, but they show no signs of flowering. Am I to keep them growing all winter or let them go to rest? In what temperature should I keep them during winter?—*W. H. R.*

Knowing that others as well as your correspondent "W. H. R." are not quite clear as to the treatment of this lovely plant (so aptly called "The Pride of Table Mountain") after flowering, it will be well to give the subject more space than that usually devoted to answers to correspondents. Disa grandiflora, which grows on the banks of rivulets and on marshy ground in its mountain home in situations where its roots and underground growths are frequently submerged in water, and where they are at least moist even in the dry season, it can be readily understood does not require drying off at all, and in the majority of cases where the plants of it are not successfully grown the failure may be traced to an insufficient supply of water at some period or other during its growth.

A glance at the progress of the plants throughout a year will prove that the Disas are always active (see p. 534, Disas in S. Africa), and that from the present time, when they have just flowered, are in flower, or are about to expand their blooms, they are steadily and slowly pushing on with the formation of fresh tubers and stolons for the production of the next season's crop of leaves and blooms. After the flowering season, I always used to give the plants less water than before, and when I have grown the plants in pans for keeping water under them, I generally removed the pans after the flowers were over, as it was easy enough to keep the plants sufficiently moist until the active growing season and warm weather without them (pans for keeping water under the plants, however, are not to be recommended generally, although of service in some houses in hot weather), but I never allowed the Disa grandiflora to get anything like dry.

After flowering, the plants will get what is commonly called "rough," and they should simply be kept clean and carefully watered until the end of December or beginning of January, when those requiring re-potting should be attended to. In re-potting, it is important not to break up the old ball so as to injure the tender points; it is therefore better to only just roughen it and place in a larger well-drained pan or pot, using as material equal parts of good fibrous peat and living sphagnum moss, with a sprinkling of broken sandstone and charcoal mixed with it. In spring, when the foliage shows active signs of growth, the water supply should be increased, and a light sprinkling overhead with a fine rose can occasionally be given, in all cases where possible rain water only being used. Later on, the flower spikes will appear and the waterings both overhead and in the pots may still more freely be given, indeed during the whole of its growth its treatment should be just that which any reasonable man would give a cold greenhouse marsh plant.

For position, anywhere in a greenhouse which does not get much below 45 degs. in winter, and in a light situation, but where the direct rays of the sun does not reach it, is the best. Much depends on getting a good and suitable situation for it, for there is more in that than in any particular skill in culture. In some places they grow like weeds on a shelf over the door of a cold greenhouse, in others they will only do on the shady side of the house, near where the ventilators open; in some places a particular corner is devoted to the Disas, in others they are grown in the greenhouse until their flower-spikes appear, when they are removed to the cold frame to bloom, and returned to the greenhouse only on the approach of hot weather. Which of these methods suits any particular case best a watchful trial will soon prove.

But it is not even necessary to have a greenhouse for Disa grandiflora at all. I have grown and bloomed it well in a cold frame, which was often down to 35 degs. in winter, and so have many others. The limit of the adaptability of Disa culture does not even rest at the cold frame, for I have seen it growing freely, unprotected, in the open air with Mr. Moore, at Glasnevin, Dublin. The Rev. H. Ewbank, at St. John's, Isle of Wight, has also bloomed it out-of-doors, and so also have others, in favoured spots, a fact which abundantly proves that the plant does not want nursing in close houses—air, shade, and water in plenty it must have, in order to make it thrive well.

Of the beauty of D. grandiflora year after year brings fresh proofs by the fine specimens, bearing numerous spikes of its brilliant scarlet flowers, seen in different parts of the country, and at the present time a great and striking display of it is to be seen at Messrs. F. Sander & Co.'s, of St. Albans, where the bank of it mingling its showy flowers with a fine lot of the snowy Odontoglossum Alexandræ produces a fine display. Eight to a dozen flowers have been produced on a spike, but it is better for the quality of the flowers and for the health of the plants to thin them to three or five.

Insects, thrips, aphis, and a red insect peculiar to this plant attack it, and these should be carefully exterminated by frequent sponging with weak tobacco-water or other safe insecticide. It is when the plants are weak or starting into growth that the insects beset them, and then is the time to look constantly after them, as the insects are then easily destroyed, whereas if they are allowed to once settle down the plants may be rendered weakly for the whole season. There are several varieties of D. grandiflora, but all are good.—*James O'Brien.*

OWENS' SPRAY ENGINE.

Cattleya Hardyana.—I have just read a description of Cattleya Dowiana, and find it stated that it is without doubt the finest Cattleya grown. Probably it was so in the estimation of the writer at the time (now some years ago) when the remarks were written. I have to-day had an opportunity of comparing C. Dowiana, Gaskelliana, labiata pallida, &c., with one Mr. G. Hardy, of Timperley, has now in flower, and the three forms named are nowhere in comparison with it. They are not even permitted to stand near this acme of perfection, but are relegated to a much lower position. Bought originally for C. Sanderiana, it has now been at Pickering Lodge for about five years, and has bloomed twice before. On its first flowering, Mr. Hardy quickly noticed it was of a distinct type, and now that it is in flower again the distinction is more marked, so much so that provisionally the name of C. Hardyana is given to it, which it is to be hoped it will retain. The spike bears four blooms 8 ins. across, sepals and petals of a deep mauve, the petals thrown a little forward, and slightly reflexed. The lip is of large size, and of rich colour and marking. The lower half is of a deep rose-purple; the purple ceases about half way up, giving place to a rich golden-yellow, which part is beautifully margined with the rosy-purple of the lower portion. The centre of the lip, however, has the purple carried right into the throat, beautifully lined with yellow, which colours are carried right up to the column. It is a grand thing, far superior to any gigas, aurea, or Sanderiana I have ever seen, and the same opinion has been expressed by many who are certainly qualified to speak on this matter. We gazed intently on it at the first, and were constrained to come back again and admire its wondrous beauty.—*W. Swan, Aug. 10th.*—[This magnificent Cattleya was exhibited before the Floral Committee on Tuesday, and was unanimously awarded a First-Class Certificate.—*Ed.*]

Woodlice in Orchid-pots. — If anyone who is bothered with woodlice in Orchid-pots will try a puff of tobacco-smoke through the hole at the bottom of the pot, they will find the woodlice soon appear on the surface, and may then be easily destroyed; I have found this a better plan than immersing the pots in water.—*G. W. C.*

GARDEN APPLIANCES.

Owens' Spray Engine and Blight Destroyer.—Messrs. S. Owens & Co, the well-known hydraulic and general engineers, of Whitefriars Street, E.C., have recently introduced an invention in the form of a garden engine, which seems to meet a want in all large establishments—that of a machine for applying insecticides in an effective manner, with a minimum amount of waste. This they have realized in the new engine by forcing the liquor from the cylinder by means of compressed air. The short india-rubber hose pipe and copper branch pipe have an inner and an outer tube, through which the air and liquid pass separately until they meet at the end of the jet, and produce a dense spray or mist, by means of which any tree, shrub, or plant may be quickly and completely brought under its influence. We give the following as the directions for use given by the patentees:—Strain the liquid through fine muslin, slacken the small thumb-screw, open the hinged cover, and fill the cylinder, using a funnel or water-can for the purpose. Then close the cover and screw it down moderately tight, place the forefinger of the left hand over the hole in the nozzle of the branch pipe, work the air-pump for a few seconds until the pressure is raised, remove the finger, and continue to work the pump, when a fine mist-like spray will be produced. A little oil of good quality should be occasionally poured round the top of the piston and on the joints of the hand-lever. When the inside of the cylinder requires cleansing, fill it with hot water, and remove the screw plug at the under side of the machine to empty it.

HORTICULTURAL SOCIETIES.

Royal Horticultural, *August 11th.*—This was the smallest exhibition we have had here for some time, but a pretty and interesting little show nevertheless. Mr. T. S. Ware was, as usual, in great force with hardy plants, among which various species of Lilium, and notably auratum, figured conspicuously. Florists' flowers were represented by fine collections of Dahlias, double and single, Phloxes, &c., from the same exhibitor, and another Silver Banksian Medal was his reward. The New Plant and Bulb Company, Colchester, also contributed an extensive display of Lilium auratum flowers, among which were several well marked and distinct forms. Among other plants from the same firm we also noticed a variety of Valotta purpurea, with taller stems, longer leaves, and larger flowers than the ordinary type. Messrs. Veitch & Sons contributed, besides several plants which were certificated and are noted below, a handsome group of hardy hybrids from Gladiolus Lemoinei; Acer Hookerianum, with lanceolate, copper-coloured leaves; Davallia retusa, a very distinct strong-growing species from Sumatra, with somewhat angular pinnæ, bearing a strong resemblance to the leaves of the Salisburia, or Maiden-hair tree; and Platycodon Mariesii grandiflora, a very showy plant with large Campanula-like, rich, bluish-purple blossoms. Mr. R. Owen, Maidenhead, contributed several new double tuberous Begonias, viz., A. F. Barron, pale flesh colour; Dr. Hogg, blush; Harry Veitch, pale rose; and Shirley Hibberd, rose. Messrs. Kelway & Son contributed a splendid array of Gladioli, about 100 spikes, and took a first prize for the collection. From Mr. Holah, gardener to F. C. Hills, Esq., Redleaf, Penshurst, came a flowering plant of the showy Galeandra Devoniana; and Messrs. John Laing & Co. contributed some more new varieties of Begonia and Caladium. Among the former, which

had all been grown in the open ground, we noted as of considerable merit Madame Dubois, a small, neat, double scarlet; Louise de Goussaincourt, a fine, double, flat flower, of a rich rosy-peach colour; and Leon de St. Jean, a fine, full double scarlet. A Silver-Gilt Banksian Medal was awarded to J. Henshaw, Esq., Harpenden, for a large, well-named, and well-set-up collection of wild flowers collected by half-a-dozen boys attending the Harpenden School.

Prizes were offered for Fuchsias, Caladiums, Asters, Verbenas, and Hollyhocks, but with the exception of the Asters and Caladiums nothing worth noting was brought out. Messrs. John Laing & Co. sent the best six Caladiums, large, well-grown plants of Elsa, Mithridate, Ferdinand de Lesseps, Undine, and Fritz Koechlin. The prizes for Asters were awarded to A. S. Price, Esq., Parkside House, Ewell, Surrey (Mr. J. Buss, gardener); Mr. J. S. Cooper, Windhill, Bishop's Stortford; Mr. W. Smith, of the same place, and Major Scott, Wray Park, Reigate (Mr. J. Morgan, gardener), the two last-named being placed equal third. Messrs. Rivers & Son took a Bronze Medal for half-a-dozen boxes of cut Roses.

The new plants certificated were the magnificent Cattleya Hardyana, shown by George Hardy, Esq., Pickering Lodge, Timperley, and which is more fully alluded to in a previous column; it appears to be a natural hybrid between C. aurea and C. gigas, with the lip and scent of the first named. Mormodes luxatum Dormanianum, from Mr. White, gardener to C. Dorman, Esq., Laurie Park, Sydenham, a handsome spike of large flowers, of a pale pink ground colour, densely spotted with purple, and having a broad deep purple longitudinal band on the lip. Sarracenia Pattersoni, a vigorous-growing and very handsome hybrid, from Dr. Patterson, of Bridge of Allan; it is a hybrid between S. purpurea and S. Drummondii, with very strong pitchers about 18 ins. long, and of a deep red colour throughout. Rhododendron Indian Yellow, from Messrs. Veitch & Sons, a greenhouse hybrid with a fine truss of beautifully-shaped clear yellow blossoms. Cyathea divergens, also from Messrs. Veitch, a very handsome New Grenadan Fern, with fronds 2 ft. to 2½ ft. long, arching gracefully over the pot; a very distinct species. Chysis lævis superba, from Mr. B. S. Williams, a plant with two fine spikes of richly-coloured yellow-cinnamon brown-coloured flowers. Mormodes luxatum punctatum from the same exhibitor, a pretty and sweet-scented variety, with the white ground prettily spotted with purple. Gaillardia St. Blaise, from Messrs. Kelway & Son, Langport, a showy single variety with flowers of good size and shape, of a rich magenta colour, and the tips of the florets yellow, forming a neat margin. Gladiolus Milton, scarlet, with crimson blotch; Abas, dark red, with a white centre; Lorna, very bright scarlet; and Galatea, delicate blush and very pretty, all from Messrs. Kelway & Son. Gladiolus Lemoinei vars. Andre Chenier, rich dark purple self; Henri Conscience, a light shade of purple, with a dark blotch and light centre; and La France, pale rose, with the lower petals crimson, tipped with yellow, all from Messrs. Veitch & Sons. Aristolochia elegans, a singularly beautiful member of a very interesting genus, shown by Mr. Bull; the flowers are somewhat flat, scoop-shaped, about 2½ ins. across, beautifully marbled with dark purple, and having a deep purple blotch at the mouth of the white tube, a very free-flowering plant, and devoid of any odour. Euterpe plumosa, an elegant Palm, with graceful arching fronds, some 3 ft. long; and Alocasia Sanderiana, the very distinct and handsome fine-foliaged species illustrated by us at p. 341, both also from Mr. W. Bull. Pelargonium Souvenir de Charles Turner, a very fine Ivy-leaved variety shown by Mr. R. Owen, Maidenhead; the flowers are large, semi-double, and of a bright rose colour, with a white and purple blotch on the upper petals, a decided acquisition. Begonias, King of Crimsons, a very large single flower of fine form and rich crimson colour; Antoinette Guerin, a large double white; Blanche Duval, another double, creamy-white, with a flush of pink in the young blossoms; and Gabrielle Legros, also a very full double, large, globular, and pale yellow in colour, all from Messrs. H. Cannell & Sons.

In the fruit and vegetable section, Messrs. Rivers & Sons contributed some 120 dishes of Gooseberries, the largest and most representative collection we have seen for some time, and several Plum and Cherry trees in pots, carrying heavy crops of fruits. A Silver Banksian Medal was awarded to them. Mr. W. H. Bannister, Cote House, Westbury-on-Trym, sent some berries of a seedling white Grape of good flavour, and of which the Committee thought favourably, and desired to see again in the form of a bunch. The same exhibitor also sent some Apples, bearing some resemblance to Dutch Codlin. The prizes offered by Messrs. Edward Webb & Sons, Wordsley, for a collection of vegetables, brought out only two competitors Mr. C. J. Waite, gardener to Col. the Hon. W. P. Talbot, Esher, and Mr. T. A. Beckett, Cole Hatch Farm, Penn, to whom the prizes were awarded in the order named. There were only two competitors also for Messrs. Sutton & Son's prizes for three dishes of Tomatos, Mr. T. A. Beckett, and Mr. Stephen Castle, West Lynn, who secured the prizes as placed.

Warwick Flower Show and Industrial Exhibition, *July 29th.*—For a thoroughly interesting exhibition, this was one of the best we ever attended. It was started a few years ago, solely in the interests of the amateurs and cottagers of Warwick, and as an encouraging exhibition of horticultural produce it has proved a striking success, only that the movement does not appear to receive that measure of success its merits deserve. It is managed mainly by a few gardeners in the neighbourhood, such as Mr. R. Greenfield, gardener to Thomas Lloyd, Esq., The Priory; Mr. A. D. Christie, Warwick Castle Gardens; Mr. C. Wilson, seedsman, of Warwick. Mr. J. Lloyd Evans, of *The Advertiser* office, is the hon. secretary, and a very painstaking and hard-working one too. These, with some of the enthusiastic amateurs, work hard, and on the above occasion they got together a charming show, in what is known as the Exhibition Pavilion; everything was admirably arranged, the weather was all that could be desired, and it only wanted a few hundreds more of visitors to have made the show a success, and agreeably rewarded the labours of the hard-working promoters. It is to the great credit of the gardeners especially that, seeing they cannot show for prizes, they take such a great interest in the work, and labour so hard to make the show a success.

Very fine and most attractive collections of plants, not for competition, were by Mr. A. D. Christie, from Warwick Castle Gardens; by Mr. R. Greenfield, The Priory Gardens; by Mr. E. Moorhouse, gardener to G. H. Nelson, Esq., Emscote, Warwick; by Mr. T. West, gardener to F. W. Arkwright, Esq., Warwick; and by M. Otto Fehrlin, gardener to Major Mason, Warwick. These were placed in lines down the centres of the tables, or in decorative groups about the hall, and they were a valuable feature.

The plants, cut-flowers, fruits, and vegetables were all of a highly creditable character throughout; the cottagers' productions especially of great merit, considering the season. There were about 1,200 entries, and the sum of £70 was awarded in prizes—many prizes of small amounts. The task of the judges was a very onerous one, but if extra labours were placed upon them they felt they were aiding in a good work—and it is a good work which is being done at Warwick.

The leading exhibitors were Mr. A. J. Ingram, Brook Villa, Warwick, and Mr. A. J. Banke, Warwick, both very active members of the Committee; Mr. J. W. Newcomen, Market Place; Mr. W. T. Threadkell, Parkmount, Warwick; Mr. G. Stevens, Grey Street; Mr. J. A. Butler, Emscote Road; Mr. Jas. Baly, Castle Hill; Mr. H. G. Payton, Bridgend; Mr. Robert Laurie, Coter's End; Mr. A. H. Roberts, Counby Road, &c. The cottagers' classes were so full and such an excellent competition resulted that it would be a calamity were this show discontinued for want of public support. The Pavilion is in the town, it is spacious and convenient, and by reason of holding the show in this building the Committee are to a great extent independent of the weather.

One very interesting feature of the exhibition is the industrial department. This is managed by a committee of ladies, and prizes are offered for needlework done by cottagers' wives and their children; for bread, cakes, &c., many classes being provided. This is a feature we should like to see introduced in connection with many other country shows, and we are quite sure the result will be highly satisfactory.

A very fine contribution of plants, flowers, and fruit was made by Mr. Charles Wilson, Birmingham Road, Warwick, and a similar one came from Mr. J. Morris, Priory Road, Warwick. From Messrs. Thomas Hewett & Co., nurserymen, Solihull, came a collection of very fine Begonias, &c., not for competition.

St. Neot's Amateur and Cottage Horticultural.—On Bank Holiday, August 3rd, this useful and prosperous society held its twenty-first anniversary exhibition in the grounds of George Bower, Esq., which are right in the heart of the town. It is something for a society to continue holding an annual exhibition for twenty-one years, and at the end of that period to find itself strong, active, solvent, and with every prospect before it of increased usefulness. Very much of the success of the society is due to the exertions of the acting secretary and collector, Mr. William Ratchelous, the manager of Messrs. Wood & Ingram's Nursery at St. Neot's, an active, courteous, hard-working, and intelligent official, who for something like twelve or thirteen years has acted in this joint capacity, to the great benefit of the society.

It was our privilege to attend this show, one of the best managed in the county of Huntingdon. The day was beautifully fine, and the townspeople, who appear to take a great interest in their flower show, dressed out their houses with bunting, and took on a general appearance of meaning to enjoy the day and their annual exhibition. St. Neot's, during the summer months at any rate, is a clean, orderly, pleasant-looking town, in the midst of a somewhat important agricultural district; it has a well-to-do look, and we were pleased to see that not a few of the shops in the leading streets had over their windows charming collections of plants; and in many of the windows of the houses occupied by the labouring classes, were to be seen window plants in the best condition. There being these evidences of a love for flowers in this town, it is not to be wondered at if the good people who reside in it made up their minds to enjoy their Bank Holiday in attending their flower show.

On entering the ground through Mr. Bower's charming garden, we found a circle of tents around the grounds; three of these were occupied with plants, flowers, fruits, and vegetables; there were the tents of the Huntingdonshire Beekeepers' Association, who held their annual show on this occasion; there was a tent in which farmers exhibited their produce, ears of Wheat, Barley, and Oats, stalks of Beans, Wurtzel, Kohl Rabi, &c.; then there were tents for Poultry, for Cage Birds, and for Rabbits, so it did seem as if the leading fancies of an agricultural community were provided for, and the country people flocked in great numbers to see the show, and the large sum of over £77 was taken at the gates, as against £58 in 1884. The Committee and officials richly deserved this success, for they worked hard and unitedly to obtain it.

To show the interest taken in the horticultural show, we give the names of some of the leading exhibitors, viz.:—Mr. G. Redman, gardener to J. H. Goodgainer, Esq., Eynesbury, St. Neot's; Mr. W. Last, gardener to Mrs. F. Day, The Priory, St. Neot's; Mr. R. Carter, gardener to Capt. W. H. Duncombe, Waresby Park, St. Neot's; Mr. J. Bowie, gardener to the Rt. Hon. The Earl of Sandwich, Hinchingbrook, Huntingdon; Mr. R. Petfield, gardener to A. J. Thornhill, Esq., M.P., Diddington, Huntingdon; Mr. T. Tillbrook, gardener to B. Brown, Esq., Houghton, Huntingdon; Mr. J. Brown, gardener to A. Torgood, Esq., Riversfield, St. Neot's; Mr. Abbey, gardener to Lord Esmé Gordon, Panton Park, St. Neot's; Mr. R. Smith, gardener to Miss Cheere, Papeworth Hall, St. Ives; Mr. D. Parlett, gardener to G. O. Newton, Esq., Croxton Park, St. Neot's; Mr. Strowernan, gardener to Miss Toogood, Panton Hill, St. Neot's; Mr. Rabbitt, gardener to General Pearson, The Hasells, Sandy; Mr. Cook, gardener to the Rev. J. Richardson, The Rectory, Sandy; Mr. Cook, gardener to Col. Stuart, Tempsford Hall, Sandy; Mr. Kennedy, gardener to His Grace The Duke of Manchester, Kimbolton Castle, St. Neot's; Mr. T. Plum, St. Neot's; Mr. M. H. Browning, The Union, Eaton Town, St. Neot's; Mr. G. Taylor, Eynesbury, St. Neot's; Mr. J.

How, New Street, St. Neot's; Messrs. Burrell & Co., nurserymen, Cambridge; E. B. Lindsell, Esq., Hitchin; the Rev. H. B. Gall, Hitchin; the Rev. E. Fellowes, Wimpole Rectory, Royston; Mr. Arthur, gardener to P. Meyer, Esq., Orwell, Royston; Mr. Williams, gardener to Geo. Bower, Esq., The Shrubbery, St. Neot's; and Mr. Beaumont, Eaton Town, St. Neot's. The foregoing, coming from districts so wide apart, will show what an interest was taken in the St. Neot's exhibition.

When, accompanied by our able colleague, Mr. J. Wood Ingram, of the Huntingdon Nurseries, we proceeded to make our awards in the leading classes, we found some admirable subjects had been staged. There were two classes open to all England: one of them was for twenty-four Roses, and here Messrs. J. Burrell & Co., nurserymen, Cambridge, were placed first with a very fine lot of blooms, the leading flowers being Duke of Edinburgh, Mdme. H. Jacquier, Dr. Andry, Victor Verdier, Dr. Sewell, Comtesse d'Oxford, Alfred Colomb, La Rosiere, La France, Ulrich Brunner, Abel Carriere, Baroness Rothschild, Marie Rody, Louis van Houtte, and Madame Victor Verdier. E. B. Lindsell, Esq., Hitchin, was second with smaller but nice fresh blooms of the following:—Harrison Weir, Xavier Olibo, La France, Fisher Holmes, Marie Verdier, Madame Victor Verdier, Abel Carriere, Maréchal Niel, Gloire de Dijon, &c. In the open classes, the best twelve Roses came from the Rev. F. H. Gall, Hitchin; and E. B. Lindsell, Esq., had the best twelve Tea Roses, a very nice lot indeed, fresh, and sweetly fragrant.

Another class, open to all England, was for twenty-four bunches of cut-flowers, distinct. In this class Mr. Redman, gardener to J. H. Goodgainer, Esq., Eynesbury, set up a superb lot of stove and greenhouse plants, which comprised fine bunches of Justicia carnea, Clerodendron Fallax, Bougainvillea glabra, Dipladenia amabilis, Allamanda Hendersoni, A. Cathartica, Eucharis amazonica, Franciscea calycina major, and such other subjects. Messrs. Wood & Ingram, of Huntingdon, were placed second with a wonderfully fine lot of hardy things, comprehending Yucca gloriosa, Helenium multiflorum maximum, Hyacinthus candicans, Salvia patens, Lilium Chalcedonicum, Harpalium rigidum, &c., one of the best lots of the kind we ever saw. A stand of twelve excellent Dahlias was shown by Mr. Petfield, while Asters, though small, were good for the season, so were Zinnias, Marigolds, Carnations, and Picotees, &c. There were many classes for cut-flowers, and it is impossible to give them all in detail, so we have just touched the leading ones.

Plants.—Some very good plants indeed were shown. The Fuchsias, for instance, were much better than is usually seen at country shows, though they showed signs of the effect of the heat; here Mr. Pitfield was first, Mr. H. Williams, gardener to Geo. Bower, Esq., being second. Mr. Pitfield, whose contributions made the leading feature of the show, was the only exhibitor of six plants in bloom, having nicely grown and flowered examples of Dipladenia insignis, Bougainvillea glabra, Anthurium Scherzerianum, Statice profusa, Clerodendron Fallax, and Allamanda Hendersoni. Mr. Pitfield had the best six ornamental foliage plants, setting up highly creditable examples of Latania borbonica, Croton majesticum, Dracæna Baptistii, Anthurium crystallinum, small, but well marked, Croton Andreanus, and Caladium pictum. The best specimen foliage plant was a very fine Chamæropsis humilis, from Mr. G. Bower; Mr. Pitfield and Mr. Tillbrook, gardener to B. Brown, Esq., being placed equal second, the one with Croton Weismanni, the other with Alocasia metallica.

Some good Ferns were shown. Mr. Tillbrook was first with four exotic, as well as four hardy British Ferns; in the former case he had the following Adiantums in well-grown specimens: concinnum, concinnum latum, Williamsii, and cuneatum. Mr. Pitfield came second with A. Farleyense, formosum, cuneatum, and gracillimum. The best specimen Fern was a very fine plant of Platycerium alcicorne, from Mr. B. Brown, Mr. Redman being second with the same. Mr. Pitfield had the best specimen flowering plant, staging a very fine but untrained Bougainvillea glabra; Mr. G. Bower coming second with Stephanotis floribunda.

We are obliged to pass over the classes for fruit and vegetables, but all were very creditable indeed, and the Potatos some of the best we have seen this season. There were many classes for amateurs and cottagers, contributions of good quality coming from each, and as numerous as they were praiseworthy.

At the close of the judging a good party sat down to luncheon under the presidency of a very genial chairman, Mr. Geo. Bower. An excellent feeling prevailed, and we were pleased to hear from the lips of the chairman a very well-deserved tribute to the value of the services rendered to the society by Mr. W. Ratchelous, to whom its success is mainly due.

Clay Cross Horticultural.—The twenty-eighth annual exhibition of this society was held at Clay Cross on August 11th. This society has had a prosperous career; it is well supported pecuniarily, and is in every way well conducted. Liberal prizes are offered, which is a great inducement to exhibitors, and the number annually increases. The show was arranged in three large marquees, and the amateurs and cottagers came out in full force, competition being very keen. The principal feature here, as at most other shows now, was the groups arranged for effect. In the open class for a group to cover 400 square ft. there were five competitors, and the prizes of £20, £16, £12, £8, £5, were awarded as follows:—Mr. J. Ward, gardener to J. H. Oakes, Esq., Alfreton, first, with a good group containing well-coloured Crotons, good Ixoras, Crassulas, Anthuriums, &c.; second, Mr. A. Webb, gardener to G. H. Sutton, Esq., Kelham Hall, Newark, for a good group of well-grown plants, but lacking in colour; third, Mr. A. Anderson, gardener to W. Walker, Esq., Lea Wood, Cromford; fourth, Mr. Lyon, gardener to Lady Ossington, Newark; fifth, Mr. W. Haslam, Hardstoft. These groups contained many well-grown plants, and the whole were arranged in a circular tent very effectively.

Stove and greenhouse, fine foliage, and flowering plants were shown in quantity, but we have often seen them better. Ferns were in better condition, and Mr. Lyon was an easy first with well-grown plants. Table plants were well shown, good examples coming from Messrs. Ward, Lyon, and Webb, who were awarded the prizes in the order named. Cut-flowers were poor, with the exception of Carnations, Picotees, and Dahlias, which, considering the changeable weather, were very fair. Bouquets and button-hole flowers were poor also.

Fruit was shown in quantity, and some fair examples in their respective classes were staged; Messrs. Ward, Lyon, and Webb were the principal exhibitors. Mr. Ward took the first prize for the collection, and the first also for Grapes; while Mr. Lyon was first for Pines, Mr. Webb first for Melons, Peaches, and Apricots, and Mr. Goodacre, Elvaston, first for a collection of hardy fruits.

Vegetables.—For a collection of twelve varieties, Mr. Ward was first, Mr. Goodacre second, and Mr. Frith third. These, considering the dry season, were on the whole a very meritorious lot.

Liberal prizes are offered here to encourage cottagers and amateurs, especially the former, and the plants, flowers, and fruits exhibited by both were of a very meritorious order indeed, and the competitions were strong all round. The way in which some of these exhibitors show their produce reflects great credit upon them. The judges in these as well as other classes had a difficult task to perform, but their decisions gave great satisfaction, and everything passed off very harmoniously. The weather was for the greater part of the day fine, and the company very numerous. Great facilities are offered to people living at a distance, and the special trains brought in hundreds, who yearly look forward to their outing at Clay Cross.—*A. O.*

SPARROWS—THEIR WORK OF DESTRUCTION.

Mr. J. E. Harting, in a paper handed to the Committee on Wild Birds Protection, quoting from a French writer, says:—"Under the sparrow's nest the rejected wing cases of cockchafers were picked up; they numbered over 1,400. Thus one pair of sparrows had destroyed more than 700 insects to feed a single brood." Dr. B. Morris, in his evidence given before the same Committee, says:—"I have seen the sparrows hawking for cockchafers, and taking them in large numbers, killing them on the wing." Gamma moths and cockchafers are not their ordinary food, but they do eat them occasionally, and in the case of a plague of them it is probable they would take them in preference to Corn. Mr. H. Stevenson states that Professor Newton had seen the mouths of sparrows literally crammed with destructive chovies; while Mr. Dillwyn says that "in 1814 a lawn near Swansea was covered with immense numbers of this kind of beetle, and that on their first appearance the sparrows fed on them until they became so gorged that several were unable to fly." Sparrows will eat different kinds of aphides, including the Bean aphis, but they have been oftenest observed eating the Rose aphis. The point at issue is this: Is the balance sufficiently against the sparrows to make it desirable to destroy them? Miss E. A. Ormerod, entomologist to the Royal Agricultural Society, gives in her *Manual of Injurious Insects*, as being the most destructive to agricultural crops—aphis, crane fly (commonly called the "daddy long legs"), Corn fly, Wheat midge, saw fly, wire worm (including four closely allied species, all very harmful), Turnip aphis, Turnip moth, and Turnip saw fly. Sparrows feed their young on the caterpillars of the crane fly and wire worm, though apparently not in large quantities in most districts, and there could be little doubt that they did the same with the caterpillars of all the other species of insects enumerated by Miss Ormerod, where they are abundant.

Sparrows had been proved to eat the click beetle, the weevil beetle, the satin moth, the crane fly or "daddy long legs," pale mottled willow moth, gamma moth, Cabbage white butterfly, tortoise moth, blue bottle moth, small white butterfly, magpie moth, blue bottle. Sparrows did a great deal of good by eating the seeds of the knot Grass, Chickweed, and Corn Bindweed, and in a less degree by eating various other kinds, among which may be mentioned the Buttercup Ribwort Plantain, Dock, Mouse Ear, and Wild Spinach. At the same time it must be admitted that they occasionally eat Turnip seed and Hay, Clover, and Trefoil seed. He had more than once seen from 100 to 150 little seeds in the crop of a sparrow, and Dr. Schleh found 321 Chickweed seeds in a single sparrow in Germany. The right side of a sparrow's neck was often bulged out like a marble with what it had eaten. Mr. Gurney then proceeded to give a short list of the most flagrant instances he had heard of damage done to farmers' crops by sparrows, remarking that it must be borne in mind that in most of the cases cited some of the damage was probably caused by other small birds, such as greenfinches, chaffinches, and yellow hammers. In the main, however, the saddle was laid on the right horse in charging the sparrow with nine-tenths of the harm done. Colonel Russell said a farmer near Chelmsford had an early field of Wheat not far from the village of Boreham. An acre was measured where the sparrows had been at work, and an adjoining acre which they had not meddled with, and the Corn on each of the acres was threshed separately, looking after the threshing himself. He found the deficiency to be two quarters, value £6.—*Extract from a paper read before the Norfolk Chamber of Agriculture.*

ANSWERS TO CORRESPONDENTS.

Erratum.—At p. 774, in the article on Middle Green Farm, Slough, third line from the top, *for* "James" *read* "Turner." Through an unfortunate accident on the part of the compositor the former name was inserted for the latter after the proof had left our hands.

Names of Plants.—*Cattony.*—11. Echeveria rosea; 12. Sempervivum chrysanthum; 13. Sempervivum Donkelaarii; 14. Stapelia variegata; 15. Crassula squarrosa; 16. Cotyledon pulverulentum; 17. Sempervivum arboreum; 18. Hydrangea hortensis, a starved specimen; 19. Send when in flower; 20. Salvia Heerii; 21. Allamanda Schottii. We cannot undertake to name more than six at a time.—*H. Marks.*—Oncidium varicosum.—*X.*—1. Selaginella Pruiti; 2. Selaginella Wildenovi; 3. Onychium japonicum; 4. Lastrea dilatata; 5. Begonia Marga; 6. Kentia Forsteriana.—*F. D., Tunbridge Wells.*—Oncidium dasytyle.—*W. N.*—Erigeron speciosum; and the yellow flower Helianthus rigidus.

Disas.—*W. H. R.*—See p. 796.

Carnations in the South.—*W. G., Bishop's Waltham.*—The gentleman who furnished us with the report had but little time at his disposal, and in the hurry of the moment did overlook the Carnations. We are pleased to hear that the cultivation of these flowers is evoking so much enthusiasm in the south, and hope that in time a love of the flowers for their own beauty, and not for the notoriety which the winning of a prize may bring in its train, will incline the growers you mention to be more charitable in their inferences. The reference to "certain exhibitors" is very paltry.

Communications Received.—A. O.—A. H.—D. N. J.—E. D.—L. & Co.—D. P. L.—H. T.—R. D.—W. H. R.—J. B.—J. O.—H. W. W.—W. G.

LONDON SEED TRADE.

August 12th, 1885.

MESSRS. HURST & SON, 152, Houndsditch, report a fair business doing in Trifolium and Mustard seed, the recent rains having put the ground into working order. White Mustard is 1*s.* per bushel dearer. Rape and Trifolium unchanged. New Tares and Rye are neglected, although offering at low prices. No change in value of Clover seeds. Canary, Hemp, and Linseed sell slowly at last week's rates.

COVENT GARDEN MARKET.

August 13th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½ sieve	1 0– 3 0	Pine-apples, Eng., lb.	2 0– 3 0
Cherries, ½ sieve	4 0–10 0	Pine-apples, St. Michaels, each	3 0– 5 0
Grapes, per lb.	0 8– 2 0	Plums, ½ sieve	2 0– 4 6
Kent Filberts, per 100 lbs.	30 0–.	Red Currants, ½ sieve	3 0– 3 6
Melons, each	1 0– 1 6	Black do.	4 0– 4 6
Peaches, per doz.	2 0– 8 0	Strawberries, per lb.	–

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	1 0–	Herbs, per bunch	0 2– 0 4
Asparagus, English, per bundle	–	Horse Radish, bundle	3 0– 5 0
Beans, French, per lb.	– 1 0	Lettuces, Cabbage, per dozen	2 0–
Beet, per dozen	2 0– 3 0	— Cos, each	0 1–
Cabbages, Spring, doz.	1 6– 2 0	Mushrooms, p. basket	1 0– 2 0
Carrots, per bunch	0 6–	Onions, per bushel	5 0– 7 6
Cauliflowers, English, per dozen	4 0– 6 0	Parsley, per bunch	0 6–
Celery, per bundle	1 6– 2 6	Radishes, per dozen	1 6–
Cucumbers, each	0 6– 1 0	Small salading, per punnet	0 4–
Endive, French, per dozen	2 6– 3 6	Spinach, per strike	2 0–
		Tomatos, per lb.	1 0–
		Turnips, per bunch	0 6–

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0– 4 0	Marguerites, 12 bun.	2 0– 6 0
Anemone, 12 bun.	–	Mignonette, 12 bun.	1 6– 3 0
Arum Lilies, 12 blms.	2 0– 6 0	Pelargoniums, per 12 sprays	0 6– 1 0
Asters, 12 bun.	0 4– 6 0	—scarlet, per 12 sprays	0 4– 0 6
Azalea, 12 sprays	–	Pinks, various, 12 bunches	1 0– 4 0
Bourvardias, per bun.	0 6– 1 0	Primula, double bun.	0 6– 1 0
Camellias, 12 blooms	–	Primulas, Chinese, bun.	–
Carnations, 12 blooms	1 0– 3 0	Pyrethrum, 12 bun.	2 0– 4 0
Carnations, 12 bun.	2 0– 4 0	Rhodanthe, 12 bun.	6 0– 9 0
Cornflower, 12 bun.	2 0– 4 0	Roses (coloured)	1 0– 2 0
Cyclamen, doz. blooms	–	Roses, indoors, p. doz.	1 0– 3 0
Cineraria, per bunch	–	Roses, per dozen bunches	2 0– 6 0
Day Lily, 12 bunches	–	Spiræa, 12 bun.	–
Epiphyllums, 12 blms.	–	Stephanotis, 12 spr.	3 0– 4 0
Eschscholtzia, 12 bun.	–	Stocks, 12 bunches	2 0– 4 0
Eucharis, per dozen	3 0– 6 0	Sweet Peas, 12 bun.	2 0– 4 0
Gardenias, 12 blms.	2 0– 5 0	Sweet Sultan, 12 bunches	4 0– 6 0
Heliotropes, 12 sprays	0 6– 1 0	Tuberoses, per dozen	0 4– 0 6
Lapageria, white, 12 blooms	2 0– 3 0	Tulips, per doz.	–
Lapageria, red, 12 blms.	1 0– 2 0	White Jasmine, bxn.	0 6– 0 0
Lavender, 12 bun.	4 0– 6 0	Woodroffe, 12 bunches	–
Lilium candidum, 12 blooms	–		
— Longiflorum, 12 blooms	2 0– 6 0		

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, doz.	6 0–24 0	Heaths or Erica, var., per doz.	–
Arum Lilies, per doz.	–	Hyacinths, doz.	–
Asters, per doz.	0 4– 6 0	Hydrangea, per doz.	8 0–12 0
Azalea, per doz.	–	Ivy Geraniums, per dozen	3 0– 6 0
Balsams, per doz.	3 0– 6 0	Lilium longiflorum, per doz.	18 0–36 0
Begonias, per dozen	4 0–12 0	Lilium lancifolium, per doz.	9 0–12 0
Bouvardias, dozen	9 0–18 0	Marguerites, per doz.	6 0–12 0
Calceolarias, per doz.	4 0– 6 0	Mignonette, per doz.	4 0– 6 0
Cineraria, per dozen	–	Palms in variety, each	2 6–21 0
Cockscombs, dozen	3 0– 6 0	Pelargoniums, per dozen	6 0–18 0
Cyclamens, doz.	–	Pelargoniums, scarlet per dozen	2 0– 6 0
Cyperus, per dozen	4 0–12 0	Petunias, per dozen	4 0– 6 0
Deutzia, per dozen	–	Poinsettia, doz.	–
Dracæna term., doz.	30 0–60 0	Rhodanthe, per doz.	6 0– 9 0
— viridis, per dozen	12 0–24 0	Spiræa, per dozen	–
Epiphyllums, doz.	–	Stocks, per dozen	–
Evergreens, in var., per dozen	6 0–24 0	Tropæolums, per doz.	2 0– 4 0
Ferns, in var., dozen	4 0–18 0		
Ficus elastica, each	1 6– 7 0		
Fuchsias, per doz.	3 0– 9 0		
Foliage Plants, various, each	2 0–10 0		
Genista, per dozen	–		

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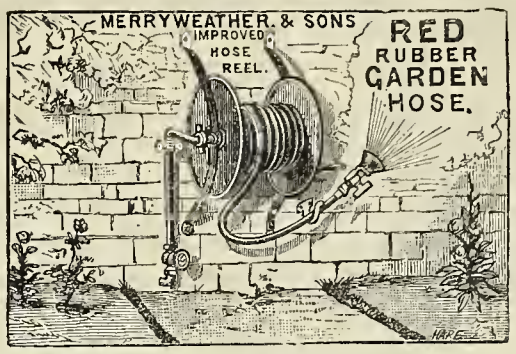

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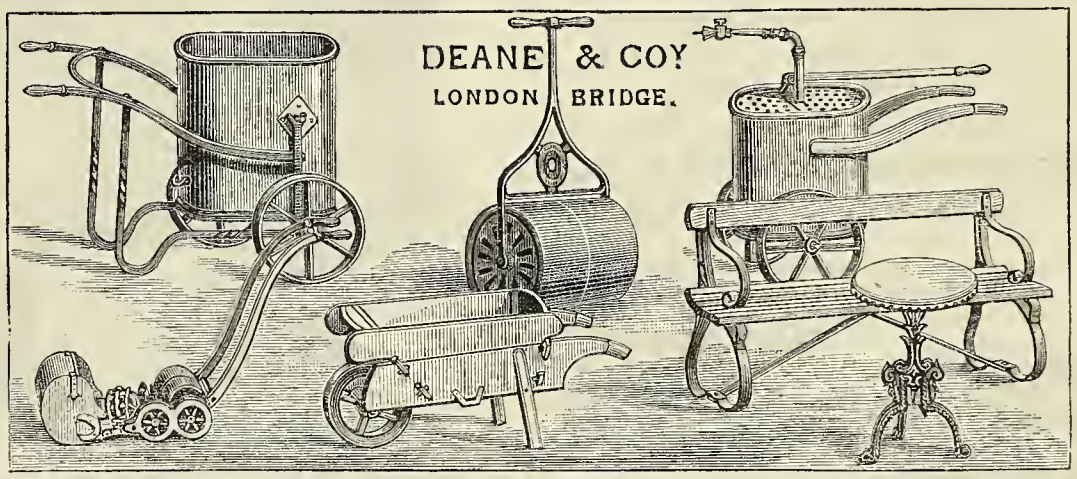

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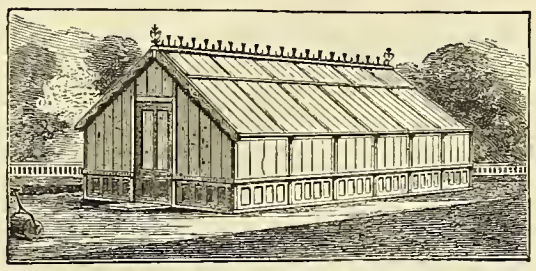

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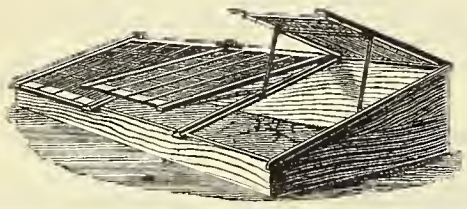

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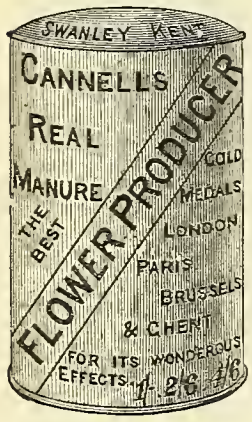

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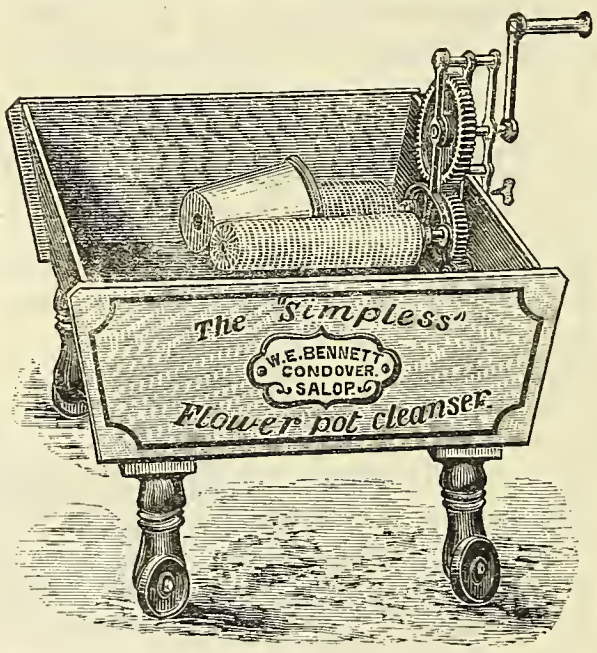

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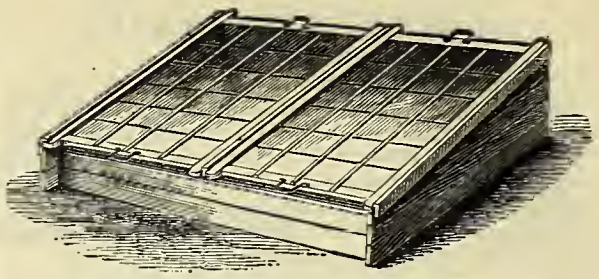

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OF

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THE GARDENING ILLUSTRATED WORLD

No. 51.—1885. SATURDAY, AUGUST 22ND. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

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The Gardening World.

SATURDAY, AUGUST 22ND, 1885.

THE SOUTH KENSINGTON EXHIBITIONS. — With the exception of a group of Chrysanthemums in pots, prizes for which are offered at the last October show, there will be no other plant competitions at South Kensington this season, and judging by the comparative failure of those competitions which have been held, we should think classes of that character will hardly be repeated in future years. There is no lack of fairly good plants grown about the metropolis; but it must be admitted that here we are a long way behind the provinces, where plant culture for exhibition still retains some vitality. Certainly, those of our country cousins who visited the Inventories, and strayed into the Conservatory to see the recent flower shows, must have found ample cause to believe that many provincial towns could make a much braver display of plants and some other things. Without doubt the greatest plant show of the season at South Kensington was the so-called Orchid Conference, when results were secured that owe nothing to prizes; indeed, such a grand collection of Orchids was perhaps never before seen together at any one time; thus showing conclusively that those who grow plants for love and loyalty to horticulture, need none of that stimulus to exhibit their productions which is found in prize competitions. Whatever may be the case elsewhere, it does seem as if the exhibitions of all kinds of garden products were becoming far too much fields for the display of mercenary tastes, and that not love for horticulture, but love of money, was the prevailing attribute.

The Apple Congress of two years since was another marvellous evidence of the thorough unselfishness which characterizes those whose tastes are purely horticultural, and not pecuniary, and it is to be hoped that the coming Pear Congress will find the same noble sentiment widely exemplified. Certainly, a little more of love, and a little less of selfishness would materially help to improve our horticultural displays. Whilst practically omitting plants altogether, and confined entirely to articles of food, fruits, and vegetables, the series of shows held last year in connection with the Health Exhibition was throughout first-class, the exhibits good, and the competition considerable. Perhaps the difference between the bulk of plants and the more costly nature of their transit and that of other garden products, had much to do with the result. That fact, however, leads us to hope that the few later shows which are so exclusively devoted to fruits and vegetables will be as good as were those of last year, and we, indeed, shall be very much disappointed if the Grape Show of next month be not one of the most interesting, though probably far from being the largest, that has yet been seen. Myriads of bunches of some half-dozen kinds in a score of classes do but satiate without interesting. The coming show can hardly create satiety, especially if there is found amongst Grape-growers a general interest in the exhibition, and an earnest desire to afford to all possible kinds of Grapes the fullest representation.

The October hardy fruit and vegetable shows will doubtless be also popular ones, and well patronized by exhibitors. The Potato classes at the latter may be thin perhaps, as, generally, the crop is small this season, though, so far, very sound. Next year, should the series of shows be continued, some effort should be made to associate them, if possible, with the special objects of the National Exhibition—that of colonial produce. If there are any fruits or vegetables grown here that are of colonial origin, it would be a fitting opportunity, by means of prizes, to bring them into prominence. Perhaps the Cape has been most prolific in this respect, but it may be that other colonies have not been lacking. It also may be that some of our leading seed-houses will take the hint during the autumn, and secure seeds, &c., of colonial garden produce, which we here may purchase and grow in time to exhibit at South Kensington, English-raised samples, to the eyes of those colonists who may favour us with their presence next year.

AMBIGUITIES IN SCHEDULES OF PRIZES.—If only committees of horticultural sociotics, or those who frame schedules of prizes and their conditions, would explain them so that there could be no difficulty in ascertaining their exact intentions, what a relief to judges it would sometimes prove. This was the thought which passed through our mind the other day when brought face to face with a definition in a schedule of prizes that appeared to be very plain to the framer of it. The class ran, a "collection of fruits, six kinds." One exhibitor had put up in this class white and black Grapes, and it was objected to that "kind" was not to be interpreted in the sense of variety, but simply as meaning one variety of Grape, Peach, Fig, Melon, &c. Our contention was that judges should always (and capable judges invariably do) put a wide interpretation upon schedules of prizes, and that, if any doubt arose, the exhibitor should have the benefit of it. We, therefore, contended that it was a usual rule with judges to regard kind and variety as synonymous terms; and it is well known that gardeners will speak of a kind of Cabbage, or Potato, or Celery, or Pea, &c. Kind is a noun widely interpreted by dictionary compilers. It is sometimes used in the more narrow sense of race or genus, but as often (perhaps oftener) in its wider sense of sorts. Thus, a man is said to speak with a kind of scorn or contempt. Hence it is that judges, as before stated, invariably interpret kind in the broad sense of variety. In the particular case mentioned, the committee interposed, and stated that their intention was to have only one variety of any particular fruit. The decision of the judges was overruled, and the collection disqualified.

But here another difficulty arose, not foreseen by the committee, who thought they had hit upon a definition absolutely clear and distinct. We pointed out that one competing collection consisted of Peaches and Nectarines, and asked if they regarded these as distinct kinds of fruits. "Certainly," was the immediate and confident reply. But imagine their confusion when Dr. Hogg was quoted against them. Says this authority in his *Vegetable Kingdom*, "The Nectarine is only a variety of the Peach, the only difference being in its having a smooth skin; and there can be no doubt that it originated in a mere freak of nature, as we have seen instances of Nectarines being produced on the branch of a Peach tree without having been budded." This proved an astounding piece of intelligence, and out the collection had to go.

But what folly it is for the managers of a country show to set up such an arbitrary definition, because by doing so they heavily handicap the gardeners in small places, and place their best prizes at the mercy of those who manage large places. Out of a garden of moderate dimensions it is difficult to get six first-class kinds of fruit in the sense in which it was understood by these country managers. And this definition was applied with equally lamentable results in another class, one for "twelve kinds of blooms of cut-flowers." One exhibitor had set up in a fine and striking collection three varieties of double and single Zonal Pelargoniums in separate bunches, and another two distinct varieties of Hollyhocks, but both were put by, and an inferior collection awarded the first prize.

Is it any wonder that some exhibitions decline, if managed in this way? Such actions, done in defiance of general usage, cause heartburnings and jealousies, exhibitors are dissatisfied, and the downward course is rapid and decisive.

Gardening Miscellany.

FLOWER SHOWS FOR NEXT WEEK. — *Tuesday:* Meeting of Fruit and Floral Committes at 11 a.m. —Cottagers' Show and Exhibition of Plums.—Maidstone Horticultural Society's Show. *Thursday:* Reading Horticultural Society's second Show.—Ludlow Horticultural Society's Show. *Friday:* Sandy and District Annual Flower Show.

AT a meeting of the Council of the Royal Caledonian Society, held last week, it was decided to hold an Apple and Pear Congress in Edinburgh, early in November.

ON Thursday next, Mr. J. C. Stevens will sell, in the King Street Rooms, the collection of Orchids formed by G. Heriot, Esq., Cholmeley Park, Highgate.

MESSRS. PROTHEROE & MORRIS'S great annual trade sales of winter-flowering Heaths will be held during the week ending September 19th.

MR. CHARLES RUSSELL, lately foreman at Byrkley Lodge, Burton-on-Trent, has been engaged as gardener to Mrs. Hopkinson, West Court, Finchhamstead.

MR. WILLIAM SEALE, nurseryman, of Sevenoaks, a well known and much respected exhibitor of Roses and table decorations, died on the 6th inst., aged sixty years.

MR. J. MAYNE, late gardener at Pentillie Castle, Cornwall, has been engaged as gardener to E. Allen, Esq., Stowford Lodge, Ivy Bridge, Devon.

THE Metropolitan Board of Works have accepted the tender of Mr. B. S. Williams to supply the London Parks under the control of the Board with Dutch Bulbs for the ensuing season.

AT the recent "Royal" Show, Mr. G. W. Randolph, of Thirsk, showed a new machine for cleaning and sorting Potatos, which he had patented. It is designed to work very easily, a boy being sufficient to turn the handle, while the tubers are sorted as fast as a man can shovel them into the hopper. An excellent point in this machine is that all the Potatos pass under the eye of the operator in a single layer, and so bad ones can easily be detected. By using different-sized wire meshes, the Potatos are sorted into three sizes.

THE annual exhibition of the Shropshire Floral and Horticultural Society which was opened in The Quarry, Shrewsbury, on Wednesday and closed on Thursday evening was a great success, the show being a good one and the attendance on the first day larger than on any previous occasion. Mr. Cypher, of Cheltenham, was an easy first in the leading class, which was for twenty stove and greenhouse plants, ten in flower, his specimens being far in advance of any others. Mr. C. Roberts, gardener to E. C. Glover, Esq., Highfield Hall, was second; and Mr. Tudgey, The Nurseries, Waltham Cross, third. Fruit was shown in large quantity, and first-rate quality. For a collection of twelve dishes, Mr. Goodacre, gardener to the Earl of Harrington, was first, with a fine collection; and Mr. W. Parker, gardener to J. Corbett, Esq., Impney Hall, Droitwich, second. We shall give a full report of this important exhibition in our next.

ARABS, AND ARABIAN PLANTS.

The following interesting notes are taken from an article by Dr. E. Gordon Hull, in the current part of *The Journal of the Anthropological Institute*. "The Arabs of Arabia Petræa," says Dr. Hull, "use a few of the native plants for medicinal purposes, but only a few in comparison with the rather large supply of plants with pretty decided properties. For instance, they do not know the value of the Castor Oil plant, which grows freely in the Ghor es Safieh. However, several species of wild Melon of the family Bryoniæ [Cucurbitaceæ, *Ed.*], allied to the Elaterium (which also grows in these parts), are in common use as purgatives; the native method of using them is ingenious. A fruit is split in halves, the seeds scooped out, and the two cavities filled with milk; after allowing it to stand for some time, the liquid, which has absorbed some of the active principle of the plant, is drunk off. The order Compositæ furnishes several medicinal herbs. The Santolina fragrantissima, a graceful plant of a sage-green colour, bitter taste, and strong fragrant smell, furnishes them in the form of an infusion, with a carminative, good for colic and all painful affections of the abdomen.

"In the bazaars of Cairo, the fragrant dried heads are sold for the same purposes as Camomile. I was told there are no snakes in the districts where the plant grows; and the natives believe that the smell of the plant is sufficient to drive reptiles from a house, and it is used for this purpose in Cairo and other towns. Another plant of the same order is an Artemesia, or Wormwood, with a very strong aromatic odour and bitter taste. The fellaheen use it to put in their bedding to drive away vermin. A very striking plant which often hangs in graceful dark green festoons from the granite walls of the gorges of Arabia Petræa is the Caper plant (Capparis spinosa). The natives are very fond of the fruit (which has a warm aromatic tase), and they stroke the region of the epigastrum appreciatively after eating one or two. The cortex of the root is said to be aperient and diuretic.

"Another fairly common plant is a Hyoscyamus, called by the natives Sekharan, with fleshy leaves and purple flowers. The dried leaves are used by the natives to smoke, and produce a kind of intoxication or delirium; and an infusion of the fresh leaves possesses strong narcotic properties. It is nearly allied to the Mandragora, which becomes common on the limestone downs in the South of Judæa. The Arabs are extraordinarily susceptible to narcotics. Our tobacco they could not smoke at all; a few whiffs make them giddy, and give them a headache; even a 'Richmond Gem' cigarette is too much for them."

NOTES FROM GARDENS.

The Garden of J. Buchanan, Esq., Oswald Road, Edinburgh.—I believe there are few lovers of those ever increasing favourite flowers, the Orchids, who have not heard something of this establishment. Mr. Buchanan is a great admirer of this most interesting class of plants, and has spared no expense in bringing together one of the finest collections, both in point of quantity and quality, that is to be found in any private establishment north of the Tweed. Mr. Buchanan's garden is situated in the south-western suburbs of the Scottish capital, and enjoys one of the finest views that could be wished for. To the south-west there is some fine woodland scenery with the Pentland Hills in the background, and immediately in front is the Blackford Hill, lately acquired by the city authorities as a public park. The wayfarer on passing along Oswald Road, will see little that is calculated to lead him to suspect anything beyond the usual villa garden on the other side of the low wall that separates it from the road, with the exception of the large mansion house of Mr. Buchanan's, towering high above all its surroundings, and embellished with all the latest improvements in architecture. Passing through the gate, we find it surrounded with artistically laid out borders, filled with shrubs and flowering plants in fine condition. The garden, which has been so ably conducted for the last four years by Mr. Grossart, is of large extent in comparison to most town gardens, and a large proportion is devoted to the fruit and flower departments. On commencing our inspection of the houses, the first we came to was a circular conservatory attached to the mansion, quite aglow with finely-flowered Fuchsias, Pelargoniums, &c. The centre is entirely taken up with a grand specimen of the Indian Fan Palm, Latania borbonica, and the usual climbers adorn the roof. Then came the Orchid-houses, six in number. The first is the Vanda-house, in which a great many sorts are grown, and the plants range in size from 6 ins. to nearly 6 ft. in height. But it is not the large numbers or their great size that the visitor will admire so much as the perfection to which they are grown, every plant being clothed with leaves down to the pots, and of that deep green colour that indicates perfect health. Amongst the more noted kinds represented, is a fine plant, over 5 ft. in height, of the much-coveted Manchester variety of V. suavis, and many fine forms of V. tricolor, including a noble specimen of the Dalkeith variety. Amongst others of special note are V. Batemanii, V. Denisoniana, V. insignis (true), V. Lowii, V. Roxburghii, and V. Teres Andersoni. There are also several other good things in this house, amongst them being a large plant of the beautiful Cypripedium caudatum roseum, also a dozen nice plants of the favourite C. Spicerianum.

Next came the Cattleyas and Lælias, to which two houses are devoted. Upwards of fifty species and varieties of Cattleya are grown, including some very chaste forms now in flower. This is specially the case in the gigas section. Amongst the large specimens is a wonderful plant of C. crispa superba, 3½ ft. in diameter, with a large crop of young growths pushing up; a chaste variety of C. crispa, named in honour of the esteemed proprietor; a specimen of C. Skinneri, 2 ft. through, with ten leads; a nice plant of C. Skinneri alba, and a fine plant of the scarce C. exoniensis, with ten leaves. Of the Trianæ section there are several very large plants too, each 4 ft. in diameter, with quite a host of young growths coming on. Amongst others worthy of special notice are C. amethystoglossa, C. Chocoensis, C. Dowiana aurea, C. guttata Leopoldii, C. labiata (true), a fine plant of the new C. Lawrenceanum, with thirty bulbs and several strong leads coming on, and C. Sanderiana, with forty bulbs. Of the finer varieties of Lælias there are some surprisingly large plants, such as of L. elegans Lowianum, with ninety bulbs, including a dozen leads, many of them just showing flower; L. purpurata alba, 4 ft. in diameter, with fourteen breaks, and a wonderful plant of the scarce L. superbiens, 3½ ft. through, with ten leads; good plants of the highly-valued varieties, L. anceps Schroderii, L. a. Dawsoni, L. a. alba, L. a. Williamsii, and several large plants of L. elegans, L. purpurata, and others are noticeable. Here also is an unusually large plant of Cypripedium Stoneii, 3½ ft. through, and carrying some fine examples of its beautifully-marked flowers; also good plants of C. Dominianum, C. Lawrenceanum, C. Druryi, C. calurum, &c.

The next two houses contain plants of a mixed description, but as valuable as they are varied. Here Cymbidiums are in fine form; a specimen of C. Lowianum is 6 ft. through its foliage, and two other plants of the same species are very little less in dimension. C. eburneum and a plant of C. eburneum Dayanum measure several feet through; C. Mastersii is also of large size. Fine plants of Epidendrum radicans and E. Wallisii are to be seen, also a fine lot of Phalænopsis; a specimen of P. Luddemanniana, 2 ft. through; also good examples of P. amabilis, P. grandiflora, P. Lowii, P. Sanderiana, P. Stuartiana, and P. violacea. Next to come under notice were several large plants of Angræcum sesquipedale, A. citratum, A. eberneum, A. Ellisii (the latter bearing a fine spike of flowers), a large lot of Aerides and Saccolabiums, amongst the former being large plants of A. Fieldingii, A. crispum Lindleyanum, A. Houlettianum, A. Leeanum, A. Lobbii, and others; Saccolabium Blumei, S. Blumei Dayanum, S. giganteum, and others; a fine bit of Pescatorea Klabochorum, a full collection of Barkerias in fine condition, also Cyrtopodiums in variety, a nice plant of Coryanthes macrantha, and a well-grown plant of Schomburgkia tibicinis; a nice healthy plant of the chaste and very scarce Lycaste alba, which Mr. Grossart was fortunate to flower from amongst some imported bulbs, and a splendid plant of L. Harrisoniæ eburnea. All the leading Cœlogynes are grown, quite a giant plant of the much-sought after Chatsworth variety of C. cristata being in luxuriant growth in a tub 5 ft. in diameter. The plant has 6 ft. of flowering surface, and it will doubtless be fresh in the memory of those who saw it two years ago at the Caledonian Flower Show, carrying over 200 spikes, with an aggregate of over 1,300 blooms.

Among the Oncidiums O. Marshallianum and the new O. Jonesianum are specially good. Dendrobiums are in endless variety, and specially good plants may be seen of D. crassinode album, D. Dearei, D. Brymerianum, D. densiflorum (3 ft. through), D. Falconeri majus, and a fine specimen of the grand old D. Hillii. A spike from this plant is figured in *The Orchid Album* for August, it being one of eight similar spikes on the plant at the time it was cut. Here also are specimens of D. speciosum and D. thyrsiflorum several feet through, and a nice plant of D. Veitchii, with many others of like merit.

The next house is filled with hundreds of Odontoglossums in all the leading species and varieties. O. coronarium, said to be difficult to flower, is carrying a fine spike of fifteen blooms and pushing up two leads, and a small plant of O. Edwardii is throwing up a monster growth, several inches across it, which is being watched with great interest. The O. Alexandræs are in great variety, and one specially strong piece with five leads has nearly double that number of flower spikes. Others worthy of notice are O. Hallii superbum, several O. Pescatorei, O. ramosissimum, and many others of sterling worth. In this house also there is a fine plant of the seldom-seen Nanodes Medusæ with forty growths; Masdevallias in great variety; M. ignea (Dr. Paterson's var.), 2 ft. through, with over 100 flowers; also M. Bella, M. Chelsoni, M. chimæra, M. Harryana grandiflora, M. Shuttleworthii, and others; Maxillaria grandiflora, 3 ft. 6 ins. through, and an Ada aurantica of great size with twenty breaks. I may here say that the large number of Orchid-growers who are prejudiced against the use of glazed pots for Orchids would do well to visit this collection, where they are almost entirely used, and if healthy plants will convince them that their prejudice is unfounded then that testimony is here in abundance. In an adjacent large stove is a good collection of fine-foliage and flowering plants, amongst the latter being a fine example of Anthurium Scherzerianum Knightii, 2 ft. through, and A. Andreanum; some gorgeous baskets of Stanhopeas, with their strong-scented flowers; two specimens of Allamanda Hendersoni in pots, perfect pictures; and a pot of Eucharis amazonica, nearly 6 ft. across its foliage. The fine foliage plants are represented by a lot of well-grown Palms, Dracænas (the latter including the pretty D. Goldiana), Caladiums of gigantic size and chaste colouring, some meritorious Ferns, including Adiantum cuneatum, A. Fieldingii (each 5 ft. through), and a fine plant of the charming Davallia fijiensis plumosa.

Then came the Melon and Croton-houses, the former about past, but enough to show a good crop, while the Crotons are all that could be desired. The colouring is splendid, C. angustifolius, C. Princess of Wales, C. Thomsoni, C. Weismanni, being specially good. Next came a long range of vineries and Peach-houses. Mr. Grossart had the misfortune to get the Vines handed over to him in a very bad state. The soil about Edinburgh is not at all suited to the requirements of the Vine without the use of a good stimulant, and by their present appearance their wants seem to have been well supplied by a discreet use of the Vine-grower's boon—Thomson's Vine Manure. The early house is nearly cleared, but there is yet left good examples of the Golden Champion and Madresfield Court, the latter of great size and well finished. The Muscat-house is showing well with Bowood Muscat, Muscat of Alexandria, Muscat Hamburgh, and others. In the late house Gros Colmar and Lady Downes are in good form. The crop in the first Peach-house has been gathered, but in the second there are yet some good fruits of Stirling Castle and Barrington Peaches, and Elruge Nectarines.

Between the mansion house and this last range is the flower garden, containing some very large circular beds, which are exceedingly effective with mixed flowering plants, and here is a border of Roses containing over 400 plants. They are now past their best, but there is still enough left to give a fair idea of the beautiful appearance which the border must have presented when in full flower. Conspicuous among them were Alfred K. Williams, Annie Wood,

Beauty of Waltham, Duke of Albany, Earl of Pembroke, Francis Michelon, La France, Merveille de Lyon, and White Baroness. The kitchen garden is not of large extent, but quite a model of neatness. Heavy crops of everything are seen, including a remarkable crop of Onions for their size; Apples and Pears are plentiful, and there are many other things worthy of mention, did space permit. Suffice it to say, that from the most treasured piece of Orchid down to the most humble plant in the borders, all are living monuments of Mr. Grossart's abilities as a gardener.—*R. C. F.*

AUTOMATIC IRRIGATION.

In very dry seasons there is a great demand for water in the garden, on the lawn, and in conservatories, and any apparatus which effects a saving of the gardener's time, must of necessity prove invaluable. Messrs. Merryweather, of Long Acre, have devised various systems for automatically distributing water. They devised a system of non-corrosive metallic tubes in short lengths, mounted upon easy running carriages and connected with flexible joints, the metal pipes being perforated throughout its whole length, so that by simply attaching one end to a hydrant or standpipe, the water will run through a length of 60 ft. or 90 ft. of piping, dispersing itself on the land through the whole course of pipes by means of the perforations. It is very easy to move the apparatus from place to place at intervals.

Another system consists in similar movable pipes without the perforations, to open at the extreme end, to which a distributing nozzle is attached. This nozzle is capable of throwing the stream in either a jet or a spray, at the will of the operator, who can of course walk about freely, dragging the tubes after him.

A third apparatus is both ornamental and useful, as it consists in a portable revolving fountain upon a stand, to which hose may be connected. Garden hose, or lead or iron pipe, so small as ½ in. diameter, can be connected to the inlet coupling, and the water supply taken from the house cistern 8 ft. or more above the fountain, or direct waterworks pressure. The sprinklers are beautifully nickel plated, and they rapidly rotate by the action of the issuing water, scattering a most genial shower over a wide area. The adaptation of this latter appears to be a happy idea, as it is arranged inverted to screw up to the ceiling of a fernery or conservatory, and thus scatter the water downwards and sideways.

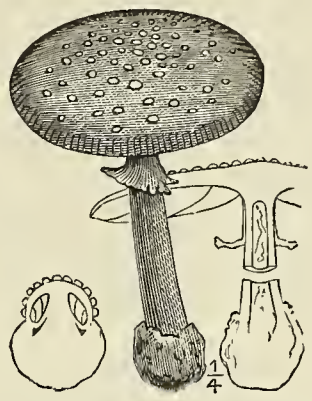
Messrs. Merryweather & Sons appear to be making good progress in the matter of water distributing appliances; their great experience derived from distributing water by their fire engines on to fires having doubtless given them some useful ideas for effectually dealing with gardens in periods of drought.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The success which for the last four years has attended the collection in aid of the Pension Augmentation Fund has been so marked that the Committee have been enabled to increase the Reserve Fund of the Institution to £21,000, and to raise the pensions by £4 per annum each. By thus raising the pensions, an annual additional liability of £416 has been incurred, and to meet this liability, and also, if possible, to increase the number of pensioners, the Committee have resolved to make, for the future, a yearly appeal to the sympathies of the gardening world; thus enabling gardeners to assist their poorer brethren, and at the same time affording them an opportunity of making themselves life members, and so securing a provision in their old age. Under these circumstances I am now sending out collecting cards, and the Committee trust that gardeners will do their utmost (particularly by bringing it to the notice of their employers), to aid the funds of the Institution, which is now conveying assistance and comfort to 104 families. I am desired to draw your special attention to the following "resolutions" of the Committee, viz.:—"That upon any person collecting the sum of £10 10*s*., he will by virtue of such collection become a life member with all its privileges, from the date on which such amount was completed;" and, "That any person who may collect ten guineas (should he be already a life member), may nominate a friend as a life member."—*Edward R. Cutler, Secretary*, 20, *Spring Gardens, S.W.*

MUSHROOMS, EATABLE AND POISONOUS.—I.

Now that the rains and storms of autumn have commenced, our woods, fields, and roadsides will soon be ornamented with a variety of Mushrooms, some good for food, others indigestible or poisonous. In attempting to discriminate the good from the bad, one of the chief points to be observed is the colour of the spores or seeds. This observation is very easily made, as the spores are, as a rule, the same in colour with



AGARICUS MUSCARIUS.

the gills beneath. Agarics or Mushrooms may have spores either white, pink, purple, brown, or black, and there are both good and bad species belonging to each set. Everyone knows that the gills of common Mushrooms are at length purple, purple-brown, or purple-black in colour, and the spores of Mushrooms

AGARICUS SAPONACEUS.

are of precisely the same hue. If ripe Mushrooms are laid gills lowermost on a sheet of white paper, the purple spores will be deposited as a dusty purplish stain in the course of a few hours. By far the larger number of Agarics have white spores or seeds, and to see these spores well the tops of the Agarics should be

AGARICUS VAGINATUS.

laid gills lowermost on black or dark-coloured paper, or some other material, or glass; the white deposit will after a very brief time be thrown on to the substance upon which the Agarics have been placed. The illustrations given beneath, and those to be published in our next, are all representations of white-spored Agarics.

Agaricus muscarius.—The first figure shows one-quarter the size of nature a plant of Agaricus muscarius. It was named muscarius by Linnæus, on account of its use in former times by housewives to keep off flies—muscæ. The stem is yellowish, and the top bright scarlet studded with warts. An infant example cut in two is shown on the left, and a section through a mature fungus is given on the right. The volva or wrapper at the base of the stem, the ring round the stem, towards the top, and the peculiar attachment of the gills as seen in the section on the right, are essential characters. This plant grows in woods chiefly of Birch and Fir, from August to November. Owing to its extremely brilliant colour it is one of the most easily recognized of all fungi, and is poisonous.

Agaricus saponaceus.—The second illustration shows, one-third real size, Agaricus saponaceus. This plant, like the last, grows in woods. It was named saponaceus by Fries in reference to its deterrent and soapy odour. It is very firm in all its parts, dull grey in colour, and both stem and top are clothed more or less with minute scales or flecks as shown. A section through a mature plant is given in outline. Both the above fungi are common ornaments in Epping Forest.

Agaricus vaginatus.—One of the commonest of all fungi is Agaricus vaginatus, shown one-quarter the size of nature in our third illustration. It was named vaginatus by Bulliard, on account of the vagina or wrapper at the bottom of the stem. This vagina encloses the entire plant in infancy, as shown in the section of the young plant on the right. A section of a mature plant is shown with the vagina in section on the left. The whole plant is mouse-grey in colour, the stem is hollow and has no ring, and the top is more or less covered with whitish-grey patches. The plant grows in woods and woody places, and is extremely common everywhere. It belongs to the esculent class.

COMPETITION IN THE FLOWER TRADE.

From a commercial standpoint, attention must be especially directed to the intense competition which prevails in this as in every other trade now-a-days. The extraordinary retail prices which are asked and obtained by florists during the London season are of course no criterion of the grower's profits. With so perishable a stock in trade, original cost bears no definite relation to the selling price; for instance, a profit of over 400 per cent. may frequently be made by the sale of Gardenias at 1*s*. each, which have cost 2*s*. 6*d*. the dozen. But when the immense loss from waste is added to the ordinary risks of business, it is doubtful whether the florist is, in the long run, as well off as neighbouring grocers or ironmongers, who can afford to price their goods only 20 per cent. above the wholesale quotation and wait contentedly for an opportunity to sell. The prices in Covent Garden, which regulate those of the whole kingdom, are very low indeed. The large growers, if left to themselves, might be trusted to maintain prices at a fairly remunerative level, but the market is largely influenced by a body of small producers, men who are contented if they make a labourer's wage out of their one or two greenhouses, and are forced to sell at any knockdown price, in order to procure the bare necessaries of life, for which, being without other resources, they depend almost entirely upon the proceeds of each day's sale. This form of competition, however, cannot permanently reduce prices below the cost of production; but a far more serious blow is dealt at the prosperity of professional growers by the unprincipled trading habitual to gentlemen's gardeners in the neighbourhood of large towns.

Immense ranges of glass have, at one time or another, been erected in the precincts of nearly all large country seats, either to gratify some old freak of fashion, or the hobby of a former proprietor. Far in excess of the present owner's requirements, unless, as rarely happens, he is devoted to a scientific study of horticulture, they generally constitute a species of white elephant, with which he would gladly dispense. But various difficulties present themselves as soon as any suggestion is made of cutting down the establishment, and in the end the advice of the head-gardener is usually followed—a clever fellow who is not without an eye to the main chance in recommending his master to seek an equivalent for uncalled-for

expenditure by the sale of superfluous produce in the town a few miles distant. And so things are allowed to remain as they were, with this excellent result, that not only do the gardens and hothouses, which suffice for a trade of no mean dimensions, henceforth pay their own expenses, but show a considerable surplus besides to swell the already handsome wages of the canny Scotch foreman. [?] There is, however, one exception to the general satisfaction in the shape of the struggling local nurseryman, who soon finds ruin staring him in the face through being undersold in every department by this spurious, bounty-fed industry. What wonder if he is loud and bitter in execration of Dives for robbing, as he thinks, the poor man of his livelihood? Far removed from the calm atmosphere of political economy, the working classes can never rid themselves of a sense of unfairness and indignant revengefulness at the sight of "the aristocracy" dipping its fingers into the chaldron of commerce. As a practical result of this system, in Manchester and Liverpool, to take two out of a number of similar instances, the price of cut-flowers is permanently affected by the quantity daily brought in for sale from neighbouring country seats and disposed of at nominal rates. There is, indeed, one large town in the midlands where no florist's business has been able to survive the competition of a certain noble duke, whose representatives are even wont to hawk button-hole flowers about the streets.

But, much as we may deplore the suffocation of a thriving industry, it is impossible to deny the indefeasible right of these "good old English gentlemen" to turn their ancestral homes, if they so please, into sources of income; for, after all, the question of prestige concerns no one but themselves. They have, however, one distinctly unfair advantage in the race, if race it is to be. In the eyes of the law a private mansion is still supposed to be a "pleasaunce," where its owner can seek rest from the turmoil of business "procul negotiis solutus omni fenore." Thus it often happens that the park and gardens of some wealthy proprietors are, for rating purposes, assessed as pleasure grounds at a mere nominal value, while an acre or two of land, with a few thousand feet of glass, rented by one of his tenants, will be found valued at £200 or more per annum as a "manufacturing establishment," though, if the truth were known, the landlord's business as well as his premises is far larger and more remunerative. In the reform of local government, of which so much is expected, a readjustment of the principles of assessment may, perhaps, put these unevenly matched competitors once more on a fair level.

Besides the rivalry in home trade, foreign importations of cut-flowers reach formidable dimensions at certain seasons; almost daily, from Christmas to Easter, there are sales by auction in Covent Garden, at which Roses and Violets, Hyacinths, and Narcissi from the villages along the Riviera are poured into the market without stint; the quality is generally inferior, but just good enough to command a sale and oust much of the English-grown produce. If the ghost of Protection, which seems as though it cannot be permanently laid, ever assumes bodily shape and re-enters the "region of practical politics," it will find no unproductive luxury readier to hand and more suitable for taxation than these imported flowers, no industry more deserving of relief than English horticulture. For here is a case where self-protection, by the simple method of self-effacement in bad times, is impossible. Capital once invested in hothouses or bricks and mortar is sunk permanently, and cannot be reconverted except at a ruinous sacrifice; so that it behoves an intending investor to be specially wary about embarking upon an enterprize in which, whatever happens, he will be obliged to stick to the ship.—*E. A. Arnold, in The Nineteenth Century.*

A Steam Tree-felling Machine, exhibited at the Inventions Exhibition by Messrs. Ransome & Co., is a noteworthy example of the persistence with which the engineer now invades every province, even the most remote, of industry. Here is a complete set of apparatus, easily moved and managed by one horse and four men, and capable of cutting down a forest while the woodman is "laying his axe to the root of the tree." Several hundreds of these steam woodmen are, it is said, at work at the present moment in various parts of the world.

SCOTTISH GARDENING.

Summer Treatment of Fruit Trees (*continued from* p. 790).—Since I wrote the two previous papers on, this important subject, I have seen much to confirm my opinion that where trees are badly managed during the growing season it means, in a great measure, failure altogether. The tendency which most kinds of fruit trees have to overload themselves with growth during summer, and the indifference of some to this evil so patent to common sense, warrants me (at the risk of repeating myself) in giving a third paper on the summer management of fruit trees. The summer is now drawing to a close, and what has been left undone should be performed before it is too late. Some successful men advocate the principle of "leaving all pruning alone till growth is ceasing, then make a general clearance of breast-wood, &c." On old stunted trees of any class this signifies little; but where trees are making abundant growth, and are expected to mature the same, and bear fruit the next season, due thinning, stopping, and training must have attention.

By most practical men, special attention is given to Peaches and Nectarines during early summer and at this season. The brown bark and "mealy" buds are looked for, and when such are visible, preparation for next year's supply of fruit has been made. No attention during spring with protection or any other adjunct will compensate for the absence of ripe bearing wood and firm, well-developed fruit-buds in autumn. In addition to this, the foliage should be kept clean and healthy. Under such conditions, cultivators have the best of reason to anticipate tangible success. It is very common for successful men to advocate extension of growth, on Peach trees especially, and, I think, most people can sympathize with the advice which so many have given on this head; but fruits, whether under glass or outside, have to be cultivated in variety as well as to realize a supply as early as possible, and as late as kinds to meet that requirement will allow, and I have never seen this achieved by cultivating a few large trees (on Pears and Apples I have seen the difficulty met by grafting a variety of kinds on one tree), but when one wishes to have a supply of Peaches and Nectarines from, say, May till November, large trees, except on unlimited space, will not meet the want. Besides, one likes variety, both for appearance and flavour.

One redeeming qualification of orchard-houses is the continuous supply of a great variety of fruits, and one need not have the infliction of a glut at one time and scarcity at another. A careful examination of Peach trees, whether on walls or under glass protection, should now be made, selecting the shoots which are likely to fruit best next season, as well as to maintain the balance of the tree. Any growing outwards, or those with a tendency to grossness, should be removed if they can be spared, if not, the ill-placed ones should be bent in as closely as possible, and the gross ones stopped; and if the foliage of the latter is unnaturally gross too, the leaves may be cut in two. This practice I often follow with every advantage, and frequently sever such strong wood about half through at the base. The clean cut soon heals up, and the sap is thus diverted to less ductile channels. Hand-stopping with free-growing trees is a decided evil, causing the starting into growth of buds which should have remained dormant till next year. An evenly-grown tree should soon be of equidistant growth all over. The centres often lead off the growth, especially of young trees, and Peaches may be topped to cause emanation of shoots, which may be directed into the positions where they are to remain permanently. Abundance of room to prevent the leaves from crowding each other, and, should the weather be dry, so that the roots are being stinted, a good soaking will do them much good.

Old trees bearing heavy crops may be much benefited by a good soaking of manure water, not at the collars of the trees only, but well out where the feeders are at work; their whereabouts should always be known. I think it of no advantage to have the roots rambling far from the tree. It is more manageable to have the soil filled with fibres and kept near home. Under such conditions one is not troubled by late, barren growth, and to insure this and get the tree to rest as early as possible, root pruning, as formerly recommended, should have judicious attention. To prepare Peaches for transplanting in October or November it is well to shorten back the gross roots and downward growing ones; those cut will throw out plenty of fibre and lift with the greatest of ease, and be fit to bear a good crop next season. An old tree here in vigorous growth we cut in at the roots during July, preparatory for removal in autumn, under glass; growth seems to have stopped and the wood is getting hard and brown, promising a good crop for next season.

There are few localities in the north or south where Peaches, cultivated outside, are altogether satisfactory, and in cold northern districts it is of great importance to keep the shoots close to the walls, securing the maturation of growth soundly and early. Fruit should be well exposed to sun and air, by pushing the leaves off them, from the beginning of their formation. Peaches are looked upon as among the most ornamental of dessert dishes, and their value is much enhanced by high colour. This cannot be attained by shading and overcrowding the fruit. Flavour, like colour, is materially affected by overcropping and under-watering. If mildew shows itself, a good drenching (by the syringe or engine) of soapy water, in which sulphur is well mixed, will check the ravages of the pest. When trees are bearing fruit clean water may be syringed over the foliage, and sulphur dusted through a muslin bag over the mildewed foliage. Figs are grown only in sheltered districts in the north, and though they are met with in fair condition, in some parts they are barely worth the trouble of cultivating beyond the midlands of England except under glass.

The greatest evil I meet with, in most parts, in dealing with Fig trees, is the keeping of them crowded in a manner which prevents access of sun and air. If the trees are trained to walls, the value of the latter is nil, because of the great amount of foliage which covers up the space; this evil of crowding is also observable under glass as well as on open walls. When the trees are planted so that their roots are confined to limited space, either by being built in or the ground prepared in a rocky form, so that they may produce abundance of fibre and not extend more than a few feet, much labour and barrenness is thus prevented, by the formation of short fruitful growths, and under such conditions manure water can be given freely, causing the growth of large fruit and very little wood. Root pruning can be done to Figs with great advantage during summer when there is much growth minus fruit. A large tree of Negro Largo we half-lifted at the end of June, cutting off its downward growing roots; it has grown very little since, and the growths are short, hard, and becoming brown. The large sappy stems were nicked at equal distances (an old practice of ours) which caused them to start out into young growth; they are now hard and fruitful looking. Though stopping can be done in the early part of the season, it is not wise to do it severely to vigorous trees, as it might cause the formation of fruit which should be the supply next year, but these would drop off during winter; now is a good time to practise stopping to induce ripening of wood.—*M. T.*

SELECT HARDY PERENNIALS.

(*Continued from p.* 791.)

Helenium pumilum.—This is a neat and attractive perennial, usually growing about 2 ft. high and producing an abundance of large, showy, bright yellow blossoms. It differs somewhat from the majority of the other species and forms, which are better suited for naturalizing or for shrubbery borders. The plant in question is one of the best of autumn flowers, and grows freely in most soils; it is also very easily increased by division. A better form of this plant received a First-Class Certificate at a recent meeting of the Royal Horticultural Society, when the original plant was also shown for comparison; its superiority was very obvious, and was duly acknowledged.

Helianthemum, or Rock Rose.—The Rock Roses are for the most part evergreen shrubs, forming compact cushions close upon the ground, which are covered for a considerable time with flowers in many shades of colour. They are best suited for a rockery, or, indeed, for any exposed or sunny spot, where they soon form spreading tufts. H. vulgare is found wild in many parts of Britain, and when in

flower on the side of a hill is as conspicuous as the single Marsh Marigold in the meadows or marshy ground. It grows abundantly in the neighbourhood of Box Hill and Mickleham Downs in Surrey, and in the latter place I have seen it abundantly associated with Sedum acre. There are single and double forms which embrace white, yellow, red, copper, orange, and rose, their trailing tufts forming pretty objects when in flower.

Helianthus.—These constitute a valuable and highly attractive group of autumn-flowering perennials, remarkable for their large and conspicuous blossoms. They are of an eminently decorative character as border perennials, and among the most useful in their season as cut-flowers. They are all perfectly hardy, and grow freely in any ordinary garden soils. The showiest and best are H. multiflorus, the single perennial Sunflower, which grows from 3 ft. to 4 ft. high, producing large golden blossoms from midsummer till quite late in autumn. These are about 3 ins. or 4 ins. across, and are very effective when seen in large specimens or in masses. There is a major form of this plant larger than the type, also a double form equally free and showy, and similar in height and general appearance.

The largest flowered plant of the group, however, is to be found in H. multiflorus maximus, which attains such proportions as to have been compared to the annual species as regards its height and immense flowers. In favourable seasons it will grow fully 6 ft. or 7 ft. high, and when properly placed forms a conspicuous plant in the border. For elegance and graceful appearance generally, H. orgyalis is the best, and is well suited for isolated positions on the lawn or similar places. It grows from 6 ft. to 8 ft. high, and is thickly set with linear recurved leaves, which have a very pleasing effect. In flower, however, it is one of the least showy, but on account of its extreme gracefulness it is a very desirable plant. From the perennial sunflowers we must pass to the

Hellebores, or Christmas Roses, one at least of which is an indispensable plant, in that it produces quantities of white flowers in the open ground at a time when flowers are greatly in request, and when the demand greatly exceeds the supply; thus it is that a plant once so common in large clumps in country cottage gardens has become comparatively rare. It may frequently have been seen as much as 3 ft. across, and I have seen even larger clumps than these, from which it has been possible to take bushels of flowers in a season. I remember, too, some giants of which Latimer Clark, Esq., of Sydenham, was possessed a few years ago, and proud he was of them, for he had not one such specimen, but many, and annually in flower they were in themselves a feature; the same gentleman had also a very fine specimen of the giant Hellebore, H. altifolius, syn. H. maximus.

At this season of the year there is little to be done with these plants, but during the hot summer months they should be heavily mulched, and a sharp look out for seeds be kept. These, it may be well to remark, are a considerable time in arriving at maturity, and when sown they are a long time in vegetating; they may be sown as soon as ripe, either in pots or pans of sandy loam, or on a shady border in the open ground, according to the quantity at disposal. Being, as I have said, a considerable time in germinating, I have found it expedient to cover the soil in which they are sown, provided they are in the open, with slates or similar things, thus keeping the soil uniformly moist; it also acts as a preventive against the interference of birds, and prevents heavy rains washing the soil from the seeds; the plants, however, are now annually imported in such quantities and at so cheap a rate as to make seed of the ordinary kinds of little value. On a more seasonable day, I will, with your permission, say a few words on Hellebores generally.—*J.*

Fence Posts.—A writer in *The Maine Farmer* thus expresses himself in regard to setting fence posts:—It has commonly been stated that posts set top end in the ground would last longer than when set with the butt end down. We recently had occasion to remove a fence which had been set eighteen years, and to our surprise the posts set top down were still sound and strong, while many of those set the reverse were rotted entirely off. We have before found evidences of the greater durability of posts set in this way. If general experience corroborates our own, it is a matter well worthy of wide attention.

A KENTISH FRUIT FARM.

Mr. Walter Kruse, Yew Tree Farm, Leeds, near Maidstone, is of opinion (says a writer in *The Field*) that it is injurious to soft as well as hard fruit to dig in any shape or form—in other words, that root growth should not be interfered with, but, on the other hand, should be encouraged as far as possible. The nearer the roots are to the surface, the better can they take advantage of the upper and more nutritive soil; and by refraining from anything but the most superficial culture the feeders of the tree are left to multiply, to interlace, and extend as far as the capabilities of the plant will admit; while, by the undisturbed formation of fine fibrous growths, innumerable feeders to the sustenance and health of the tree are produced. Practically, the only implements used on the farm are the common garden hoe and the pruning knife. The former is used unsparingly when required, the latter with moderation, as Mr. Kruse believes that to get a large crop of fruit there must be plenty of wood for it to hang upon. It is evident, if the roots are not to be broken and torn by digging, that manure must either be applied in a liquid form or in the shape of top-dressing. The latter course is adopted, and on this important head of fertilizers we may briefly recapitulate what Mr. Kruse's method is in this respect. Mr. Kruse's opinion is that fruit-growers are inclined to overlook the pressing necessity of keeping up a good and sufficient amount of phosphates in the soil. The necessity of an abundant supply of nitrogen is fully recognized on all hands; but phosphates are more particularly taken up in the formation of the fruit itself, and hence the importance of their presence in force. As everybody knews, good farmyard manure supplies nearly every constituent necessary for repairing the exhaustion consequent on cropping; but the supply of this valuable agent is necessarily limited in extent. Mr. Kruse, therefore, relies very largely on bones, crushed to quarter-inch size, for giving the necessary phosphates to the soil; while nitrogen is supplied by flock dust, skin waste, soot, or Peruvian guano. The yearly expenditure for manure comes to from £10 to £13 an acre. The manure is simply placed upon the surface, and is readily absorbed.

Visiting Mr. Kruse lately we found him with a corps of women and girls among the Strawberries, and picking was proceeding at the rate of half a ton a day. The Strawberries are planted between young standard Apples, Pears, Gooseberries, &c. Last year, had they been put in continuous rows, occupying the whole of the ground, from 2 acres to 2½ acres would have been covered. In the winter, however, a large number of the plants were grubbed up from the shorter intervals between the young trees, so that the present growth of Strawberries only represents, as nearly as possible, 2 acres.

In the season of 1884, a favourable one for this luscious berry, Mr. Kruse raised five tons; on a less area, and with a less favourable season, the yield will be over this quantity. The grower claims that this result must be owing to the mode of cultivation, and especially in view of the fact that this is the third year of the plants, Strawberries bearing best in their second year. It may be argued from this that under the system adopted the fertility of the land improves. It may be stated that these Strawberries are grown on what was formerly Hop land; it is exposed, and has beneath it a porous hassock; yet, although rain has been much needed at a critical time in the development of the fruit, this seems to point to the conclusion that, the surface only being scratched as it were, and the soil not broken up for more than an inch or so, evaporation is comparatively slight, with the result that in dry seasons the reserve of moisture in the soil does not easily become exhausted, and there is a practical immunity from anything like a serious drought. Of the twenty-four varieties of Strawberries on the place, this year's growth confirms the view that for market purposes the Sir Joseph Paxton is the most profitable. An examination of the fruit showed that it was of large size and brilliant colour, while the gastronomic test revealed that the flavour was quite equal to the appearance. The Strawberries were treated this year as last, chiefly with nitrate of soda and bone dust, which is found to give results far superior to the best Peruvian guano.

Leaving the Strawberry patch, and passing in among the standard trees, with the luxuriant undercrop of bush fruit, we meet at every step favourable results. Take the Black Currants, for instance. This fruit is, generally speaking, a light and patchy crop this year; but Mr. Kruse's trees are well loaded (although not so heavily as last year), and are bearing better than any others on this favoured slope. The figures for the three previous years with regard to this crop will bear repeating. Under the old system, in the first year of Mr. Kruse's purchase, the crop was 150 half-sieves; in the second year (under the new system), after removing a number of trees to make room for standard Apples and Pears, the crop reached 200 half-sieves; in the third year (1884), after thinning out the bushes one-half, the yield was 203 half-sieves; this year, when the general average yield is taken into consideration, what may be really regarded as a further advance has taken place, although there will not be any increase in the yield, but rather a decrease.

We found the Gooseberries, too, a very fine crop, some of the bushes being quite a spectacle, and this notwithstanding the late frost, which caused such havoc in the district. Red Currants, again, were abundant, hanging in thick clusters. The young standards, too, which comprise many varieties of Apples, and particularly Pears, which are not generally cultivated, and which are on their trial, were well loaded with fruit, the remarkable prolificness in such young trees noted last year being repeated in many instances in the present season. Damsons, again, were a good show, although there is a general complaint that Damson trees, which suffered badly from the green-fly last year, are bearing very shyly.

Altogether, results seem to completely sustain Mr. Kruse's contention and belief, that surface culture—at any rate, under certain conditions—is true economy. It should be added, lest anyone should be misled, that the results named have been obtained only in connection with constant and intelligent supervision. It may be that the system, perfunctorily carried out, would result in measurable failure, if not in a complete *fiasco*.

PROPAGATING SUCCULENTS.

Many of the fine succulent plants which are used for carpet-bedding may be raised from seed, others are easily increased by offsets, and some may be propagated from leaves. Those that are to be propagated from seed or leaves should now have immediate attention. The seed may be sown in shallow pans, which should be well drained, and then filled up to the rims with light sandy soil, using a little that has been sifted through a fine sieve for the surface; the seed may also have a slight covering of fine soil. After the seed has been sown the pans may be placed on a shelf in the propagating house, and should only be kept just moist enough for the seeds to germinate. As soon as the plants are large enough to handle they should be pricked off, and may be kept on a shelf in an intermediate house through the winter.

Propagating from Leaves.—The leaves must be taken off close to the stem of the plants, and this must be done carefully so as to secure the bud, which will be in the base of the leaf-stalk. After the leaves are taken off they should be exposed to the sun until they are dried up at the base; they may then be laid on pans or boxes of sand and placed on a shelf in a close propagating house. If the house is kept close, and there is a little atmospheric moisture, they will not require any water until after they begin to root, and then it should only be given very sparingly. Some kinds may also be propagated from cuttings, and these should be dried at the base before being put in, and will require but very little water during the winter.

Trimming his Neighbour's Nut-tree.—At Epsom recently, William Miles was summoned before the magistrates for doing wilful damage by cutting a Nut-tree at Heathcote, Epsom, the property of a man named Spencer. The defendant said the tree overhung a path at the back of his house to such an extent that people, especially females, could not get to the back door without getting wet in rainy weather. As the prosecutor would not cut the branches back he took the matter in his own hands. The magistrates considered that the defendant had a right to keep his path clear, and dismissed the case.

The Amateurs' Garden.

THE GREENHOUSE.

Pelargoniums.—Plants of these that have been cut back ought now to be ready for shaking out and repotting, in doing which the long roots should be shortened, and the plants then potted in pots about half the size they were in before, and as soon as this is done it will be necessary to stand them in a frame, where they can be syringed and kept close for a time to give them a start. The soil best suited for growing Pelargoniums in is fibry loam, which should be pressed firm, as the shoots the plants then make are short-jointed and strong. Zonal kinds for late autumn and winter blooming are best kept out-of-doors as yet, where, if exposed to the full sun, the growth will become hard and well set with bloom.

Cinerarias.—To have these good, every attention must now be paid them, in order that they receive no check, which they will if not shifted on as they require more room. The best soil to grow them in is loam and leaf-mould in the proportion of two-thirds of the first-named to one of the latter. As Cinerarias are shade-loving plants, they should be stood in a frame facing north, or so placed that the sun does not get at them, and be kept moist, which may be done by sprinkling them overhead during the evening, as then the atmosphere will remain damp and genial till the plants are wetted again.

Primulas.—The treatment requisite for Cinerarias just suits these, and therefore the two may be grown together, but to have both sturdy in leaf and strong, plenty of air must be given.

Chrysanthemums.—These, with their wealth of flowers and variety of shape and colour, come in at a time of year when they are especially valuable. If not wanted in quantity for cutting, a few large-sized flowers to each plant are far more effective than a number of small ones. In this case no time should now be lost in thinning out all but four or five of the leading branches, and directly the buds show themselves they should be carefully taken out with a pair of scissors, so as to leave only the centre or crown bud.

Liquid Manure.—This may be made by putting horse, cow, or sheep droppings, the latter being best for Chrysanthemums, into an old tub or other receptacle, and filling up with water. Where these cannot be obtained, sulphate of ammonia, guano, or Clay's Fertilizer may be substituted. The manure-watering should be proceeded with until the buds appear, when clear water should be given them, and on no account must they be allowed to get dry.

Staking.—If not already done, staking and training should not be any longer delayed. In town gardens those that are planted out in the ground have a very pretty effect if tied or nailed to a wall or fence, and trained in this way they do not require much additional protection from frost and wet to enable them to last as long as if they were under glass.

THE FLOWER GARDEN.

Propagating.—It is time now to be thinking of propagating, a work that cannot be taken in hand too soon, as cuttings struck early stand a much better chance of getting safely through the winter, and making fine plants.

Pelargoniums.—The first things that should be started on are the Pelargoniums, all of which root readily out-of-doors, the best way of striking them being to put them in full sun on some open border or other sheltered spot, where few, if any, will damp off unless we get a great deal of wet. Variegated kinds, being more delicate, are best put in in boxes or pots, the soil most suitable for them being a sharp sandy loam, in which they should be placed firm, and then watered, when all the after attention they will require is a sprinkling of the leaves to keep them fresh till they root.

Verbenas, Ageratums, Heliotropes, and all such quick-growing subjects, strike best in a frame, where they can be kept close and shaded, and a moist atmosphere maintained by gentle syringing, but as these plants may be worked up in the spring, it is useless having more than a few store pots of each, which, if taken care of, will supply a great number of cuttings.

Dahlias.—The dry season and arid atmosphere that has prevailed for so long is telling severely against Dahlias, as indicated by the smallness of the flowers and the short time they last.

Mulching.—Much may be done to counteract this by mulching the surface round the roots with half-rotten dung, and then watering, or the use simply of weak liquid manure will soon cause an improved state of things, and picking off the seed-pods is a great help to the plant.

Staking and Tying.—This operation must not be neglected from time to time, or the plants will not be able to withstand the equinoctial gales that invariably visit us next month, but if properly supported they will stand and flower on till late in the autumn.

Evergreens.—The proper time for transplanting these is still a vexed question, some contending that spring is the best season, while others aver that it should be done in the autumn, bnt if so there can be no doubt that the work ought to be carried out early, as then the plants have a good chance of making fresh root and getting re-established before winter sets in. This being so, the sooner the operation is set about the better, but the lifting must be carried out with care, the chief things to be particular about being to secure good balls, and not to cut or mutilate the roots any more than can be helped, or to keep the plants long out of the ground or they suffer considerably, and if they do not die outright it will take a long time for them to recover.

The plants that may be moved with the greatest safety now are Laurels, Aucubas, Rhododendrons, Hollies, Laurustinus, and Bays, and these should be dug round so as to open a trench at some distance from the stems, when the soil may be worked away till the ball is reduced sufficiently for it to be moved with ease, but before disturbing it further, the hole to receive it should be prepared, that the shrub may be popped into it without any delay. As soon as this is done, the way to proceed is to throw a little soil round and then well wash it in among the roots and under the ball with water, applied with force, and when that has had a little time to settle, the final filling in may begin, and when this is done, all that remains is to mulch.

THE FRUIT GARDEN.

Strawberries.—The usual practice with amateurs in making fresh Strawberry-beds is to get their runners from the open ground, which, though it may answer in favourable seasons when there is frequent rain to cause them to root, does not succeed in a season like the present, when the earth is continuously dry, as plants fit to plant cannot be obtained till late in the autumn, and then growth has ceased, whereas if layered in pots they may be had quite strong early, and planted out soon after this time, and got well established before winter sets in.

Preparing the Land.—On some some soils Strawberries do remarkably well with little or no trouble, while on others there is much difficulty in getting them to bear at all, or to last longer than a year or two, as where the ground is light and dry they suffer considerably, and soon die away, but these evils may, to a great extent, be prevented by trenching. This should be done by digging out a wide opening and wheeling the earth back to the place where the work will finish, but in doing this the soil should be kept separate, as to mix it up, or bring the bottom to the top, would spoil the whole job.

Manures.—The best manure for light hungry land is that from the cow or pig, liberal quantities of either of which should be used while the trenching is going on, and worked in deep, where the roots of the plants will find it when most needed, which is at the time they are growing freely and carrying fruit.

Making the Ground Firm.—Although it is necessary to dig or trench deep, Strawberries require a firm bed, as when planted in loose land they run too much to leaf, and fail to flower and bear in the free manner they ought. This being so, the thiug is to well tread the soil, and when this is done the next proceeding is, level the surface and rake it to take off stones and make it smooth, when all will be ready for planting.

The Proper Distance Apart.—Why so many fail in producing good Strawberries is in growing them too near, when the plants not only draw each other np weakly, but the foliage overshadows the fruit, and spoils its colour and flavour. Some sorts may, of conrse, be planted nearer than others, but for the majority of kinds the rows should be a yard apart, and the plants in them about 18 ins. or 20 ins., which affords ample room to get between, and lets in plenty of sunlight and air on the fruit.

Planting Low.—As Strawberries have a tendency to grow themselves out of the ground by the continual pushing up or lengthening of the crown stems, the plants should be planted low, which not only favonrs them in the respect referred to, by enabling the cultivator to draw earth to the collars without having it at a higher level, but the depressions ronnd the plants afford a chance of giving them plenty of water till they get hold of the soil and are able to take care of themselves.

THE KITCHEN GARDEN.

Peas.—This has been one of the worst seasons for Peas for many years past, and fortunate are they who have any to gather, as in most places they are mildewed beyond recovery, or crippled by thrips, which have got into the points of the shoots and spoiled the growth and the blossoms. If not too far gone, the best remedy against these pests is to syringe with water in which quassia chips and soft soap have been boiled, in the proportion of 1 lb. of the first-named and 4 ozs. of the latter to 4 gallons of water, at which strength it is one of the best and most efficacious insecticides anyone can use.

Watering.—What causes the mildew on Peas, and makes them a ready prey to the thrip, is the dry weather, and those who would keep them on in bearing, or get any to gather later, must water, but it is useless doing this stintingly, as it is only by giviug good soakings that the roots feel any benefit, as they are now deep down in the ground.

Scarlet Runners.—The same remarks apply to these, which must have plenty of water or the flowers will fall; but, in addition to being attended to in the way mentioned, they should also have a thick mulching along the sides of the rows, and liquid manure supplied, if it can be had, as that will act as a stimulant and keep the plants strong.

Tomatos.—With plenty of moisture at the roots the weather cannot be too hot for these, but they must be kept thin, the way to manage them being to let the main stems run and to cut away all side shoots or laterals, so as to expose the fruit and force all the strength of the plants into it, when it will swell rapidly and ripen properly, and be of fine flavour.

Cabbages.—It is time to be getting a first planting of these out, but before it is done it is necessary to have the ground heavily manured and deeply dug, as Cabbages, like all the Brassica tribe, are very gross feeders. One of the best, if not the very best, is Ellam's Early, which is a small sort that turns in quickly and is of superior flavour.

Cauliflower.—The weather has been very trying for these, and the only way to keep the plants growing on is to water freely and apply liquid manure, of which they cannot well have too much after the plants get a start and are active at the root, when it may be given daily till rain comes and well moistens the ground.

Celery.—This, like Cauliflowers, will demand frequent attention in the way of watering, and it is a good plan with the advanced rows to tie the plants round with a piece of matting so as to keep the leaf stalks close up together, which is far better than earthing up, as the soil is sure to get washed into the hearts during watering, and the blanching can easily be done later on, when the Celery has finished its growth.

THE FLORENCE CHERRY.

A few weeks ago we received from Mr. Frost, The Bower Nursery, Maidstone, a very fine sample of this old but little known variety, which, owing to its fine appearance, good flavour, and remarkably free and certain bearing habit, we think worthy of illustrating in our pages. It appears to be little known beyond the county of Kent, and about Maidstone is locally called the Florence Heart. Andre Leroy, in his comprehensive *Dictionnaire de Pomologie*, calls it

Bigarreau de Florence, while Dr. Hogg, in *The Fruit Manual*, recognizes the name of Florence only, and gives as a synonym Knevett's Late Bigarreau, under which name it was grown at Chiswick in 1842, when Robert Thompson compiled *The Catalogue of Fruits Cultivated in the Garden of the Horticultural Society of London.* The fruit is large and heart-shaped, the skin smooth, pale yellow, and very bright red on the sunny side; the flesh white and firm, and of sweet, delicious flavour. The tree is distinct in its habit of growth, being what is termed a strong, loose grower, producing a few spreading shoots, which, when established, become studded with fruit spurs. It has the merit of being a great and certain bearer, and as such deserves more extended recognition.

THE FLORENCE CHERRY.

LETTUCES AND ENDIVE.

It is only those who have had to provide a continuous supply of Lettuce during the winter months that have any appreciable idea of the difficulties that beset the grower. In most establishments they are more or less in demand, but it is not always that they are forthcoming. It was once my lot to have to provide Lettuces daily, and the family arrangements were such that scarcely a day passed from October to April that a salad was not required, either for luncheon or dinner, and as neither Endive, Cabbage Lettuce, nor Chicory were admitted as component parts of the salad, the task was rendered still more difficult. Cooks, as a rule, are partial to Endive for this purpose, but in this exceptional instance, it was the taste of the employer that had to be considered and not the fancy of the *chef*, the salad being made to eat and not so much for ornamentation.

The usual practice is to lift the Lettuce plants from the open ground and plant them in frames, and I have assisted to move some hundreds of them year after year during October and November. Yet again and again, by February or March scarcely a few leaves could be got together for a salad. From the time the Lettuces were moved, they invariably grew less instead of bigger, and more than one-half would succumb to damp. Others may have been more fortunate in their experience of this system, indeed we may fairly assume that they must have been, or they would ere now have directed their attention to a less laborious and more certain plan. When the duty of supplying Lettuce during winter was forced upon me, I procured a number of shallow two-light frames, and all the Lettuces planted during September were so arranged on the ground that the frames could be placed over them. At first they were placed on four bricks, with the view of admitting a continuous supply of air at a time when the lights might be on to carry off heavy rains, as I concluded that I should be able to preserve them in frosty weather better than if they happened to be in a soddened condition. During sharp frosts the frames were let down and some protecting material placed round them as well as on the glass Something like 700 or 800 plants were treated in this manner, and scarcely one was lost.

Our present arrangement is to plant both Lettuces and Endive in such a manner that we can protect a sufficient number of the former to last well into January, by placing lights over them without frames. In frosty weather a slight covering of litter is thrown over the glass, as well as some placed to hang over the sides, and by increasing the covering, Endive has stood 20 degs. of frost without sustaining any injury.

To provide a supply of Lettuce from January onwards, they are planted in frames close to the glass, during the month of September and part of October, from successional sowings. Frames that have been used for Melons or Cucumbers are seldom to our liking, as they are in the first place too flat; so we throw the soil out, raise the frame at the back on three or four bricks, and pack some litter under it, as well as filling the frame with any half-decayed material to within 8 ins. of the top, which should be filled with some of the soil which has been thrown out. If left for a few days it will sink sufficiently to allow space for the plants. The lights are not put on except in frosty weather, or to protect them from heavy rains. The latest have been before now hastened along by placing a lining round the frames, and keeping the lights close unless an excess of moisture accumulated in the interior. With the increase of light and sun-heat during March and April, as well as the stimulating influence of the heat from the linings, the plants will bear this partial confinement with immunity, and it is surprising the rapidity with which they form leaves, which if loosely tied will become blanched in the centre. If, in passing through this semi-forcing process, there are indications of them becoming unduly distended at the collar, more air must be given.

Lettuces are indispensable to the salad-bowl and are in request long before they are ready outside, and in some seasons in many localities they are destroyed by frost, so that the cultivator will be

entirely dependent on the spring-sown plants, whereas by this arrangement he may have them ready for use before he can plant the others or yet sow them in the open ground in generally cold districts.

Once or twice I lifted some out of the open ground and planted them in frames in the end of January, but from some cause or other, which I could not determine, they decayed just above the soil to such an extent that I have not tried it since, and I feel sure that the method I have detailed above will supersede the antiquated practice of lifting the plants in spring as well as autumn. I am still restricted to growing nothing but the Cos Lettuce, and the only sorts I grow are the Alexandra White Cos and the brown-seeded Bath Cos; of the latter, only one sowing is made, and that the last. We grow only the Curled Endive, which is appreciated by the cook for garnishing purposes. When the centre leaves begin to blanch, to perfect them we take a box or boxes to the beds, and lift the plants with a portion of soil and drop them into the boxes without packing anything round them.

We then convey the plants into the Mushroom-house, and in a week they are quite ready. The boxes are only such as we use for bedding plants, and the object of employing them for this purpose is to avoid damaging the plants by frequent handling, as well as to economize labour, for it will be seen that by this system they are handled only once from the taking up till the roots are thrown on the rubbish-heap.—*North.*

FRUITS.

Fruit Culture under Glass.—Vines: Young Vines which were planted and subsequently attended to as recommended at p. 730, will now be making rapid growth, and in order to maintain this to the end of the season a genial atmospheric temperature of from 65 degs. to 60 degs. at night, and 5 degs. higher by day with fire-heat, should be aimed at, and from 85 degs. to 80 degs. with sunheat and a free circulation of fresh air, running the temperature up to 90 degs. at closing time (about three o'clock), with a liberal distribution of atmospheric moisture at the same time.

The Vines and the house generally should also be syringed in the morning, and the pathways and staging be damped over twice—say, at eleven and one o'clock—between then and closing time in the afternoon during bright sunshiny days. And with the same object in view, the promoting of a free and healthy growth in both root and branch, the Vines should be kept sufficiently moist at the roots by frequent applications of clear water, and weak liquid manure occasionally. The latter should always be given after the former, when necessary. These remarks, as regards the giving of liberal supplies of water at the roots, are also applicable to Vines, Peaches, Figs, &c., in every stage of growth; and Vines from which the crops have been taken should have the foliage thoroughly syringed morning and afternoon, and have an abundance of air day and night.—*H. W. Ward, Longford Castle.*

Proposed Exhibition of Plums.—It has been suggested that, as a great variety of Plums are fruiting this season, it would prove extremely interesting as well as instructive if examples of as many sorts as possible could be sent to the meetings of the Fruit Committee on Tuesday next, and on the 8th of September. An excellent opportunity would thus be afforded of comparing the merits of the varieties of Plums in cultivation, and also in the correction of their nomenclature.

It is felt by pomologists generally that many inferior varieties of Plums are grown throughout the country, whilst many new and greatly improved sorts are comparatively unknown. Intending exhibitors who cannot be present should address their packages to the Secretary of the Fruit Committee, Royal Horticultural Society, South Kensington. The carriage of the same will be paid by the Society. It is very desirable that young shoots with foliage should accompany the fruit, so as to facilitate identification.

FLOWERS.

Seasonable Work in the Plant-houses.—Many of the plants that have been grown on during the summer in pits may now be removed to the houses at any time, and the pits will come in useful for the Cinerarias, single Primulas, &c., which should now be ready for potting on. Double Primulas should be in a position where they can have a little artificial heat in case we get dull, damp weather, but while the weather keeps bright they will be better without artificial heat. Cyclamens should be gone through occasionally and any bad leaves taken off, or they are very liable to damp if not attended to. Tuberous Begonias that have done flowering should be stood out-of-doors and kept dry, so as to ripen the tops off before cutting them back; at the same time any that require it should be re-labelled, and any of the inferior seedlings discarded.

Francoa ramosa.—Few hardy plants are more deserving of pot-culture than is this pretty herbaceous plant, its long racemes of pure white flowers being very effective, especially for conservatory decoration, and we have seen it used in exhibition groups, where it has shown to great advantage. It is also very useful for cut-flowers when grown under glass, but the flowers do not come so pure when grown out-of-doors. It is a plant of easy culture and should be found in every establishment where flowering plants are grown for decoration. It may be raised from seed, which if sown at once and the plants are kept growing on through the winter will make nice plants for next season's flowering. The best position to grow them in will be a pit where they can be protected from frost, but they should be well exposed during mild weather. Although hardy, yet when plants have been kept in a growing state they are easily damaged by frost.

Catalpa syringiæfolia.—There is now a very fine specimen of this North American tree in flower in the pleasure grounds at Canford Manor, and has it happens to be one of those good things more often read of than met with, I have thought fit to bring it before the notice of your readers. The tree in question is from 20 ft. to 30 ft. high, and with its gorgeous white flowers, which at a short distance resembles our common Horse Chestnut, forms an attractive object when seen, as it is here, surrounded by various other trees and shrubs. It certainly deserves to be more largely planted than it is, especially in our southern counties. —*J. H.*

Bignonia purpurea.—This elegant South American climber is just now a beautiful object in the stove. The climbing stems are very slender, and from them hang numerous graceful branches, clothed with bright purple flowers, and leaves with three small leaflets. A light rich loam is a good soil in which to plant it, and when well grown it attains a considerable height and is very effective.

How to Grow the Lilac.—Everybody knows the Lilac; and thanks to its easiness of propagation, one meets with it oftener than any other shrub. Common as it is, who does not love the shrub at Lilac-tide? As commonly seen, there are a few branches of an older growth, with here and there a flower scattered over them, with a wilderness of undergrowth of all ages, from the sprouts of a year's growth to that of the age of the bush in its present position. To be seen in perfection, they should have clean stems, either as a single plant, or, if a bush, three, or any number desired. Every sign of a sucker is to be kept away. The result is, that the bush or tree exerts its strength in forming a head to the stems left to grow, instead of exhausting itself in a mass of sprouts of all ages, with nine out of ten too weak to furnish a flower-bud. Trained to single stems, the whole head should be a mass of flowers every year. To attain this, it is necessary, as soon as the flowers have dropped, to go over them and cut out all the old flower stems; otherwise seed-pods will form and the bush exhaust itself forming seeds, instead of preparing flower-buds for the coming spring. This is the reason that, as mostly seen, the great mass of flowers come every other year, instead of every year, as they will do if given a chance.—*Prairie Farmer.*

Salvia Blue Beard.—This is a very handsome hardy annual, growing about 18 ins. in height, of free branching habit and Sage-like foliage. The flowers are produced in a series of whorls of a bright purplish colour, with white lower lip. It makes a very effective and free-blooming border plant, and it is quite distinct for its peculiar hue of colour. Sown in light soil in the open ground, the seeds germinate freely, and the plants grow strongly. It is now very pretty in Messrs. Sutton & Sons' nursery at Reading, and it merits the attention of the readers of The Gardening World.—*R. D.*

Clethra arborea.—This handsome member of the Heath family attains the size of a large bush, but is very effective for the greenhouse when grown in medium-sized pots. The leaves are shining green, and the flowers are bell-shaped, and borne in branching panicles. The corollas are pure white and the sepals pale pink.

Ceanothus Veitchii.—As an out-door plant suitable for covering a west or south wall, the above can be highly commended. Its beautiful bright azure-blue flowers, which commence to open about the middle of August and last far into or beyond September, are extremely useful for cutting for decorative purposes; and, being quite distinct from anything else, it is greatly admired by most lovers of flowers who see it for the first time. It does not appear to be at all fastidious, but I would not recommend its being planted outside except on a west or south aspect, and in northern counties it should receive greenhouse treatment.—*J. H.*

Gentiana asclepiadea.—This handsome species is now in flower on the rock-work, and very effective it is when seen in a large clump. It grows to 2 ft. 6 ins. high; the leaves are sessile, and narrowing upwards from a broad base. The flowers are of a most intense blue, and are borne in long, leafy spikes. There is a white variety also in flower, which forms a good companion plant, though perhaps hardly as showy. They should be planted in a good loamy soil, and not be much disturbed, as many of the Gentians are rather impatient of removal.

Crocus Scharojani.—This handsome Crocus seems fully entitled to be considered as the earliest of autumn-flowering species. Looking round the grounds at Kew on the 16th inst. we came across a clump in the Crocus collection bearing over a dozen of its handsome deep yellow flowers. It is a native of Armenia and the Caucasus, and is of comparatively recent introduction. When it becomes better known it will doubtless be in request for the herbaceous border or rock garden, the more so as it is the only autumnal species with yellow flowers.

Vaccinium rugosum.—This is a neat little bush, and very suitable for greenhouse cultivation. The leaves are small, and narrowly lanceolate with small serrations. The flowers are borne in drooping umbels from the leaf-axils; they are an inch long, somewhat inflated in the middle; and bearing five very strong longitudinal angles. The colour of the corolla is dull brownish-white, with irregular transverse pencillings of a dark brown tint, and the sepals are dull crimson, giving quite a peculiar aspect to the flowers. It requires a peat soil.

Slugs, and How to Trap them.—Seeing in your last issue some remarks on "Slugs, and How to Trap them" with beer or grains, I am induced to relate my plan, which has answered well in keeping clear of these pests a small rock garden in a damp corner. If saucers of milk are placed at intervals and examined occasionally, they will be found covered with slugs, if there are any about, and which may then be easily killed by putting them in a bowl of hot water.—*E. M.*

VEGETABLES.

The Kitchen Gardener's Calendar.—Onions: The Onion crop is a beautiful one this season; the bulbs, owing to the long spell of bright sunshine, are somewhat small, firm, and well ripened, and therefore, if taken up at once and exposed to the sun for a few days by spreading them out in widths of about 4 ft. with their roots facing southward, and afterwards be stored away while dry in a loft from which frost and damp can be excluded, they will keep well. They should be spread out thinly on the floor of the loft, or strung together by the withered tops, and be suspended from the roof. When storing the bulbs put all the small ones by themselves for pickling or culinary purposes, for which they are frequently asked in preference to larger ones. The ground cleared of the Onion crop should be got ready for the reception of Cabbages next month. For this crop we generally manure liberally, and trench deeply.

Cucumbers.—This is a good time to make a sowing of Rollisson's Telegraph Cucumber, which, in my opinion, is one of the best varieties for winter work, producing as it does handsomely-shaped and moderately sized fruits. The plant is also constitutionally good and prolific. Sow the seeds singly in 3-in. pots three parts filled with light mould, covering them lightly with the same, and either plunge in a frame in which there is a little bottom-heat, or place or stand the pots on a shelf under a square or two of glass in a stove. After the lapse of five or six days if the seed be good the young plants will appear, and these, when they have attained to a height of a couple of inches, should be top-dressed, and afterwards be shifted into larger pots as they require more room at the roots, until they are planted out or finally shifted into their fruiting pots or boxes, as the case may be, for which use an admixture of three parts of light loam and one part of peat. In a mixture of this description I have always found winter Cucumbers grow satisfactorily, more so, in my opinion, than when animal or other manure has been incorporated with the above ingredients. Moreover, stimulants can always be applied to the roots in a liquid state as the plants require it. Put small sticks to the plants (one to each) when sufficiently grown to require supports to prevent their being broken through vibration or other causes.

Syringe the plants twice a day where hot-water pipes are at command, and shut up early in the afternoon, say at three o'clock. The time, however, of putting on and taking off air must be regulated in accordance with circumstances existing in each particular garden and house, such as the aspect and construction of the individual house, inasmuch as one house may consist of a minimum of glass and a maximum of wood, and *vice versâ*. These, however, are circumstances with which all regularly trained gardeners are fully acquainted, and hence, as I have already hinted, there should be no hard-and-fast line drawn for the giving and taking off of air, but the operator should be guided solely by the weather and other conditions existing at the time.

In tying the shoots up to the trellis leave sufficient space between the ligature and the shoots for the due development of the latter. These should be trained regularly, but not too closely over the trellis, so that individually they may be exposed to the influence of light and air, which will cause a consolidated growth. Aim at a night temperature of from 65 degs. to 70 degs., 5 degs. higher by day with fire, runnning it up to 85 degs. with sun heat, and a free circulation of fresh air. Crop light rather than otherwise.—*H. W. Ward, Longford Castle.*

Tomatos in Early Spring.—Will you allow me a little space in which to say a few words respecting a method of obtaining a good crop of Tomatos early in spring? I have a greenhouse, 22 ft. long and 14 ft. wide, and economizing space is a *sine qua non*. I have therefore had wires stretched from end to end of the roof, and within 10 ins. of the glass. I make it a rule to sow my Tomato seeds about the 18th or 19th of August, so that there is ample time for the plants to become strong before the cold weather sets in. During the dull days of early spring the plants have copious supplies of water, and I cut some small tufts of turf and stand the pots on them, the grass side downwards. The plants have three shifts, first into sixties, then into forty-eights, and finally into sixteen-sized pots. The compost I give them consists of three parts of good loam to one of decayed cow-manure. In the month of March the plants will be coming into flower, and as fast as the flowers appear, and they are of good form, the camel hair brush is used to make sure of them setting. I commenced cutting on the second of April last, and had a grand crop, which was admired by all who saw them. I sowed seeds again on the 3rd of February, and raised six dozen plants, which followed on in succession, but of course before I planted them out they were far advanced in fruit and flower. I have a good south wall that suits them admirably, and the sorts grown are the Conqueror and Chiswick Red.—*A Subscriber.*

Onions for Autumn Sowing.—I should be greatly obliged if some of your practical readers would assist me with a little advice as to the best Onion for sowing now. The space I have available is limited in extent, so that it is the more important that the sort should be thoroughly hardy, the situation being a cold one. The Giant Rocca, the Giant Zittau, Tripoli, Lisbon White, Trebons, The Queen, Early White Naples, and Red Globe, are all recommended, but I want to know which is the best. Last season I sowed the Queen, but the bulbs are too small. —*J. C., Rochdale.*

SOWING AURICULA SEED.

A friend of mine who is a cultivator of Auriculas, writing to me a day or two ago, states: "I have just sown some seed of choice Auricula, and it came up in nine days." He adopts a somewhat novel method of raising seed. He takes good-sized flower pots and fills them half full of drainage; over this he places some rough soil, then a layer of finer soil, and over this the very finest ashes he can procure from a blacksmith's forge, and on these he sows his seeds very thinly, without covering them, and then stands the pots in pans of water. The seeds germinate quickly, but as soon as they are large enough to do so it is necessary to prick off the plants into fine soil, or they would soon decay if left too long among the ashes. The risk attending this method is, in my opinion, not counter-balanced by the rapidity with which the seeds grow.

I adopt a different practice, though much along the same lines, and which, I think, is quite as successful in its results, if a little less rapid in action. I do not use the ashes, but a fine light sandy soil instead. The pots have a good depth of drainage placed in them, then some rough soil, then 2 ins. of light sandy soil; on this the seeds are sown very thinly, a little white sand is scattered over them, and the pots are placed in a cold frame with a piece of glass over each; they are carefully shaded from the sun, and as soon as the seeds commence to germinate the pots are removed to a greenhouse, placed in pans of water, and no longer shaded. It is surprising with what rapidity the plants grow, and how quickly they increase in size When they are three-quarters of an inch or so across, they are pricked off into 4-in. pots of light soil, with plenty of sand and leaf-mould in it, about six plants in a pot, again placed in a cold frame and shaded until established, and here they remain until they flower.

There are differences of opinion as to whether it is best to sow Auricula seed as soon as ripe or in the following spring, so much depends upon the attention given to the seedlings. It may not unreasonably be supposed that amateurs do not, as a general rule, give that attention to seedlings that a specialist would, and thus it is that if the seed be sown in August, there is danger of the tiny plants receiving but scant attention, and many of them decay during autumn and winter. But if proper attention be given them, a good start is gained, as by March, when Auricula seed is generally sown, the plants will be of good size, ready for pricking off, if it was not done in the autumn, and this start is a decided benefit.

I find it of advantage, when seeds are sown at this season of the year, to top dress the young seedlings in late autumn and again in early spring by sprinkling a little light soil among them. Even by means of the most careful watering the soil is apt to be washed away from the roots, and a little added—it should be very fine and light—is of substantial benefit.

If the disappointment with the progeny be keen, every grower of Auriculas should raise a few seedlings. It appears a very poor and hackneyed remark to dilate on the pleasure which always attends on the raising of seedlings, but it is a great and interesting delight. To watch the plants peeping through the soil, to push them on into size with due care and attention, to carry them safely through the winter, and then to watch the throwing up of the flower trusses, and eventually see them crowned with an inflorescence either valuable or commonplace, is something calculated to awaken gratification, and does do this in the case of many seedling raisers.—*R. D.*

FLORAL DECORATIONS.

At the Mayor's dinner at Kingston-on-Thames last week, the decorations were entrusted to Messrs. T. Jackson & Son, whose work is thus described by *The Kingston and Surbiton News*:—

"The entrance hall was grouped on each side with growing shrubs, while inside the lobby were several small collections, befittingly filling the several corners without causing obstruction or inconvenience, and at the same time contrasting most favourably with the surroundings, and adding brilliancy to the whole. Passing along by the staircase and passage, also highly decorated, into the Mayor's reception room, the eye rested on a most unique and complete arrangement in one of the corners, while in front of the pilasters stood elegant and graceful Palms, Ferns, &c.; Cocos Weddelliana, Dracæna australis, and Blechnum braziliense being most prominent. At the extreme end was a most meritorious collection of rare exotics, the admiration of every beholder. In the background were tall Palms, relieved by a grand weeping variety of Phormium tenax variegata; the original variety usually grows rigid and erect, but that under notice has a weeping character, which, combined with the various markings on the foliage, contrasted effectively with Crotons Disraeli and Wiesmanni, Dracænas Goldieana and terminalis, and others. Lower down were three neatly-trained specimen Heaths, two of Erica Marnockiana, the centre one being a grand piece of Aitoniana Turnbulli. The groundwork was composed of Adiantums, from which sprang several fine varieties of Orchids, notably several magnificent spikes of Saccolabium Blumei majus, one spike of which measured upwards of 2 ft. in length. There were also several fine Odontoglossum Rossi majus and O. vexillarium, with Masdevallia Harryana, which were conspicuous by their extreme beauty. The whole was edged with well-grown examples of the loveliest of all the Maiden-hair family for this purpose, Adiantum gracillimum, and made a most effective arrangement indeed.

"Passing from here through the corridor to the dining-hall, everyone must have been impressed with the simple, but, at the same time, most unique arrangement brought about by the happy thought of utilizing as a boundary wall of this passage one side of a building, on which had previously been neatly and regularly trained the Vines growing there. Just at the present time the foliage is of the deepest green, and the small clusters of Grapes added to the novel effect. At the foot, on either side, were small decorative plants, so that the combination seemed quite a fairy scene, rather than the work of man. Thus was Nature adapted so naturally that even experts wondered and inquired how such an effect was brought about, while it formed a cool relief from the warm and magnificent dining-room, which was most elegantly arranged throughout. Every available space was here brought into use to add to the brilliancy of the whole. In each of the corners were small groups; in other places Palms drooped their graceful foliage; while on either side of the Mayor's seat were two groups of miscellaneous plants in semi-oblong form, and in each of which beautiful Orchids were very prominent. Saccolabium, Aerides, Oncidium, and Odontoglossum each by their beauty contributed their share; while Lilium longiflorum, Ixora grandiflora, and the scarlet plumes of Clerodendron Kœmpferii, contrasted most favourably. On the ledge which ran the length of the dais on which the principal table stood, a handsome and varied collection of plants and shrubs was placed; and in front of the ladies' boudoir Hydrangea paniculata grandiflora, with Adiantum cuneatum, were largely employed. Mr. Puttick and Mr. Sheppard were mainly responsible for the beautiful arrangements, and Mr. Latham, from Messrs. Jackson's gardens at Hampton Court, also assisted."

THE

Orchid Growers' Calendar.

The genus Mormodes.—The handsome varieties exhibited by Mr. Dorman and Mr. B. S. Williams at the Royal Horticultural Society on August 11th, were much admired, and seemed to create additional interest in this quaint and hitherto rather neglected genus; let us hope that it will lead to the better cultivation of the species of which it is composed. The flowers of all the species are curious, most of them are fragrant, and many are very handsome, so that there is not one which is not worthy of a place in collections. A curious feature exists in many of the species, and is very strongly developed in M. luxatum and its varieties, viz., the disjointed and irregular arrangement of the flowers, they having the appearance of being twisted forcibly round. The column seems to be pressed up, and on one side the floral segments twisted so that the back sepal comes almost opposite one of the petals, and the other petal and the labellum is proportionately shifted on one side. The whole is no doubt a provision of nature to further reproduction, and the irregularity (if so it may be called) is most regularly and accurately carried out.

The Mormodes are natives chiefly of Mexico, Costa Rica, Guatemala, and other parts of S. America, but although many of them come from a high altitude, they may not be reckoned cold-house plants, as the damp of that division is injurious to them in winter; at the same time they will not thrive in a close hot-house even when growing, as in such a position their leaves get thin and weak, and they do not get the necessary amount of air to assist in building up and hardening the tissues of their large and soft pseudo-bulbs. A position near the glass of the roof in an airy intermediate-house is best for all the species, and if potted into well-drained pots in fibry peat with a little sphagnum moss and placed there, they will grow well with ordinary care. Whilst forming their pseudo-bulbs and leaves, they want an unstinted supply of rain-water, but afterwards, when the leaves are turning yellow, it must be gradually withheld, until, when the leaves are all off, the plants are allowed to get quite dry.

In the resting season, heat beyond 55 degs. or 65 degs. is very injurious to them, and so is excessive moisture. I therefore used, after the leaves came off, always to place them together on a shelf in an airy part of the Cattleya-house, and out of the way of chance wettings until the growing time came again, but during the resting season I used to give them a little water sometimes, if anything like shrivelling appeared. The resting season is really the critical time with these plants, and it must be so managed that during that period they are neither chilled nor starved, but at the same time they must not be excited into premature growth in any way, and the best safeguard against this is pure air freely admitted. All the Mormodes make good basket plants, and are as safe in them as in pots if they can be so accommodated.

The following are the species, some of which are rare in collections:—

M. ATROPURPUREA.—This was, perhaps, the first of the species introduced, it having been obtained by John Willmore, Esq., of Oldford, Birmingham, from the Spanish Main in 1834. It was figured in *The Botanical Register*, 1836, and afterwards in *The Botanical Magazine*, 1851, from Mr. J. Dillwyn Llewelyn's collection at Penllergare, who got it from one of Warscewicz's Panama gatherings. Flowers, many on an upright spike, all dark purplish-red, lip clothed with yellow hairs and curiously curled back.

M. AROMATICUM has flowers shaped somewhat like the preceding, creamy-white to orange, spotted with rose, column curved, rose-coloured, with bright yellow edges. Its variety oleo-aurantiacum, is orange coloured with dark purple streaks.

M. BUCCINATOR.—This is a very variable species, and several varieties of it have been distinguished. The flowers are showy, generally ochre-coloured, with numerous cinnamon dots, lip more sparsely spotted, and pale at the edges.

M. CARTONI is a very pretty species; it is well-figured in *The Botanical Magazine*, tab. 4214, 1846. It was sent from Santa Martha by Mr. Purdie, and first flowered at Syon House. Flowers, about two dozen on a spike, yellow, lined with reddish-orange. This species is also very variable, and the varieties aurantiacum and stenanthum resemble the type only in form.

M. CITRINUM has flowers like M. Cartoni, generally all yellow.

M. COLOSSUS.—This extraordinary species was found by Warscewicz at an elevation of 7,000 ft. in Central America, and flowered with Messrs. James Veitch & Son in 1870. Flowers 5 ins. to 6 ins. across, sepals and petals pink lined with dark rose and margined with yellow; the lip, which clips up towards the column as usual in the genus, is bright yellow, with orange dots. It is a grand Orchid.

M. GREENI (uncia) has massive flowers in form like M. luxatum, bright yellow, blotched with crimson, and the column tipped with purple.

M. LENTIGINOSUM.—A curious species, which first flowered with Mrs. Lawrence, at Ealing Park. It has greenish-white flowers, freckled with purple, and shaped much like those of Catasetum callosum.

M. LINEATUM has numerous flowers with narrow petals, orange lined with crimson, the segments having green outsides; lip very curious, with two curling horns, white, spotted with crimson; column much curved.

M. LUXATUM, the plant originally figured, has bright yellow flowers.

M. LUXATUM EBURNEUM.—For this rare plant (and for its new varieties), which is so difficult to import, we are indebted to the perseverance of Mr. F. Sander, who, after many trials, has succeeded in getting over a fine lot, out of which the two following and other new varieties are flowering. It has twenty to thirty massive wax-like flowers on a spike; they are ivory-white, with purple blotch in the curious hollow and curved labellum.

M. LUXATUM DORMANIANUM is a grand form of the preceding, with flowers heavily blotched with rosy-crimson. It was awarded a First-Class Certificate at the Royal Horticultural Society on August 11th.

M. LUXATUM PUNCTATUM is in the same way as Dormanianum, but more lightly spotted. It also was awarded a First-Class Certificate when Mr. B. S. Williams exhibited it.

M. OCANÆ is another of Messrs. Veitch's fine introductions. The large flowers are of a dull yellow ground colour, profusely speckled with reddish-brown spots.

M. PARDINA has curious flowers which do not seem to expand well; yellow spotted with crimson, the variety unicolor being all yellow.

M. SKINNERI has flowers with sepals and petals orange, with fine longitudinal bars of red; lip yellow, with red spots.

M. TIBICEN.—This was introduced in 1870; flowers yellow, with purple streaks, lip whitish.

M. VARIABLE much resembles M. Cartoni, but with the lip larger, and having purplish spots.

There are also several other varieties named, but those here enumerated are the most distinct.—*James O'Brien.*

GODETIA LADY SATIN ROSE.

Mr. Percival's Collection at Birkdale, Southport.—On recently visiting this far-famed collection, I was much struck with the admirable condition which the plants are in, and the beautiful order in which everything is kept. The plants are in grand condition, and amongst them are many novelties of sterling merit. Mr. Percival s certainly to be congratulated on the grand varieties of which his collection is composed, and which, under the practical care of Mr. Beddoes, are in fine health. A brief description of the houses and their contents may be of interest to many. The first house is about 85 ft. long, divided into two compartments, the first of which contains, amongst others, grand plants of Lælia purpurata, a yard through, and Thunia Bensoniæ and Marshalli, with growths over a yard long and wonderfully strong.

The other division contains innumerable species and varieties of Cattleya, such as Mendelli, Mossiæ, two enormous masses of Percivalliana, maxima, a good variety in flower, the lovely Lælia elegans prasiata, with fourteen flowers, besides many other grand sorts too numerous to mention. Another house of the same length and similarly constructed contains noble specimens of Dendrobium Wardianum, nobile, thyrsiflorum, crassinode, Paxtoni, Dalhousianum, densiflorum, primulinum, &c., with extraordinary growths, and bidding fair to make a grand display at the proper seasons. In the next division are more Cattleyas, grand pieces of Trianæ, superb varieties of Mossiæ, Percivalliana, and other leading sorts.

In the Mexican-house, most noticeable are some fifty grand plants of Lælia anceps, and the fine variety L. anceps Percivalliana. These are throwing

a wonderful lot of flower spikes, and the plants are well grown, forming enormous bulbs. Lælia autumnalis is also grown in quantity, and well too. Zygopetalums, Cymbidiums, and Sobralias form also a very fine feature in this department. Three smaller houses are devoted to the growth of the world-famed Odontoglossum Alexandræ, hundreds of which are making fine stout bulbs, and, although the flowering season is past, there were still enough blooms open to show the excellence of the types grown. Several fine O. vexillarium were still in flower, including rubellum, a grand dark variety, the best I have seen in marking. O. Lawrenceanum superbum was also in flower, a welcome addition to this noble family. The bulk of the Masdevallias have done flowering, but many fine sorts, and good plants, have bloomed very freely. Next comes a warm house, in which are the Aerides, all the leading Cypripediums, Saccolabiums, and Vandas, all growing to perfection, as also are the Phalænopsis in variety. Cattleya amethystoglossa and Cattleya Dowiana were in flower, and the latter very fine.

I must not forget to mention the Odontoglossum Roezli, which appears here to be quite at home. The plants are very healthy and strong, the foliage clean and quite free from the insect pest which is so often the ruin of this species. Should any of your readers interested in Orchid-culture be in the neighbourhood of Southport, and care to visit Birkdale, they will, I am sure, receive a very hearty welcome from the enthusiastic owner and his intelligent gardener, Mr. George Beddoes.—*Alfred Outram.*

Orchids Flowering in the Open Air.—The following Orchids are in bloom or showing spikes, in the open air, in Mr. A. H. Smee's "My Garden," Wallington:—Cattleya Gaskelliana, Colax jugosus, Epidendrum fragrans, Lycaste Deppei, L. Smeeana, Masdevallia Normani, Maxillaria grandiflora, M. venusta, Mesospinidium sanguineum, M. vulcanicum, Odontoglossum Alexandræ, O. Bictonense, O. cordatum, O. gloriosum, O. sceptrum, Oncidium aurosum, O. dasytyle, Vanda cœrulea, and Oncidium linguiforme. The Odontoglossums are making strong growths in the cool, shady nooks of the Fern glen. The plants of Dendrobium Wardianum have been exposed to full sunshine for some weeks, and having finished their growth, some of them will again bloom out-of-doors.

GODETIA SATIN ROSE.

We have long been convinced that Godetias are not so extensively grown by amateurs as their merits deserve, but why this should be so we have never quite been able to make out. It is true, there is something about the look of the large, prettily-coloured silky blossoms which gives one an idea that they do not last long, that they are, in fact, of a fugacious, here to-day gone to-morrow sort of character, but this is really not the case, and even if it were, they flower so abundantly that the plants, in their flowering period of existence, would always be showy. But so far from being of a fleeting character, the Godetia lasts longer in a cut state than most of the annuals that we are acquainted with, and they will even open their buds in water. We have had them presentable in a vase for over a fortnight, and it is on this ground that we would strongly recommend all amateurs whose gardens are only of a limited extent to grow the Godetia more extensively, for there are few annuals which come in so useful for cutting.

They are, too, of very easy cultivation, and by no means particular as to soil, though a good loam, not too heavily manured, seems to give the best results. They require only to be sown early, either in pots or on a nearly-spent hotbed, and in due time to be transplanted in the beds or borders. As to the varieties, there are now some twenty or more in cultivation, and all are good. The white crimson-spotted G. Whitneyi is especially fine, and from it have been obtained those sterling novelties, the deep crimson Lady Albemarle, the satin-white Duchess of Albany, and the latest novelty, Messrs. James Carter & Co.'s Lady Satin Rose, a charming variety of a deep rose-pink colour, and the flowers large. A good many new annuals have been raised on their Essex seed farms, and this is one of the best.

FLORICULTURE.

Culture of the Carnation: Layering.—Calling upon my old friend, Mr. E. S. Dodwell, at the Stanley Road, Oxford, a few days ago, I found him very busy at work layering his Carnations and Picotees. The stock is so large and the "grass" so numerous and vigorous that although I found three hard at work at layering, it will take some three weeks to get through the process. Mr. Dodwell has nearly 1,600 pots of Carnations and Picotees, not a few containing three, and the majority two plants each. In addition there is a large bed of seedlings containing some things of rare promise, but the plants are lifted with good balls of earth about the roots, put into pots, and layered as the others are.

If three layerers are at work, it is almost necessary to have an assistant to each preparing the pots for the operator. Years ago, and it may be the case now, it was the practice to take a pair of sharp scissors, and with it cut away all the decaying leaves that are close to the stem, and also shorten back the remaining ones left on the shoot. Mr. Dodwell does not shorten back any of the leaves left on the runner; only the decaying ones, and those it is necessary to remove, are cut away. The shoots are prepared, the old soil is carefully loosened down to the uppermost roots, removed, and replaced by a fine gritty compost, and into this the runners are pegged. Fern pegs are best for the purpose, and therefore it is of great advantage if a grower resides near a wood or common in which Ferns grow. Some use them green; Mr. Dodwell prefers them kept a year in a cool, dry place, in order to become perfectly hardened, and when this is the case they can be employed a year or two.

There are two ways of forming the layer, and both have been in practice for many years. One is to cut obliquely into the stem just below a joint, and then when the joint is reached go a little farther up the centre, and then the knife is withdrawn, and a portion of the tongue of the layer removed. Another method (and it is one generally practised by those expert at layering) is to have a sharp-pointed knife with a keen edge on both sides; the point of the knife is gently inserted in the centre of the stem, the handle is then given a slight twist, and the blade is brought out just below the joint on the underside, thus forming a nice tongue. The nib is then cut back to a joint and the piece of leaf stripped off, leaving a small bud at the bottom. It is then carefully and firmly pegged down in the fine soil placed in the pot. When all are done a little more soil is placed upon the layers, but they are not buried too deeply. It sometimes happens that there are shoots so high as not to be conveniently brought down to the same level as the others. When this is the case it is customary to place some broken pieces of pot within the rim which holds up the soil and makes a higher surface when they are layered, or sometimes it is necessary to layer in small pots placed close to the rim.

Some growers adopt the practice of placing smooth, flat stones or oyster shells as near as possible over the cut of each layer. This not only prevents the soil being washed away from that particular spot, but it is considered that it accelerates the rooting of the layers, for if the weather be hot and the soil in other parts of the pot dry, a genial moisture will be found beneath the stones, and the layers are benefited thereby.

Mr. Dodwell stands his plants out-of-doors after layering on planks laid down on a gravelled walk; they are merely sprinkled overhead at first until the cut part of the layers have "calloused" somewhat, and then water may be given more freely.

In the act of layering some of the shoots break off, and others are so placed that it is difficult to layer them. These are made into "pipings." They are inserted in light soil under a cool wall or suitable spot, and hand-glasses placed over them, after being sprinkled to settle the soil about them. They need shade when necessary, and they should be examined occasionally to see that none of the pipings are damping off. Worms will be found troublesome at times, but a little lime-water will cause them to desert the bed.

In the process of layering, all "run" flowers, that is flowers the petals of which have become self-coloured, should be marked, as if propagated the stock cannot be depended upon to produce flowers of the true character. Cases are known of a "run" flower breaking back to its proper character, but they are few, and opposed to the general experience.

Layering should be proceeded with at once; whether the plants are in pots or in the open ground, the present time is the one for the prosecution of this work.—*R. D.*

Begonia Princess Beatrice.—This is a charming bedding variety, raised by Messrs. Sutton & Sons, Reading. It is one of the small-leaved, free-flowering sections, and with a compact yet free bushy habit of growth, producing numberless pink and white blossoms. Some weeks ago, Messrs. Sutton & Sons sent a basket of plants up to one of the meetings of the Royal Horticultural Society, but they failed to give anything like an adequate idea of its valuable decorative beauty. It should be seen growing in a bed at the Portland Nurseries of this eminent firm at Reading. It is, undoubtedly, one of the most effective of bedding Begonias, and as such deserves to be noticed.—*R. D.*

HORTICULTURAL SOCIETIES.

Grantham Horticultural.—This society held its fourteenth annual exhibition on August 13th, and it was in every way a very great success. The entries much exceeded those of former years, the weather was fine, and the attendance large, so that we hope the society has largely benefited financially. During the last few years the society has been very unsuccessful, but by "sticking to it," the committee have at last established it on a sound footing, and great praise is due to the secretary and committee for the admirable manner in which all have laboured to achieve the end in view. A class for a group of miscellaneous plants arranged for effect and covering 250 square feet of space, brought out three competitors, and their exhibits formed the principal feature of the show, as far as plants were concerned. The first prize of £10 was awarded to Mr. Thacker, of Nottingham, for a beautiful piece of artistic work, similar to that which attracted so much attention at the late Nottingham Show. Too much cannot be said in favour of this gentleman's style of grouping, every corner and recess being a picture in itself, every plant being placed to the best advantage, and the whole entirely different to the stiff and formal arrangements so often seen. Mr. Lyon, gardener to Lady Ossington, Newark, whose grouping of late has very much improved, came in second; the plants in this collection were good examples of cultivation, nice, clean, useful, well-coloured subjects, if anything too much crowded. Mr. Ashley, gardener to Sir J. H. Thorold, Bart., Syston Park, was third. For six stove and greenhouse plants, in or out of flower, Mr. Thacker was again first, closely followed by Mr. Lyon, who was placed second, and who had some fairly well-grown plants, rather lacking weight in the flowering section. For six Ferns, the last-named exhibitor was first, with good clean, well-grown plants. The second prize went to a fair lot exhibited by J. R. Boyall, Esq. (Mr. Melville, gardener), Castle Gate House, Grantham.

Table plants were shown in quantity, and the first prize went to Mr. German, gardener to J. Cutts, Esq., Nottingham, for a good well-matched half-dozen of light and graceful subjects, and Mr. Lyon, who was second, also showed a good set, while the others staged were far too heavy. Coleuses were exhibited in fair numbers, the first prize lot being well-grown and finely-coloured.

Tuberous Begonias were small, but nicely flowered Gloxinias, with the exception of the first prize lot. were poor indeed, some of them badly grown, and with one puny flower on them. How exhibitors can thus publicly show how little they have profited by experience is beyond our comprehension.

The cut blooms of Roses, twenty-four single blooms, were, considering the season, pretty good, the first prize going to Mr. House, nurseryman, Peterborough, and the second to Messrs. J. & W. Brown, Stamford. In the class for twelve, this order was reversed,

Messrs. Brown being first, Mr. House second. Dahlias were good, the first prizes going to Mr. House for singles, and to Messrs. Brown for show varieties. Some good bunches of Roses were also shown, not for competition.

Bouquets, button-hole flowers, and epergnés were well represented. The first prize for a bridal bouquet went to Mr. R. Gilbert, Burghley, and the second to Mr. Melville, gardener to Mrs. Hornsby, St. Vincent's, Grantham. For ball bouquets, Mr. Melville was first and Mr. Gilbert second. Bouquets of Roses were also good, and Mr. House was first, with Mr. A. H. Mann second. Wild flowers and grasses, both in collections and bouquets, were well shown, and in some instances very tastefully arranged.

For a collection of fruit, six varieties, Mr. Lyon came in first, with a good lot, including a nice Pine, Melon, Grapes, Muscat and Black Hamburghs, good Peaches, and Nectarines, &c.; second, Mr. Melville, gardener to Mrs. Hornsby, Grantham, who staged a very meritorious lot, running the first prize collection very hard. The Grapes were good, both white and black. For the former, Mr. Edmunds, gardener to the Duke of St. Alban's, was first with good Muscats, and Mr. Gilbert, Burghley, second; with Black Grapes, Mr. Melville, gardener to J. R. Boyall, Esq., was first, and Mr. Gilbert, second, both showing well-coloured, good-sized bunches and berries. The largest bunch also came from Mr. Edmunds, Mr. Melville (Mrs. Hornsby's gardener) being second. Peaches, Nectarines, Cherries, Apples, Pears, Plums, &c., were well shown, as also were Melons.

In the vegetable department some very fine garden produce was exhibited. Potatos were shown well, the quality being good, and the competition very strong. Cucumbers and Vegetable Marrows held their own, and most prominent was the display of Tomatos. A splendid large yellow Tomato, Golden Trophy by name, was exhibited by Mr. Fish, Churchtown Winter Gardens, Southport. Many of the fruits weighed over 13 oz. It was highly commended by the judges.

In the cottagers' classes, window plants were fairly well represented, while the fruit and vegetables were very good indeed, and the competition very strong. The society distributes seeds and plants gratuitously to cottagers who compete, a very liberal arrangement which is much appreciated—a step in the right direction. It is pleasing to record the fact that everything passed off very satisfactorily. The arrangements were good, and the decision of the judges gave satisfaction in all departments.

Blackburn and East Lancashire Horticultural.—The second annual show of this society was held in the Alexandra Meadows, Blackburn, on the 14th and 15th inst. Though the weather was all that could be desired, the number of persons who visited the show was very small, indeed, up to four o'clock, not more than a score could be counted in the tent at one time. A football match at the same entrance fee would have brought as many thousands, so we may conclude that the tastes of even the better class of residents in Blackburn run more that way than in flower shows, or flower culture either, for the bulk of the exhibits came from a distance, and had been sent by their owners for no other motive than that they might be seen, and to encourage the committee in their uphill undertaking. We do not suppose for a moment that Mr. J. B. Dixon would go to the expense of vans and horses and undertake a journey of fifteen miles, or that Mr. F. Yates, of Higher Feniscowles, would bring his Orchids and risk his splendid specimen of the Lattice-leaf plant, Ouvirandra fenestralis, for the sake of the small prizes which the committee were able to offer, but which, of course, would be liberal enough for those close by attending a one day show. If the society can only hold on for a few years, there is not the least doubt but that more interest will be taken in its efforts, and the quality of the exhibits, which were considered an improvement on those of last year, will continue to improve, and we have no hesitation in stating that those employers who encourage their gardeners to exhibit will perceive a growing improvement in the culture of other subjects besides those actually exhibited. Some may question the wisdom of this remark, but, personally, I have great faith in the schooling influence of a flower show, and I have seen their stimulating effect in stirring up a spirit of wholesome rivalry, so that the ordinary hours of labour have been far too limited, and the order of the day for work has been from daylight till dark, and master and man have both benefited. I remember a gentleman who had such a dislike to flower shows that he could scarcely be induced to subscribe to one, offering liberal prizes for the best-kept gentleman's garden, and the gardener who won the first prize was the largest prize-taker on the show day, and the other competitors held a foremost position. So much for the influence of the shows.

In the nurserymen's class for eight stove and greenhouse plants, Mr. Troughton, of Preston, was first, with a splendid plant of Statice profusa, Croton Johannis, Lilium speciosum rubrum, with 106 flowers and buds, Erica insignis, Cycas revoluta, and Pritchardia Vuylsteckeana. In the corresponding class for amateurs, Mr. Harrison, Stanley, was first, and Mr. J. B. Dixon, Fulwood, Preston, gained similar honours for four ornamental foliaged plants. For exotic Ferns, Mr. F. Baynes, Wheelton, near Chorley, received a first prize. In the Orchid classes, Mr. F. Yates, Higher Feniscowles, was a good first with Phalænopsis grandiflora, Odontoglossum vexillarium, Dendrochilum glumaceum, and Cypripedium niveum.

In the fruit classes the exhibits were not numerous, but the quality of the Grapes and Peaches and Nectarines was fair; Mr. Lindsey, gardener to Col. Starkie, Huntroyde Park, Padiham, was first for the two latter, while for Black Grapes Mr. W. C. Standish, Chorley, came in first; Mr. F. Yates being first with Whites. The vegetable classes were well contested, and the quality of the exhibits was very good. The Celery, for which the district is noted, was blanched quite 18 ins. high. The torrents of rain that fell early in the week had a disastrous effect on the cut-flowers, and there was nothing calling for special comment beyond some boxes of herbaceous blooms from the Cranston Nursery Company, Hereford. This firm also sent several boxes of Roses. Mr. Troughton, of Preston, had a large collection of miscellaneous plants, and a smaller lot was set up by the executors of Mr. Henry Walton, Blackburn. Much encouragement was given to cottagers; out of the 151 classes, no less than sixty-nine were devoted to them and amateurs not keeping a regular gardener. These classes contained some very meritorious productions, especially vegetables. It is to be hoped that another year the committee will have the patronage they deserve from those that one would expect to appreciate a flower show.—*X.*

Sutton and Cheam Horticultural. — The twenty-second annual show of this society was held on August 12th in the picturesque grounds of H. L. Antrobus, Esq., Lower Cheam House, and, notwithstanding the wind, which always brings up clouds of dust on the Surrey hills, and occasional light showers of rain, it was the best ever held by the society, there being a larger number of entries in the classes, and a great increase in the number of visitors. The gardeners' and cottagers' classes were all well filled, and the amateurs in their department showed most strongly in cut-flowers and table decorations. In the large marquee opposite the main entrance, Sir Trevor Lawrence, Bart., M.P., had a magnificent lot of plants and cut-flowers, not for competition. They were tastefully arranged by the gardener, Mr. Bain, who evidently strives to make a better display each year. His front row of flower stands contained handsome bunches of Gaillardias and Salpiglossis in great variety, choice Phloxes and other herbaceous flowers, and behind were various Adiantums, Anthuriums, Clerodendron fallax, with fine heads of scarlet blossoms, also the curious Trichinium Manglesi. Messrs. John Laing & Co., Forest Hill, contributed a choice collection of plants, including fine specimens of their well-known strain of tuberous-rooted Begonias, Orchids, Ferns, &c. Messrs. J. Cheal & Sons, Crawley, occupied a good space on one side with herbaceous cut-flowers, and four large boxes of Dahlias, single Cactus, Pompon and double, which were much admired, the Cactus forms receiving the greatest share of attention; Formosa (single), which received a certificateat at the committee meeting of the Royal Horticultural Society last September, is certainly one of the best; Mrs. Tait (white Cactus) is a distinct and lovely variety, and viridiflora is a green one, hence its name, but it is more curious than beautiful.

The large plants, which usually took first honours at this show and elsewhere, from Mr. J. Child, Garbrand Hall, Ewell, were a few weeks ago brought to the hammer, so that Mr. King, gardener to Philip Crowley, Esq., Waddon House, Croydon, who ran Mr. Child a close second on previous occasions, had no difficulty in carrying off the chief award for twelve stove and greenhouse plants. His specimens were large, and in the best of health, Dipladenia amabilis being exceptionally fine, and covered with bloom. Anthurium Andreanum was also good, and Asparagus tenuissimus, the largest piece we have seen, had a telling effect in his collection. Mr. Penfold, gardener to the Rev. Canon Bridges, Beddington, was a good second. Mr. King was also first with the best specimen, having another grand Dipladenia. In the class for six stove and greenhouse plants, Mr. Penfold came to the front, and he had also the best eight ornamental foliaged plants. Mr. Osman, South Metropolitan District Schools, gained the premier awards for vegetables; his collection of Potatos in a class provided by Messrs. Sutton & Sons were grand examples of good cultivation.

Fruit was well shown, and in large quantity, there being several entries in each class. Mr. Vickery, gardener to G. Steer, Esq., Wallington, had much the finest Black Hamburghs, large and well-coloured, and well worthy of the award given. The best green flesh Melon came from W. H. Smee, Esq. (Mr. G. W. Cummins, gardener), who staged William Tillery, one of the best Melons cultivated. The same exhibitor also took a first prize with Muscat Hamburgh, in a class for any other black Grapes. For a collection of fruit, six dishes, Mr. C. Gibson, gardener to J. Wormald, Esq., Morden Park; Mr. A. Alderman, gardener to C. Czarnikow, Esq., Mitcham; and Mr. C. Blurton, gardener to H. C. Bonsor, Esq., Kingswood Warren, took the honours in the order named. For a collection of twenty-four cut-flowers the competition was very keen, Messrs. Cummins, Penfold, and Gibson, taking first, second, and third prizes respectively, while the others well deserved some recognition. The first prize lot contained mostly Orchids, among which Cattleya Wallisi and C. Gaskelliana were conspicuous. The success attending this society is mainly due to the exertions of Mr. Flemwell, Treasurer; Mr. Church, Secretary; and a few others who have put their shoulders to the wheel and pulled the society through a bad time, which threatened to ruin it.

ANSWERS TO CORRESPONDENTS.

CARNATION.—*W. H. Pollard.*—Apply to Mr. H. B. May, Dyson's Lane Nursery, Edmonton. We think you may get the variety there.

ANALYST.—*T. B. C.*—Mr. Bernard Dyer, 17, Great Tower Street, E.C. We do not know what the fee would be.

ROSE FOR SOUTHERN ASPECT.—*Scotus.*—One of the best climbing red Roses is the old Madame Louise Carique. Glory of Waltham or Madame Clemence Joigneaux would suit you perhaps equally as well.

FRENCH MARIGOLDS.—*W. Caudwell.*—Your strain is a very good one, the flowers being of excellent form and very brightly coloured, both single and double. The striped single flowers are exceedingly showy.

ARAUCARIA EXCELSA.—*J. T.*—The glaucous variety is not hardy, so far as we know. It is a greenhouse or temperate-house plant.

HOPS.—*T. Williams.*—Messrs. Spon, Charing Cross, publish a book—*Hops: their Cultivation, Commerce, and Uses in various Countries*, by Mr. P. L. Simmonds.

CUCUMBERS.—*A Puzzled One.*—Some cats will eat Cucumbers with avidity, and pussy may be the depredator in your case. Try it with some cut pieces. We can offer you no other solution of the mystery.

APPLE.—*J. H., Basinghall Street.*—The Apple you saw on the street barrow labelled the "English Quarentine" is the Devonshire Quarrenden.

VEGETABLE MARROWS.—*W. H. W., Stratford.*—As a rule we have found it best not to stop them, the finest and quickest growing fruits coming on the strongest, free-growing shoots. In a case like yours, where the long growths show no signs of fruiting, we would stop them and see if the laterals will behave any better. If you have not much room try next season the new Pen-y-byd. It is a gem for a small garden, fruits at almost every joint, and can be boiled whole like a small Turnip.

ST. NEOT'S SHOW.—In our report of this Show, at p. 797, we inadvertently gave Mr. Petfield the credit of taking the first prize for Fuchsias and other awards for ornamental, foliaged, and flowering plants, Ferns, &c., instead of Mr. Redman, to whom the honour is rightly due.

COMMUNICATIONS RECEIVED.—B. L.—W. C.—R. G.—E. M.—E. J.—W. E. B.—C. B.—W. P. R.—J. D.—V. C. & Co.—H. W. W.—R. C. F.

Trade Catalogues Received.

VICCARS COLLYER & Co., Central Hall, Leicester.—Autumn Catalogue of new, rare, sweet-scented, curious, and beautiful bulbous and other plants.

BARR & SON, 12 and 13, King Street, Covent Garden, W.C.—Daffodils, Hyacinths, Tulips, Crocuses, Snowflakes, and other hardy decorative flowering bulbs, &c.

LONDON SEED TRADE.

August 19th, 1885.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report that there is a slower trade for seeds required for present sowing, without any material change in values. Stocks of Trifolium and White Mustard are very low, and may advance in value if after rain a brisk demand should set in. Winter Tares come forward slowly, and holders readily sell at an advance. Rye unchanged. No change in value of Bird Seeds.

COVENT GARDEN MARKET.

August 20th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½ sieve	1 0- 3 0	Pine-apples, Eng., lb.	2 0- 3 0
Cherries, ½ sieve	-	Pine-apples, St. Michaels, each	3 0- 5 0
Grapes, per lb.	0 8- 2 0	Plums, ½ sieve	2 0- 4 6
Kent Filberts, per 100 lbs.	30 0-	Red Currants, ½ sieve	3 0- 3 6
Melons, each	1 0- 1 6	Black do.	4 6- 5 0
Peaches, per doz.	2 0- 8 0	Strawberries, per lb.	-

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	1 0-	Herbs, per bunch	0 2- 0 4
Asparagus, English, per bundle	-	Horse Radish, bundle	3 0- 5 0
Beans, French, per lb.	0 6-	Lettuces, Cabbage, per dozen	2 0-
Beet, per dozen	2 0- 3 0	— Cos, each	0 2-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 0 9	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per strike	2 0-
		Tomatos, per lb.	0 9-
		Turnips, per bunch	0 6-

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Marguerites, 12 bun.	2 0- 6 0
Anemone, 12 bun.	-	Mignonette, 12 bun.	1 6- 3 0
Arum Lilies, 12 blms.	2 0- 6 0	Pelargoniums, per 12 sprays	0 6- 1 0
Asters, 12 bun.	0 4- 6 0	—scarlet, per 12 sprays	0 4- 0 6
Azalea, 12 sprays	-	Pinks, various, 12 bunches	1 0- 4 0
Bourvardias, per bun.	0 6- 1 0	Primula, double bun.	0 6- 1 0
Camellias, 12 blooms	-	Primulas, Chinese, bun.	-
Carnations, 12 blooms	1 0- 3 0	Pyrethrum, 12 bun.	2 0- 4 0
Carnations, 12 bun.	2 0- 4 0	Rhodanthe, 12 bun.	6 0- 9 0
Cornflower, 12 bun.	2 0- 4 0	Roses (coloured)	1 0- 2 0
Cyclamen, doz. blooms	-	Roses, indoors, p. doz.	1 0- 3 0
Cineraria, per bunch	-	Roses, per dozen bunches	2 0- 6 0
Day Lily, 12 bunches	-	Spiræa, 12 bun.	-
Epiphyllums, 12 blms.	-	Stephanotis, 12 spr.	3 0- 4 0
Eschscholtzia, 12 bun.	-	Stocks, 12 bunches	2 0- 4 0
Eucharis, per dozen	3 0- 6 0	Sweet Peas, 12 bun.	2 0- 4 0
Gardenias, 12 blms.	2 0- 5 0	Sweet Sultan, 12 bunches	4 0- 6 0
Heliotropes, 12 sprays	0 6- 1 0	Tuberoses, per dozen	0 4- 0 6
Lapageria, white, 12 blooms	2 0- 3 0	Tulips, per doz.	-
Lapageria, red, 12 blms.	1 0- 2 0	White Jasmine, bxn.	0 6- 0 9
Lavender, 12 bun.	4 0- 6 0	Woodroffe, 12 bunches	-
Lilium candidum, 12 blooms	-		
— Longiflorum, 12 blooms	2 6- 6 0		

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, doz.	6 0-24 0	Genista, per dozen	-
Arum Lilies, per doz.	-	Heaths or Erica, var., per doz.	-
Asters, per doz.	0 4- 6 0	Hyacinths, doz.	-
Azalea, per doz.	-	Ivy Geraniums, per dozen	3 0- 6 0
Balsams, per doz.	3 0- 6 0	Lilium longiflorum, per doz.	18 0-36 0
Begonias, per dozen	4 0-12 0	Lilium lancifolium, per doz.	9 0-12 0
Bouvardias, dozen	9 0-18 0	Marguerites, per doz.	6 0-12 0
Calceolarias, per doz.	4 0- 6 0	Palms in variety, each	2 6-21 0
Cineraria, per dozen	-	Pelargoniums, per dozen	6 0-18 0
Cockscombs, dozen	3 0- 6 0	Pelargoniums, scarlet per dozen	2 0- 6 0
Cyclamens, doz.	-	Petunias, per dozen	4 0- 6 0
Cyperus, per dozen	4 0-12 0	Poinsettia, doz.	-
Deutzia, per dozen	-	Rhodanthe, per doz.	6 0- 9 0
Dracæna term., doz.	30 0-60 0	Spiræa, per dozen	-
— viridis, per dozen	12 0-24 0	Stocks, per dozen	-
Epiphyllums, doz.	-	Tropæolums, per doz.	2 0- 4 0
Evergreens, in var., per dozen	6 0-24 0		
Ferns, in var., dozen	4 0-18 0		
Ficus elastica, each	1 6- 7 0		
Fuchsias, per doz.	3 0- 9 0		
Foliage Plants, various, each	2 0-10 0		

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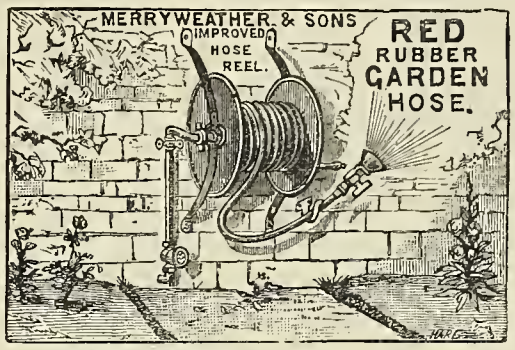

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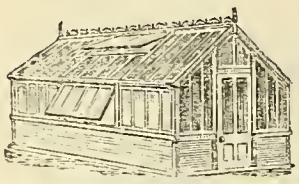

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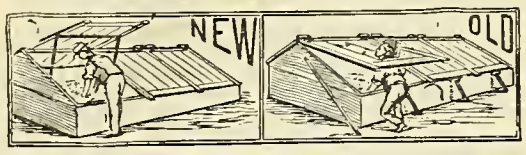

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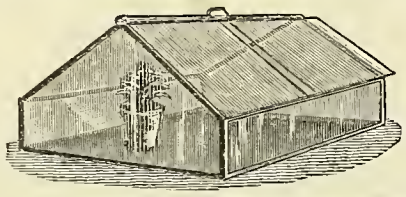

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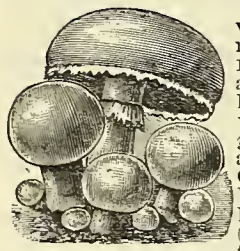

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SPHAGNUM MOSS, all selected, 2*s*. per bushel, 6*s*. per sack.

COCOA-NUT FIBRE REFUSE (by Chubb's Special Process), sacks, 1*s*. each; 10 sacks, 9*s*.; 15 sacks, 13*s*.; 20 sacks, 17*s*.; 30 sacks, 25*s*.; 40 sacks, 30*s*. Truck-load, loose, free on rail, 25*s*. Limited quantities of G special quality, granulated in sacks only, 2*s*. each.

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Green Fly Black Fly Woolly Aphis Grubs Ants Worms	From Garden, Greenhouse, Orchard, or Vinery; these and all Insect pests are speedily cleared by the use of Fir Tree Oil. Effectual, Economical, and Safe. It does not injure Flowers, Foliage, or the bloom on Grapes, Stone Fruit, &c.	Mealy Bug Thrip Red Spider Caterpillars Mildew Scale, &c.

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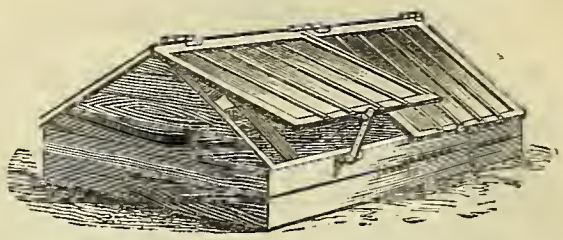

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6 ft. long, 4 ft. wide ...	Packing cases free.	2	15	0
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IS unrivalled for Gardeners', Forresters', Farmers', Joiners', and Amateurs' use. It requires no oil. Sharpen with a spittle or water. Puts on a keen sharp edge; no humbug about this. Cut in Hones for Axes, Hedge Knives, Razors, Penknives, and Plane Irons, &c. Honourable mention Paris Exhibition, 1878; and Bronze Medal London International Exhibition, 1884. Ask your ironmonger or other retail house to get you one, and give my address; if he won't, drop me a note.

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OF

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THE GARDENING ILLUSTRATED WORLD

No. 52.—1885. SATURDAY, AUGUST 29TH. {Registered at the General Post-Office as a Newspaper.} ONE PENNY.

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R. B. LAIRD & SONS (late Downie & Laird), respectfully invite inspection of their famed collection during the flowering season.
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Season 1885.
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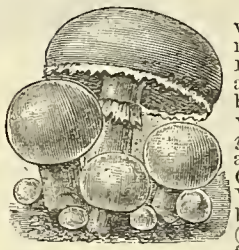

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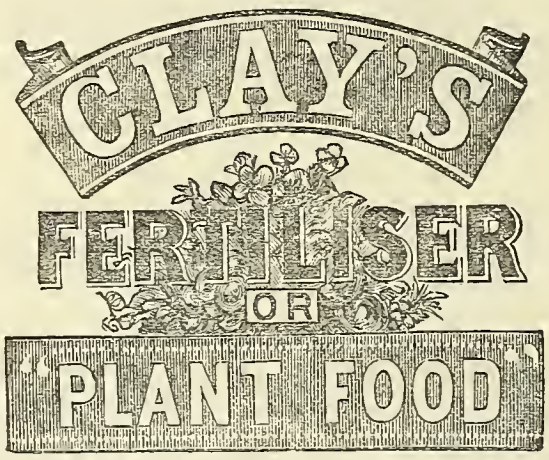

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MISCELLANEOUS. In this section we offer a miscellany of interesting items calculated to please both professional and amateur.

N.B.—To amateurs who are in the habit of purchasing guinea and other collections.—*Instead of doing so this season send the order to us, leaving the selection to our judgment, simply giving particulars as to nature of soil, position of garden, if any glass, &c., when we feel fully assured that we can by this method afford them much more gratification for their money than if they pursued the ordinary mode.*

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The Gardening World.

SATURDAY, AUGUST 29TH, 1885.

LONDON MARKETS. — The grave complaints which have of late cropped up in the daily papers respecting the miserable returns growers of Potatos and other produce receive from their London market salesmen, indicate very forcibly the great need which exists for a great increase in metropolitan markets, established by the municipal authorities, and the placing of the sale of all products sent by distant growers to the markets in the hands of official and not private salesmen. Whether the transactions which not only recently but so often in the past have called for such strong public comment be honest or otherwise, it is certain that there is, under the present system, ample room for want of confidence. Somehow the poor producer seems to be in the position of the unfortunate client in a law suit, who although he won his case, yet found he was not a bit the richer and his advocate the reverse of poorer.

What with salesmen, carriage, porterage, dealers, and other distributors, the charges upon garden products are so increased to the consumer, that whilst the producer gets but 20 per cent. of the final charge, the remainder goes into the pockets of those who invest nothing, and have few or no burthens. If producers cannot sell their own things in the market, and that of course is the most satisfactory arrangement, they may at least combine and employ their own salesman at a regular salary. In any case the matter is replete with great difficulty and exceeding dissatisfaction. If the producer and consumer could be brought into immediate contact, so much the better for both, but the doing so would produce a great outcry on the part of salesmen and dealers of all kinds, who would, of course, declare that they were being ruined.

Still, there can be little doubt but that the establishment of numerous roomy municipal markets would be a great gain. The many complaints as to the unsanitary condition of Covent Garden Market chiefly grow out of the fact that the place is private property. Were it and the neighbouring streets under efficient municipal authority the complaints would hardly be heard, because a public body, acting in the public interests, and influenced by public opinion, would be too careful not to allow evils to exist which called forth strong public criticism and earnest denunciation.

THISTLES.—The Thistle, in all its varieties, is a most noxious weed, and too little pains is taken to get rid of it. In the month of August or September, it is usual to go over the pastures with a scythe, and cut the Thistles down; but this is far too late to do the essential service. The greatest part of their abundant seed has long before been scattered by the wind, and an ample crop has been sown for succeeding years. There is also a want of care to destroy those that grow numerously in the hedgerows, and on the margin of fields. An attentive farmer will not allow the month of June to pass over without cutting down all the Thistles on his farm, whether growing in his pastures or elsewhere; and he will repeat the operation in August. The Thistle is a biennial plant, and, therefore, if the seed be prevented from ripening, the crop will soon cease to be produced.—*Agricultural Gazette.*

Gardening Miscellany.

FLOWER SHOWS FOR NEXT WEEK. — *Tuesday:* Third Summer Show at Oxford.—*Wednesday:* Glasgow and West of Scotland Horticultural Society's Show at Glasgow. *Wednesday and Thursday:* Bath Autumn Show. *Friday and Saturday:* Annual Fruit Exhibition and Grand National Dahlia Show at the Crystal Palace.

SEVERAL correspondents in various parts of the country report a great improvement in the appearance of the fruit and other crops since "the grand rain" which fell on the 21st inst. More is sadly wanted though, especially in the eastern and southern counties.

WE understand that arrangements are being made for holding a Chrysanthemum show in Bedford in November next.

OUR correspondent, Mr. H. W. Ward, Longford Castle, was a very successful prize-winner last week. At Salisbury he was first for a collection of fruit, and at Exeter secured a silver cup also for a collection, besides first prizes for Grapes and Tomatos.

THE number of acres under Potato cultivation in Great Britain this year, according to the recently-issued summary of agricultural returns, is 548,731 acres, or 16,317 acres less than last year.

MR. WILLIAM BYRON, late foreman at the Duke of Grafton's, Wakefield Lodge, Stony Stratford, has been engaged as gardener to Thomas Eyre, Esq., Thorplee, Egham.

FROM Mr. H. J. Farrow, Honorary Secretary of the St. Peter's, Hammersmith, and District Gardeners', Amateurs', and Cottagers' Improvement Society, we have received a schedule of prizes for a Chrysanthemum and fruit show to be held on November 19th. There is an open class for twenty-four blooms of Chrysanthemums, and several classes for Apples, Pears, Potatos, &c. The Secretary's address is 60, Black Lion Lane, Hammersmith.

THE Royal Horticultural Society has received from New Zealand a large consignment of the native Ferns of that country, to be established for exhibition at the Colonial Exhibition, to be held next year. The plants, several hundreds in number, range in size from a diminutive filmy Fern, to monster trunks of Cyatheas, and all have arrived in excellent condition.

MR. A. GREAVES, late foreman to Mr. Kingston, at Brantingham Thorpe, Brough, East Yorkshire, has been engaged as gardener to A. K. Rollit, Esq., Thwaits House, Cottingham, Hull.

MR. ROBERT LORD, of Todmorden, a veteran northern florist, was successful at the late show of the Northern Section of the National Carnation and Picotee Society in securing first honours in the leading classes for Carnations and Picotees, notwithstanding that the date was full early for some of the northern districts. Mr. B. Simonite was second in both these classes. Mr. R. Gorton secured the first prize for a dozen Carnations, nine dissimilar; and Mr. T. Bleackley took the lead in the corresponding class for Picotees. The premier Carnation was an Admiral Curzon from Mr. R. Lord, who, with the same variety, carried off all the prizes for single scarlet Bizarres. Zerlina, from Mr. Bleackley, was the premier Picotee.

SEEDLING DAHLIA PRIZES.—In addition to the Turner Memorial Prize for Dahlias, which is represented by a handsome silver cup, value ten guineas, the overflowings of the subscriptions, which were necessarily limited to Dahlia fanciers, have been devoted to three prizes (£1, 12*s.* 6*d.*, 7*s.* 6*d.*) for the best seedlings exhibited at the Crystal Palace Show on the 4th of September next. The prizes are to be additional to the Certificates offered in the schedule. The growers of Dahlias should note that this grand national show will soon be upon us.

MESSRS. JAMES CARTER & Co., who during the last few years have been conducting some valuable experiments in the fertilization and raising of new varieties of Wheat, have succeeded in obtaining one variety, a single seed of which has produced no less than sixty ears. As each ear contains on an average fifty grains, the one plant thus gives a total of 3,000 grains! If the man who makes two blades of grass grow where only one grew before, is a benefactor to his country, what is to be said in a case like this?

ORNAMENTAL GOURDS AT KEW.

Amongst the interesting features of the gardens at Kew there is one of a somewhat novel description to be seen at the present time in the old Water Lily-house, namely, a collection of plants of the Gourd or Cucumber family in fruit. The members of this family are well-known climbing plants, with slender stems and fruit which are usually of an ornamental character. Familiar examples are the Cucumber, Melon, Pumpkin, and Vegetable Marrow, all of them interesting from a culinary standpoint, quite independent of their ornamental nature. The plants above-mentioned are trained on the sides and roof of the house, whence the variously-shaped fruit depend, and present quite an interesting spectacle.

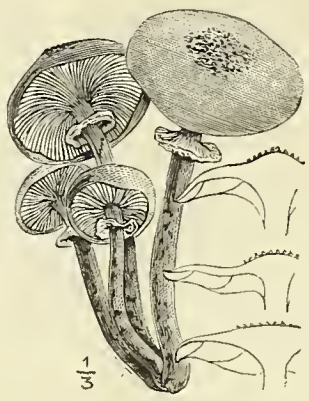
One of the most interesting of these is the Snake Gourd, whose slender fruit vary from 2 ft. to nearly 4ft. in length. They are dark green, with very light green stripes, but changing when ripe to a deep orange-red. Two other closely allied species may be seen with much shorter fruit, but very similar in colour. A large Pear-shaped Gourd, a foot long, bears the name of Lagenaria gigantea; the fruits at present are pale green. The allied species, L. vulgaris, has smaller fruit, somewhat like a Cucumber in shape. The fruits of Momordica Charantia are of a highly curious character; they are somewhat egg-shaped and covered with short spines, they assume a bright orange colour in ripening, and the fruit splits into three valves, which turn backwards with the crimson seeds attached. Luffa cylindrica has fruits resembling a short, stout Cucumber, striped with pale and dark green, and L. vectens is of a somewhat similar character.

A plant from the Island of New Guinea (without a name) has fruits of the size and shape of a swan's egg, pale green with black dots, but when ripe they assume a deep orange colour. Another unnamed plant has large globose fruits like large Melons, which are variegated with light and dark green. A species of Abobra from Africa has fruits somewhat like a slender Vegetable Marrow with a swollen base; it is about 9 ins. long and covered with short hairs. Lastly, a few species of the useful genus Cucumis may be mentioned. A species labelled C. utilissimis has fruits like short, hairy Cucumbers; it hails from India. A wild variety of the Cucumber (C. sativus) is interesting to note; the fruits measure about 9 ins., and are proportionally much stouter than our familiar cultivated varieties. When ripe the colour is dull yellowish-brown. It was found in the Sikkim Himalayas. Two wild Indian varieties of the Melon (C. melo) bear small fruits of the usual shape and variegated with light and dark green. A third variety of the same species is named flexuosa, and has very remarkable fruits, more like a Cucumber than a Melon. They measure 2 ft. or more in length, the apex is a little swollen, but the base is much elongated and somewhat twisted—hence the name. It changes to pale yellow when ripe. The collection is well worthy of inspection.

MUSHROOMS, EATABLE AND POISONOUS.—II.

Agaricus procerus.—One of the most valuable and delicious of all fungi is Agaricus procerus, shown one-fifth real size in our illustration. The name procerus means "tall." It is pale brown all over, the hollow stem is furnished near the top with a ring, the base is bulbous, and the top is covered with brown scales. A section showing the nature of the scaly top, the peculiar attachment of the gills to the top—not touching the stem—and a section of the ring or collar is shown on the right. On being broken, the flesh of this fungus changes to a dull warm-brown colour. It grows in pastures and open places, amongst bracken, and is acknowledged on all hands to be one of the most delicious of esculents.

Agaricus melleus.—In our next illustration we have given, one-third the size of nature, Agaricus melleus. It was named melleus, on account of its colour being yellowish all over, like honey, "mel." It grows on dead stumps, and is extremely common everywhere. The stem is sometimes furnished with a woolly ring, whilst at other times it is ringless. The gills are attached to the stem in various ways, as shown by the three sections on the right; the top is clothed with minute fibrous scales. It grows in dense bundles, often a hundred or more together, in gigantic groups, and the white spores are often thrown down in prodigious quantities on the grass or stumps beneath. This fungus has not been highly esteemed in this country, but on the Continent it is in great demand, enormous quantities being brought to the various markets for sale.



AGARICUS PROCERUS.

Agaricus nebularis.—The last illustration shows, one-fifth the size of nature, two plants of Agaricus nebularis, so called on account of the clouded appearance of the top, nebula, a cloud. This is a large fungus with a mouse-grey stem and darkish bistre or black-brown top, frequently clouded with light grey

AGARICUS MELLEUS.

or white. The fungus grows amongst dead leaves in woods. A notable character is seen in the section where the gills run down the stem, and the edge of the cap is turned in, or is involute. Agaricus nebularis is considered rarer than the other five species we have illustrated, but in certain favourable seasons it grows in woods in great abundance.

AGARICUS NEBULARIS.

It is never safe to cook fungi without being sure of the species to be experimented upon. We therefore advise our readers, if they have any doubts about species of fungi, that they should consult the very large series of coloured drawings in the Department of Botany, British Museum, South Kensington.

All edible fungi may be cooked satisfactorily in the same style as the common Mushroom, that is, they may be either fried with or without meat, in butter, or stewed; care should be taken to serve quite hot, for nothing is more wretched than a cold Mushroom. Edible fungi make good ingredients for meat pies.

CUCUMBER CULTURE.

It is a well-known fact that gardeners, as a rule, are about the worst paid of professional men, considering the knowledge they must possess, the anxious nature of their work, and the responsible positions they hold in most gentlemen's establishments. Some, however, are more fortunate than others in being able to add a little to their incomes in the shape of well-earned prize-money at flower shows, and we should imagine that no one would blame a persevering man for making what extra he can honestly, and without in any way interfering with his employer's time.

Mr. A. C. Roffey is a gentleman's gardener, also the respected Secretary of the Croydon Horticultural Society, and assisted as he is by a committee of good men, including Mr. W. Neal, formerly gardener at Woodcote Hall, Carshalton, but now a thriving nurseryman at South Beddington, and others who have proved that they can manage their own affairs successfully, are the right sort to carry on the work of a horticultural society in a business-like manner. Mr. Roffey has filled his office about eight years. Previous to undertaking these duties, the affairs of the Society were carried on in an indifferent manner, and it could scarcely pay its way, but when practical men came in who understood the work, and they were backed up by gentlemen like Philip Crowley, Esq., Waddon House, the results were all that could be desired. The Society is now able to hold two good shows a year, and has a balance of £100 in hand, besides increasing the classes and prizes each year.

Mr. Roffey's home, St. Andrew's Villa, Church Road, is worth a visit. In his garden he has erected two half-span-roofed houses 41 ft. long and 11 ft. wide. The first is in two divisions, one for growing Cucumber plants for sale, and the other to afford large quantities of fruit of the same for cutting. The other house (see illustration) is planted with Cucumbers for seed, and he has quite a reputation in the neighbourhood for his fine strain of Rollison's Telegraph. At the present time there are hundreds of fine even fruits hanging in clusters, four and five touching each other, some measuring 25 ins. long and 9 ins. in circumference, with scarcely any shoulder. The seed for this crop was sown on May 1st. The house is heated by a flow and return 4-in. pipe; the borders are about 4 ft. wide, and made 3 ft. high with ashes, on which are mounds of good yellow loam 1 ft. in depth. Only the best formed fruit are allowed to remain for seed, the others being cut as required for use.

He also has some fine plants of Chrysanthemums. The early blooming varieties are most valuable when Dahlias are cut off with early frost. The late ones are also very useful, Mrs. Carey especially, which was very full and fine at the end of February. The following are the varieties which Mr. Roffey finds most useful for cutting:—Early: Elaine, James Salter, Lady Selbourne, Sœur Melaine, Crimson King, George Gordon, and Guernsey Nuggett. Late: Mrs. Carey, Princess Teck, and Virginale.—*G. W. C.*

THE VICAR'S GARDEN.

The immense advantage of having an ample supply of water is strikingly illustrated in our Vicar's garden, which is situated in a dry locality, and on a sharp, shallow soil. The plants here have this season grown most vigorously, owing to the copious waterings they have had, and this at no very great expenditure of labour, the watering having been done by means of a hose. The supply is obtained from the public water works, and the ground has received from time to time sufficient to keep it in a moist state at all times during the great drought, and everything in consequence has always been fresh and bright, and at no time, from the commencement of the season till now, has there been the least break in the supply of flowers; they have always been abundant, and the place gay and bright.

What would otherwise have been bare spaces, where some of the early-flowering bulbs stand, was sown over with a few of the best kinds of annuals. Among the newer kinds specially deserving of

mention, is Phacelia campanularia, flowers of the finest deep Gentian satiny blue, a fine thing for the front of borders, growing from 6 ins. to 8 ins. high; the French Poppies sown in bare places at the back have also proved most useful and very beautiful. A correspondent a few weeks back, was loud in his praise of Chrysanthemum maximus (Pyrethrum lacustre), but here, with everything in its favour, we cannot say very much in its praise, because it rarely produces a perfect flower; the Ox-eye Daisy of the fields is infinitely better. Considering the almost marvellous variety of these, it seems strange it has never varied in colour, or produced a double flower. By selection and cultivation there may be had much finer blooms than what are gathered in the fields, and the habit of the plants will be found to vary very considerably. I once tried my hand at cross-breeding with this, and for some time, owing to the great diversity of habit among my seedlings, I thought a great success was achieved, till this led me to notice more particularly the wild plants, when I found the same diversity of habit among them, so that when they all flowered white, my disappointment was not quite so great as it would have been had I not previously noticed this.

Among Campanulas, C. Hendersoni is especially worth calling the attention of your readers to. This received a First-Class Certificate at Kensington this year, and well deserved it. It may in habit be described as a dwarf pyramidalis, as it only grows a foot or so in height, but the flowers are large and very abundant. What glorious things the blue and white C. pryamidalis are when seen at their best, but it seems only now and again that we come across them really first-rate. I saw some growing the other day some 8 ft. in height in No. 16 pots, perfect in flower from a few inches above the rims of the pots to the top of the flower spikes. Among other things that have come into flower since I wrote last, are Monarda didyma, Cyclamen europæum, several of the Funkias, Alstrœmeria aurantiaca, A. psittacina, Papaver nudicaule in variety, Lilium philadelphicum L. chalcedonicum, L. pardalinum Michauxi, Acanthus candelabrum, a fine thing for planting out in grass—very ornamental, Lathyrus latifolius and L. latifolius albus, and Allium Molle.

The Sunflower dotted about the garden served to enliven the place. Harpalium rigidum is, take it all round, the most beautiful and useful plant of the composite class, flowering freely and being very bright and attractive; it will grow anywhere. The herbaceous plants are supplemented just now with single and Pompone Dahlias, including the red and white Cactus varieties, and too much cannot be said in praise of the red one, Juarezii. The white variety is certainly not so fine a thing. A fine plant of Magnolia grandiflora is blooming freely against the house.—*W. B. G.*

Angræcum Leoni.—The floriferous character of this pretty white species, introduced by Messrs. Sander & Co., was proved at South Kensington on Tuesday last, when no less than five exhibitors had it in flower.

TOMATOS AT READING.

The successful culture of Tomatos in the open ground is, without doubt, a matter of great difficulty when the season is both late and cold, and very specially so when Peronospora is prevalent. Still, it is not possible to look over the remarkable trial of Tomatos in the open ground now seen at the London Road Nursery, Reading, without feeling that favourable as the season has been so far, the trial is a remarkably good one, and shows that there is very much to be learned as to the art of cultivating these plants, both for market and private purposes, in the open ground from the practice here adopted. The plants are all put out in couples, about 8 ins. apart, but not turned out of the same pot. They are also planted in braces of couples, about 3 ft. apart, and thus may be said to form lines in beds of kinds, so that the beds contain about thirty lines of four plants each.

Of the sorts grown no special mention need be made where all are doing so well, but a note as to their ripening and average cropping qualities a month or so hence would indeed be interesting, as where all are impartially treated precisely alike, it would be of material interest to learn what kinds proved earliest to ripen in the open air, and also gave in the season the best average produce of matured fruit. It may be remarked that the oval-shaped Chiswick Red kind is fruiting wonderfully, carrying big clusters of good-sized fruits. This kind should always be exhibited in clusters, and not in the form of single and specially thinned fruits. Should the Messrs. Sutton & Sons again offer prizes for this prolific variety, it is hoped they will call for the best six clusters rather than for single fruits.

MR. A. C. ROFFEY'S CUCUMBER HOUSE.

Seed of these Tomatos was sown in gentle heat in March last, and the plants pricked up singly into large 60-sized pots later; then, when strong, turned out of the pots and laid into manure, close under a south fence or wall, where they could have the protection of mats at night. Here the plants were well hardened, and made abundant roots into the manure, so that when finally planted out into the open ground towards the end of May they were very robust and well stocked with roots. The soil in which they were planted was not freshly manured, as it was in excellent condition, neither was any added at the planting, as rich soil rather induces free growth than free fruiting. To each plant a stout stake 5 ft. in height was given, firmly fixed into the soil. The course of training is that known as single-stem culture, every side-shoot being ruthlessly cut off as soon as seen, so that each plant presents just a single stem tied to a stake and no more.

No doubt there are Tomato growers who have not tried this system who hold that to cut away side-shoots is to destroy all hope of bloom and fruit; but that is a most erroneous conclusion. Those who have noted the blooming habits of the Tomato plant will not have failed to see that the bloom trusses burst out from the main stem distinct from leaf buds; hence the cutting away of the side-shoots in no way affects the powers of the stem to produce bloom, and as all the strength of the plant goes into the fruit as it forms, it is naturally finer than is the case when several stems or branches are formed. Training, too, is of the simplest kind, and instead of plants needing several stakes each, or a sort of trellis to train them to, one single stake suffices, and the work of the cultivator is the more devoted to cutting away superfluous growth than in tying. No doubt, in the case of large clusters of fruit grown for market, it is well to thin out to a few of the best and handsomest, as even size, good form, and colour go a long way, and the enhanced price compensates for the lessened number of fruits.

SHREWSBURY FLOWER SHOW.

As we stated in our last issue, the Shropshire Horticultural Society's Show was held on August 19th and 20th, and proved a splendid success, far exceeding anything previously achieved by the society. It is doubtful if any other society has such an advantage as this in being able to hold their shows in a place like "The Quarry," a position charmingly situated, and in every way adapted for the purpose. Its beautiful avenues of Limes, its undulating surface, and the river Severn, seen glistening through the rich foliage of the trees, combine to make it a charming spot. Thanks, too, to the good fortune which has favoured the society, and enabled it to give handsome donations to the Corporation for the embellishment of "The Quarry" from time to time, it has been richly ornamented with choice trees and shrubs. The Committee, assisted by their excellent Hon. Secretaries, Messrs. Adnitt and Naunton, seem to adopt the right methods for attracting an immense assemblage of visitors, who come from all the neighbouring towns and villages, the fête being looked forward to for a very considerable time in advance. The Committee cater handsomely for the general public, as they have long since found out that something more than a flower show is required to make a brilliant success from a financial point of view, as this meeting certainly was, judging from the fact that on the second day £1,050 7*s.* was taken at the gates in shilling admittance fees up to seven o'clock, and £24 12*s.* subsequently in sixpences, and that there were besides some 10,000 ticket holders.

The horticultural features, too, were of a highly successful character, the show in its various departments being considerably better than on any previous occasion, and no wonder, when we consider the comprehensive character of the schedule, embracing as it does, all subjects in season. We may express the hope, however, that the Committee may be enabled ere long to increase the amount of prizes in some of the classes, more in proportion to the merits of the subjects demanded. We may allude, for instance, to the collections of twelve varieties of vegetables, for which the first prize is only 30*s.*, which seems hardly adequate, considering the time and trouble required to get up a first-rate collection. Viewed from the entrance to the large tent (which was a capacious one), and wherein was placed the monster stove and greenhouse plants, Ferns, groups for effect, and many other plants in their different sections, the effect was charming.

Fruit made quite an imposing display, exhibited as it was in such large quantities, and of splendid quality, particularly the Grapes and hardy fruits. The nurserymen's groups, "not for competition," were most imposing, showing the spirit in which horticulture is encouraged in the neighbourhood. The cottagers' exhibits were very large in point of numbers, and of extraordinary good quality, showing well the spirit of emulation with which they are actuated, and it may honestly be said that their productions would make many a gardener blush, who, of course, is placed under much more favourable circumstances.

Plants.

In the class for twenty stove and greenhouse plants, not less than ten in bloom, there were three competitors, whose contributions made an imposing bank. Mr. James Cypher, nurseryman, Cheltenham, was a long way ahead of the others. The foliage plants in his collection were of a very large size, and excellent in quality, while the blooming plants too were of

large size in most cases and very fresh, but as they have been so often before the public it is needless to go over the names of all. The following, however, were some of the best:—Cycas circinalis, C. revoluta, Crotons Queen Victoria and Prince of Wales, Latania borbonica, Phœnocoma prolifera (fine), Ixora Pilgrimii (well covered with fine trusses), and Rhododendron Duchess of Edinburgh, very bright. E. C. Glover, Esq., Highfield Hall (gardener, Mr. C. Roberts), was second with a very good collection, some of his blooming plants being extra good, notably Dipladenias amabilis and splendens, Ixora coccinea, and many others. Mr. Tudgey, Waltham Cross Nurseries, was third, his collection containing some very fine Heaths, namely, Wilsoni, insignis, and Faireana. For nine stove and greenhouse plants, not less than five in bloom, Messrs. Pritchard & Sons, nurserymen, Frankwell, were first, showing well, Kentia Fosteriana, Croton Queen Victoria, and Vinca alba, among their best; Mrs. Juson, Abbey Foregate (gardener, Mr. Jas. Tarrant), was second, his Ixora coccinea superba and Clerodendron Balfourianum being particularly good. For six stove and greenhouse plants (gentlemen's gardeners only), E. C. Glover, Esq., was first, and Mrs. Juson second. Six Exotic Ferns: first, Mr. Cypher, who had healthy plants of Microlepia hirta cristata, and Thamnopteris Nidus, &c.; second, E. C. Glover, Esq.; third, Messrs. Pritchard & Sons. Six Ferns (gardeners only): first, Mrs. Juson; second, J. L. Burton, Esq., Longnor Hall (gardener, Mr. M. Thurtle); third, Colonel Wingfield, Onslow (gardener, Mr. J. Lambert). For six plants in bloom, Mr. Cypher was again adjudged first honours, showing a clean even lot, including Allamanda grandiflora, and Dipladenia amabilis, freely bloomed; second, Messrs. Heath & Sons, Royal Exotic Nursery, Cheltenham, who had all Orchids, and Cattleya Gaskelliana as the principal plant; third, E. C. Glover, Esq. In the class for six Dracænas there were only two competitors, but they staged well-grown examples of good varieties: first, Misses Bannerman, Roden Hall (gardener, Mr. E. Shephard); second, Col. Wingfield. For six Caladiums, Mrs. Juson was an easy first, followed by Messrs. Pritchard & Sons, who took both second and third prizes. Coleuses were represented by excellent specimens trained in a pyramidal form and very highly coloured, the best coming from the Misses Bannerman, followed by Mr. Lane, Cherry Orchard (gardener, Mr. F. Morris), and the Rev. J. D. Corbet, Sundorne Castle (gardener, Mr. R. Milner). For six Fuchsias, Messrs. Pritchard & Sons were first with loosely-trained, finely-bloomed specimens, 5 ft. to 6 ft. high; second, Mr. H. Owen, The Cedars; third, Mrs. Juson. Hardy Ferns, Begonias, and double and single Pelargoniums were represented by fair specimens. For miscellaneous groups of plants covering 100 square feet, there were five competitors, and all had the same fault, viz., that of being too closely packed. The plants in all cases, however, were well chosen and of good quality, except perhaps in the first prize group, in which Coleuses preponderated too freely. Had there been a few other light-growing plants used and arranged thinner, it would certainly have had a better effect. Messrs. Pritchard & Sons were awarded the first prize with an arrangement of Ferns, Adiantum cuneatum and gracillimum as a ground work in an undulated form, and rising from the mounds were very graceful plants of Eulalia Japonica. Second and third prizes were awarded to Messrs. Jones & Sons, Shrewsbury, with plants well suited for the purpose, but too tightly packed. Table plants were well shown by Messrs. Jones & Sons, Messrs. Pritchard & Sons, and Col. Wingfield, in the order named. For the best collection of fifty miscellaneous plants, grown in 5-in. pots, not less than thirty in bloom, Messrs. Pritchard & Sons were first with Palms, Crotons, and some nicely-bloomed Gloxinias, among their best; second, Messrs. Jones & Sons, in whose collection were some good Tuberoses; third, Messrs. Pritchard & Sons. In the classes for various plants, devoted to amateurs, the competition was keen, and some well-grown specimens were shown.

Cut-flowers.

For twenty-four Roses, single trusses, Messrs. Perkins, Coventry, came in first with clean and neatly-formed blooms of the best varieties; and Messrs. Sandy & Son, Stafford, and Mr. Vertegans, Birmingham, were placed equal second. For eighteen Roses, E. Wright, Esq. (gardener, Mr. West), was first, followed by G. H. Berrington, Esq., Ludlow, and G. Townsend, jun., Esq., Uffington, in the order here named. For thirty-six Dahlias, Mr. W. Shaw, Kidderminster, was first with large blooms in his back row, the others being a trifle smaller, but fresh and of good form; second, Messrs. Heath & Son, whose flowers were a trifle smaller. In the class for twenty-four Dahlias, Messrs. Heath & Son were deservedly placed first for an even stand of excellent blooms of the leading varieties; second, E. Wright, Esq. (gardener, Mr. H. West); third, Mr. W. Shaw. For eighteen spikes of Gladiolus distinct, Mr. W. Shaw was first; second, Col. Wingfield; third, Mr. W. Shaw. For twenty-four Asters, first and second, Mr. A. Myers, Sutton Lane; third, T. L. Minton, Esq. For twelve trusses of stove or greenhouse flowers, Messrs. Pritchard & Sons were first, showing some good Heaths and Dipladenias; E. C. Glover, Esq., second. Twelve bunches of hardy herbaceous flowers: first, Mr. R. H. Vertegans; second, Messrs. Jones & Sons; third, Messrs. Pritchard & Sons, all showing well. Twelve spikes of herbaceous Phloxes: first, Miss Cotes, Bicton Hall; second, Messrs. Pritchard; third, Messrs. Jones & Sons. Marigolds, Pansies, Pelargoniums, Stocks, and Picotees, were shown by Messrs. Niven, Owen, Minton, Myers, and Berrington, who were the leading prizetakers. For the best ball bouquet, Messrs. Perkins & Sons, Coventry, were placed first, but in the opinion of many that position ought to have been accorded to Mr. Cypher, who was placed second, the third prize being awarded to Messrs. Jones & Sons, but all were of high merit. Mr. Cypher was an easy first for the best bridal bouquet, with an exquisite arrangement, in which Pancratiums and white Lapageria figured largely; second, Messrs. Perkins & Sons; third, Messrs. Jones & Sons. Messrs. Perkins, Pritchard, and Jones, staged the best button-hole bouquets in the order named. For the best stand for table decoration, not to exceed 18 ins. in diameter at the base, Messrs. Jones & Sons succeeded in winning first honours with an exquisite arrangement of choice flowers, followed by Messrs. Cypher and Jones. For the best basket of wild flowers, grasses, and ferns, Miss M. Goyne was first, closely followed by Mrs. Moore Ellesmere, Mrs. H. Jones, Mrs. Williams, Mrs. Mitchell, and Mrs. H. Myers, in the order named. For the same kind of basket, with the addition of wild fruit, the first prize was awarded to Miss Harrison for a very effective arrangement; second, Mrs. H. Jones; third, Miss Davies; fourth, Mr. J. Matthews; fifth, Mrs. Moore. For a basket similar in size (18 ins.) to above, but arranged suitable for table decoration: first, Mrs. Jones; second, Miss C. F. Bell; third, Mr. A. Myers; fourth, Miss H. James; fifth, Mr. J. Matthews.

Fruit.

For the best six bunches of black Grapes in three varieties, Joseph Evans, Esq., Hurst House, Prescot (gardener, Mr. C. Young), was first, staging the following varieties:—Madresfield Court, good bunches, and berries just wanting a little in colour to make them perfect; Black Hamburgh, good; and Alicante, well finished; second, the Earl of Harrington (gardener, Mr. J. Goodacre), who had splendid bunches of Muscat Hamburgh, well finished, but his bunches of Madresfield Court and Black Hamburgh lacked a little in colour, otherwise they were very good; third, Rev. W. Sneyd, Keele Hall, Staffordshire (gardener, Mr. J. Wallis); fourth, Major S. Thursby, Crayle, Llandudno (gardener, Mr. C. Joseph). For three bunches of black Grapes, Colonel Wingfield (Mr. Lambert, gardener), was deservedly awarded first honours for Black Hamburgh in first-rate condition; second, the Hon. C. H. Wynn, Rug, Corwen (gardener, Mr. J. Bennett), with finely-finished samples of Alnwick Seedling; third, H. Baxter, Esq., The Tower, Rainhill (gardener, Mr. J. Bratherton), with Madresfield Court; fourth, Viscount Combermere (gardener, Mr. N. E. Owen); fifth, H. W. Foley, Esq. (gardener, Mr. F. Roberts). There were fourteen competitors in this class. For four bunches of white Grapes in two varieties, J. Evans, Esq., was again first, showing very handsome, well-ripened bunches of Muscat of Alexandria and Foster's Seedling; second, J. Corbett, Esq., Impney Hall, Droitwich (gardener, Mr. W. Parker), with good Muscats; third, G. Meakin, Esq., The Hayes, Stone, Staffordshire (gardener, Mr. J. Wilkes); fourth, the Rev. W. Sneyd. In the class for three bunches of white Grapes there were seven collections staged, the best coming from J. Watson, Esq., Berwick House (gardener, Mr. H. Purser), excellent samples of Muscat of Alexandria; second, Misses Bannerman; third, H. Baxter, Esq.; fourth, H. Baxter, Esq.; fifth, Sir V. R. Corbet, Bart., Acton Reynold (gardener, Mr. T. Hawkesford). In this class there were eight competitors. For two bunches of black Grapes (amateurs only), R. Blakeway Philips Esq., Hanwood, was first; second and third, G. Burr, Esq., The Oaklands. Two bunches of white Grapes, amateurs only: first and second, G. Burr, Esq.; third, R. Blakeway Philips, Esq. For the best collection, of twelve dishes, Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Hall, Derby, was first with an excellent assortment. His Muscat Hamburgh Grapes were grand; Charlotte Rothschild Pine, very fine; good Moor Park Apricots, Hero of Lockinge Melon, Goshawk Peaches, well-coloured, and Pine-apple Nectarines. J. Corbett, Esq., was second, with Best of All Melon and Royal George Peaches as his best dishes. Third, the Hon. C. H. Wynn, who had good Black Hamburgh Grapes, Royal George Peaches, and Pine-apple Nectarines. For the best collection of nine varieties there were five competitors, the best coming from the Misses Bannerman, who had good Madresfield Court and Muscat of Alexandria Grapes, fine Peaches, and Morello Cherries; second, Colonel Wingfield, who staged, among others, good Black Hamburgh Grapes; third, James Watson, Esq., Berwick House (gardener, Mr. H. Purser). In the class for the best six Peaches there were twelve dishes staged, and Mr. W. Shaw had the best, which were highly coloured; second, G. Meakin, Esq.; third, E. Wright, Esq., Halston (gardener, Mr. H. West). Eleven dishes were staged. In the class for six Nectarines, the Hon. C. H. Wynn was first; Sir C. R. Boughton, Bart., Downton Hall (gardener, Mr. H. C. Kennedy), second; and F. H. Barbe Sladen, Esq., Leighton Hall (gardener, Mr. C. Dawes), third. Nineteen competitors entered for the best six Apricots, all being very good: first, F. H. Barbe Sladen, Esq.; second, Miss Emily Cotes, Bicton Hall; third, Mr. T. S. Minton, Montford. General Jenkins, Cruckton Hall (gardener, Mr. J. Withers), and the Rev. W. Sneyd, had the best green and purple Plums; and the best of seven green-flesh Melons came from Mr. J. Hawkesford, followed by J. Watson, Esq., and J. Corbett, Esq. Among the eleven scarlet-flesh Melons shown, G. Meakin, Esq., had the best; second, J. Blakeway Philips, Esq.; third, Mr. F. Hawkesford. Excellent Morello Cherries were staged in a class in which the Rev. E. Warren, The Mount, was first, with extra fine samples, closely followed by Sir F. Smythe, Bart., Acton Burnell (gardener, Mr. J. Edwards); third, the Earl of Harrington. The best of four dishes of hardy fruit came from the Earl of Harrington, followed by Mr. W. Shaw and J. Watson, Esq.

Vegetables.

For the best collection of twelve varieties the first prize was awarded to Colonel Wingfield, and the second to the Rev. J. D. Corbet; but we think a mistake was made here, as we considered the second prize collection was the best. In the first-named lot were good Leeks, extra good Beet (Nutting's Dwarf), good Peas, fair Tomatos, and French Beans; the Cauliflowers were much too large and open, Celery moderate, Potatos poor, while the dish of Brussels Sprouts could not have counted for much. In the collection awarded the second prize were excellent Cauliflowers, Tomatos, Celery, Turnips, and Potatos; the weakest dish was the Carrots, and the arrangement was not so good, so that a point or two was no doubt lost here; third, J. Watson, Esq. For the best six dishes of Potatos, J. Watson, Esq., was first; General Jenkins second; and Rev. J. D. Corbet third. The best dish of Tomatos, a very fine sample, came from the Earl of Harrington, followed by Colonel Wingfield and the Rev. J. D. Corbet. Onions, Cucumbers, Cauliflowers, Carrots, and Parsnips were well shown by Colonel Wingfield, J. Watson, Esq., and others.

The cottagers mustered in strong force, as may be gathered from the fact that as many as thirty-seven dishes of Scarlet Runner Beans, twenty-six dishes of French Beans, and twenty-four dishes of Gooseberries were staged, and other things in proportion.

NURSERYMEN'S GROUPS.

Certificates of Merit were awarded to the following nurserymen for excellent collections staged, "not for competition":—Messrs. F. & A. Dickson, Upton Nurseries, Chester, who had an excellent assortment of plants in the best possible condition, including an extensive collection of Crotons, extra well-grown and coloured, Dracænas, Palms, Asparagus plumosus, cut Roses, and some highly-coloured blooms of Gladiolus Brenchleyensis, showing well the utility of this variety for decorative purposes. To Messrs. James Dickson & Sons, Newton Nurseries, Chester, for a box of cut blooms of single Dahlias of a good type, Picotees and Carnations, and an excellent group of hardy shrubs in pots, effectively arranged at the entrance to the first tent, amongst the shrubs being arranged some well-grown plants of Lilium auratum and L. speciosum rubrum. Amongst the shrubs we noticed good plants of Retinosporas, Junipers, Thujas, Cupressus, variegated Ivies, &c., and a large basketful of Olearia Haastii freely bloomed. To Messrs. R. Smith & Co., St. John's Nursery, Worcester, for a large and fine collection of general nursery stock, such as Ferns, Palms, and other fine-foliaged plants, Yuccas and cut Roses, effectively arranged, and several boxes of cut herbaceous flowers. To Messrs. Jones & Sons, Shrewsbury, and Mr. Vertegans, Birmingham, for very fine boxes of cut-flowers, including the best of the herbaceous varieties, notably a fine lot of Gaillardias. To Messrs. Pritchard & Sons, and to Mr. A. Myers, Sutton Lane Nursery, Shrewsbury.

Messrs. Webb & Sons, Stourbridge, had an excellent stand of produce grown from their seeds, and which well illustrated the excellent character of their introductions. We noted particularly fine specimens of their Mammoth Cauliflowers, Emperor Cabbage, Banbury Onion, new Colossal Leek, and Perpetual Bearer Cucumber, a cross between Telegraph and Tender and True, two excellent varieties. A First-Class Certificate was awarded to this firm for a new seedling Potato, a white round of promising appearance, and said to be of splendid quality. They also exhibited a new seedling Tomato of great promise, good in shape, a very free bearer, and likely to be an acquisition.

CHURCHTOWN BOTANICAL GARDENS.

THESE favourite gardens are situated about two miles from the famed watering-place of Southport, and are a favourite resort of the many thousands of visitors who annually flock to that place, which is of easy access from Manchester and Liverpool. The gardens have been opened about ten years, and were laid out by Mr. Shaw, of Bowden. They consist of about twenty acres, and are very ornamental, the undulating grounds and picturesque lake rendering them very attractive. Bedding-out is well done, Mr. Fish, the curator, having evidently studied well the plants best adapted for this somewhat fickle climate.

There is a grand conservatory, 120 ft. long and 60 ft. wide, in which are specimen Araucarias, Musas, Eucalyptus, Dracænas, Palms, Phormiums, Yuccas, &c., and conspicuous among the foliage plants are specimen Camellias, Azaleas, greenhouse Rhododendrons, Agapanthuses, Erythrinas, &c. Hydrangeas are grown in huge specimens—the finest examples in pot I have ever seen—being over 6 ft. through, with over fifty enormous trusses; these, as seen here, mixed with the stately Palms, majestic Dracænas, &c., produce a fine effect. Another grand old plant for the decoration of large houses such as this is Erythrina christa-galli. This is grown in quantity, and their spikes of coral-like flowers are very showy. The side stages are filled with a varied collection of decorative flowering plants, and at one end of this show house is a good collection of Agaves, Yuccas, Mammillarias, and various other succulent plants, which attract the notice of the visitor. At one side and adjoining this fine house is a fernery 120 ft. long and 60 ft. wide, in which the rockwork is good and very natural looking, and a choice collection of tree and other Ferns most suitable for such an aspect are planted with good effect. The various waterfalls and rivulets give it a very natural appearance, and a walk through is very refreshing on such a hot day as the one on which I made my visit.

At the back of the fernery is a good range of houses, span-roofed, and well adapted for growing bedding and decorative plants of all the leading kinds; just now those used for bedding plants in the winter are devoted to the culture of Melons, Cucumbers, and Tomatos, which are well done, all carrying very fine crops. A fine yellow Tomato named Golden Trophy, raised by Mr. Fish, is well worthy of notice; it is a very abundant cropper, and of fine flavour, some of the fruits weighing over 13 ozs., and is sure to find its way to the fore when sent out. It has already been shown and favourably commented upon by good judges, and it was highly commended at the Grantham show a few days since. Some distance from here is a good range of vineries, carrying a splendid crop of good bunches well coloured and highly finished; Bowood Muscat, Muscat of Alexandria, Black Hamburgh, Gros Colmar, Lady Downes' Seedling, and Alicante, are the principal varieties, and a ready sale for these and Tomatos, as well as flowering plants, is easily found.

A museum near the entrance contains many curiosities, and rare collections of birds, insects, &c., and forms an additional attraction. The grounds are well kept, the whole reflecting great credit upon the abilities of Mr. Fish, the energetic curator. They belong to a company, and the Directors at their last meeting declared a very good dividend, which speaks well for the management and the interest taken by the visitors. An hour or two can be well spent here should any of our gardening friends visit Southport.—*Alfred Outram.*

SCOTTISH GARDENING.

NOTES ON BEDDING PLANTS, &C.—It must be patent to the most casual observer that the rage for covering every available space of ground with plants which flower between June and October is greatly modified. It is also pleasing to note that, in the north as well as in the south, the vulgar taste of cramming vegetable ground with bedding plants has almost ceased to exist. Where the vegetables were well hidden from the flowers, and there was nowhere else to plant the latter, such a practice was quite excusable; but often the thin screen of Hollyhocks, Roses, or espaliers, where there was a screen at all, was not sufficient to shut off the masses of vegetables, which frequently had "accompaniments" of Chickweed, Thistles, and other obnoxious weeds so offensive to one's vision. A good Yew hedge, Laurels, Holly, or other evergreens, we have seen used as ornamental screens between the flowers and vegetables, and they act admirably in affording shelter as well as being ornamental.

Perhaps the worst evils connected with the filling up of good vegetable borders and plots with flowers was the reduction of useful supplies of early vegetables and the enormous addition to the labour and resources of the cultivators. Such an increase of labour without additional help was the means of raising real difficulties in garden management; and often where practical men had at one time credit for their work and supplies, satisfaction (caused by over-taxed means and labour) became a thing of the past. Much of the retrogression of practical gardening could easily be attributed to this extension of bedding. While one had to deplore the neglect of other departments in gardens where the requirements of them were applied to bedding, there were some exceptions where flower gardening was done extensively, and super-excellent in contour, all other features of the place exhibiting the same meritorious character, indicating that skill and great resources were in possession of the gardener.

Matters have greatly changed during late years, and we think for the better. It is pleasing to observe that good collections of useful kinds of herbaceous plants now hold the position which they never should have lost. Where cut-flowers are much in demand, many of these are invaluable. Rose gardens or borders well stocked may now be seen in most gardens —and this year they have been extra fine—especially many of the old kinds, which have been favourites ever since we remember Roses. Carnations, under their various titles, are very popular at the present time, and so they ought to be. Where there are masses of whites, crimsons, purples, and scarlets with their thousands of open blooms, and more to open, they are objects greatly admired, and give a floral display which may be thoroughly enjoyed, and which cannot be excelled by any other class of plants. The perfume emitted by them is an adjunct which enhances their value in a high degree as garden decorative plants; and they are peculiarly suited to cool northern districts, we have seen them during favourable seasons in bloom from July to January. The demand for such useful hardy plants is on the increase, and our nursery friends who indefatigably cater for the public wants are deservedly entitled to substantial reward. While visiting places where bedding has long held a leading position, one is struck by the sameness and the attachment to old lines which were prominent many years ago; the Pelargoniums, Calceolarias, Lobelias, Pansies, and a few other popular plants much in vogue twenty years ago are doing duty still, and notwithstanding so many new additions to trade lists, many of the old kinds are not yet shunted by the "novelties." Though the system called carpet-bedding has been extensively patronised in many southern parts of the kingdom, it has never taken a very firm hold in Scotch flower gardens.

While one advocate of the system complained that it was "practically in its infancy in Scotland," a leader in all matters horticultural replied that "the longer such gardening remained in its infancy the better." While one can admire this kind of bedding when arranged by those who display taste and elegance in their work, the bulk of the work performed by others cannot be looked upon as anything better than tattooing the surface of the ground, the innumerable forms, quaint and grotesque, reminding one of the olden times when shrubs and trees were cut into the form of birds, beasts, and architectural figures. The taste for such has long since expended itself, and the elegance of natural objects commands admiration instead of nature in a distorted form. We do not believe in being too sweeping in denouncing carpet-bedding; one great good it has done being the bringing prominently into notice of many beautiful hardy plants which had long remained in oblivion, and many of these can be arranged effectively, exhibiting character so pleasing that the gayest of flowering-plants cannot excel. What the admirers and growers of them contend for, and justly too, is that they are not disfigured by rain, they can be planted so that the spaces are at their best at once, and by systematic and regular trimming the beds or borders can be kept in presentable condition till the end of the year; such cannot be said of the ordinary flowering plants, which are so short-lived in flower gardens. It is pleasant to observe in many places that the finer foliaged shrubs are becoming very popular, and can be placed in positions where they can be effective all the year round. Several of the great nursery firms have shown what can be done by the grouping of shrubs for effect; the pleasing combinations of green, variegated, golden, and other shades of colour among ornamental shrubs, when arranged for effect, has only to be seen once to create admiration.

Many plants, such as Golden Yews, Retinosporas, Biotas, Myrtle-leaved Laurels, Hollies, Aucubas, Euonymus, Thujas, and others, are well adapted to break up the monotony too common in flower gardens. At the present time strenuous efforts are being made to prepare the stock of plants for next season's work. A mistake (not uncommon) is to propagate great numbers of plants with the same coloured flowers; it is better to retain the best with distinctive colour and habit, and those which are inferior may be left out of the list. As examples, Pelargoniums John Gibbons and Rev. H. Atkinson are so much alike that both need not be grown. The latter has been the best with us this season, having flowered freely since they were planted, and they are at present a mass of bloom.

Among pinks, Master Christine holds its own; Mrs. Turner and Amaranth suit northern districts well, and are much alike. Bijou and Flower of Spring, among silver-leaved kinds, still hold their own, both being free growers, one a scarlet flower, and the other a pink. Among the gold and bronze-leaved we observe Beauty of Caulderdale, Kentish Hero, Golden Harry Hieover, Perilla, Mrs. Pollock, and Crystal Palace Gem, among the best of free-growing bedding kinds. Lobelias seem very difficult to procure true and free from "rogues"; we have managed to get a fine selection from Blue King, and as cuttings do best in the north when well treated, Lobelias are extensively propagated by them, and plants may now be lifted to be cut up in divisions or cuttings in spring. Hardy plants for bedding are now very numerous, and among the most useful are Antinarias, Golden Balm, Arabis lucida variegata aurea, Pansies and Violas, of which the names are endless, and which on good land do well anywhere.—*M. T.*

The Amateurs' Garden.

THE GREENHOUSE.

Climbers.—The free growth these are now making renders frequent attention necessary in the way of thinning and regulating the shoots, which should be kept tied loosely, and allowed to depend as naturally as possible, for nothing looks worse than formal or stiff training of plants that are used for adorning pillars or roofs of houses, where they ought to be allowed to display their habit, and run pretty much at their will.

Lapagerias.—These will soon be at their best, and full of flower, at which time almost unlimited quantities of water are required, but its free use must depend greatly on the drainage of the border, as though Lapagerias will bear, and need large supplies, it is very important that it passes quickly through, or the soil soon becomes sour.

Roses.—Few plants are more serviceable for the embellishment of greenhouses in spring than pot Roses, especially the Tea-scented varieties, some of which may be had in bloom nearly the whole year round, but to enable them to produce flowers freely they must be well grown, which can only be done by giving them good soil and potting them on. The best mixture that can be prepared for them is good fibry loam, leaf-mould, and rotten cow-manure, in the proportion of two-thirds of the first-named to equal parts of the latter, in which the Roses should be potted firm and plunged in some open sunny spot, where they can be attended to in the way of watering, and kept free from mildew, which may be done, if that parasite shows itself, by dusting the foliage with flowers of sulphur, or syringing with a solution of Gishurst, as either will destroy it at once.

Perpetual Carnations.—For cutting from during winter, tree Carnations are quite unrivalled, and those who are not so fortunate as to have plants should procure some at once, and pot them into larger pots, giving them sharp sandy loam and a little rotten dung, after which the most suitable place for them is out-of-doors, where they may be left till quite late in the autumn, and then stood on light airy shelves near the glass.

Bouvardias.—These succeed well under similar treatment, and do far better fully exposed than they do in pits, as when subjected to the full influence of the weather they ripen their growth, and bloom profusely when taken under cover, where, if favoured with a temperature of about 55 degs., the plants will continue in full beauty the greater part of the winter.

Bulbs.—It is time now to be thinking of these, the most desirable being the Hyacinths, Tulips, and Narcissus, all of which should be ordered at once, and a portion for early display potted as soon as they are received, the first to come in among the Hyacinths being the Roman, which require but slight forcing to have them in flower at Christmas. As the bulbs of this variety are small, six or seven may be put into a 32-sized pot, but the soil should be rich and light, and in it the bulbs ought to be just buried, leaving only the crowns visible above. The large sorts should be treated precisely in the same way, but they look best singly, or in threes, and in the first case 48-sized pots are necessary for growing them, and in the latter 23's or 24's, according to the purpose for which they are wanted. Tulips and Narcissus ought to be treated in like manner, the kind of soil suitable for the whole being the same as that mentioned for the Roman Hyacinths, and as soon as the potting is complete they should be stood on a hard bottom that worms cannot get through, and be covered with about 6 ins. of cocoa-nut fibre or coal-ashes, and there left in themselves till they start.

Mignonette.—Nothing in the way of sweet-scented plants is more acceptable than Mignonette, and to have it in bloom early next spring, seed must be sown now, for the doing of which 6-in. pots should be prepared by being well-drained and then filled with rich loamy soil pressed in very firm, after which it should be watered and then allowed to stand a few hours, when the seed should be scattered thinly over the surface and just covered, and if the pots are then placed in a cold frame under glass, the plants will soon show themselves, and as soon as they are well up they ought to be thinned, leaving only the strongest, and about five or six in a pot.

Watering.—Why many fail with Mignonette is in giving too much water while the plants are young, a period when they are very impatient of moisture and should be kept moderately dry till they are well rooted and get somewhat large, when they will be greatly benefited by weak liquid manure.

THE FLOWER GARDEN.

The Season has been a very trying one for hardy perennials, which have suffered as much perhaps from the arid state of the atmosphere as from want of rain, but with a little assistance, all late-blooming kinds will be good yet, the help they require being a thorough soaking of water or liquid manure, of the latter of which herbaceous Phloxes and the fine Anemone japonica cannot well have too much.

Propagating.—In cases where it is desired to increase any of the plants referred to, no time should be lost in putting in cuttings of such as may be propagated in that way, as they will strike well now, the conditions requisite to get them to root being shade and a close moist atmosphere, such as may be afforded under handlights, or in any cold frame.

Roses.—These have suffered much, owing to the absence of wet, but now that we are getting rains and cooler weather, with night dews, Roses are reviving a bit, and will yet give a crop of bloom if the plants are assisted in their growth by free applications of liquid manure. Although it is late now to be budding, buds will still take freely if the bark runs so that they can be put in, and any stocks that have failed and have fresh shoots may therefore be worked over again.

Cuttings.—The present is a good time to put in cuttings of Roses, which root readily under handlights stood on a half spent hotbed, where they should be shaded and syringed occasionally, so as to keep the foliage fresh till they strike. The best shoots to form the cuttings are those of small size and firm, and the way to make them is to cut into lengths so that each piece has three buds, the leaves from the lower to be trimmed away and the wood severed close under, when the cuttings should be inserted in sharp sandy soil.

Bedding Plants.—The season for these to display their beauty is short at best, and therefore they should be made to look as well as possible by going over them frequently and removing all dead or decaying leaves, flowers, or seed-pods that show and disfigure the plants.

Sowing Seeds.—Perennials and hardy annuals may be sown as fast as seeds ripen, for though plants raised thus late will be small, they will have an advantage over others that are left till the spring. If not sown where they are to stand and grow, they should be put on some sheltered sunny border, where the soil is light and dry, and from there they can be lifted and transplanted as vacancies occur in the borders.

THE FRUIT GARDEN.

Little remains to be done in this department, except giving any trees that have fruit on them plenty of liquid manure or water, either one or the other of which are essential to aid the Apples or Pears swelling, as we have not had enough rain to get down to the roots.

Plums will now be ripening fast, and wasps, the plague of gardens, will be at them if not sought out and destroyed in their nests, which may easily be done by watching their flight and pouring a little turps or coal tar into the holes where the nests are, and blocking the openings, when the fumes will stifle the insects.

Raspberries.—These are generally left till winter before being trimmed and seen to, but the proper time to do the thinning out is as soon as the fruit is gathered, which gives the young canes a chance to harden and ripen. The number of these to be left depends on the distance the plants are apart, but from three to five is quite sufficient in any case, and beyond these, which should be the strongest, all others may be pruned out and any straggling suckers in the ground dug up or pulled away and cleared off with the weeds.

Strawberries.—These, like everything else in gardens, are suffering from want of rain, and, unless watered so as to assist the plants in forming and developing their crowns, the prospect of obtaining a crop next year will be a poor one, especially in light soils, but on these the beds should be heavily mulched.

THE VEGETABLE GARDEN.

Potatos.—All early and second early kinds of these are now ripe, and will be far better out of the ground than in, for while there, not only are they more liable to disease, but when heavy rain comes they are almost sure to super-tuberate or sprout, and this quite spoils them for eating. If the skins are not quite fixed, a few hours exposure will set them, but those for cooking must not be left long out in the sun and light, or they will become discoloured and spoiled.

Celery.—Liquid-manure or water, and plenty of the one or the other, are the great things for Celery, which should not be earthed up, as is too commonly done, but tied so as to bring the leaf-stalks together and keep the plants compact and close, as the blanching can be done later on when the Celery has completed its growth.

Onions.—Spring-sown beds of these are now approaching the ripening stage, and as soon as they will leave the ground readily they should be pulled and laid out to mature, which they will in a week or so, when they will be ready for harvesting and storing in some dry, cool, airy shed.

Spinach.—Winter beds of this most useful vegetable ought to be sufficiently forward for thinning, which should be done as soon as the plants are large enough to handle, leaving them from 6 ins. to 8 ins. apart, which will afford room for full and free growth, and for the production of large fleshy leaves.

Cabbages will require unremitting attention in the way of watering to get them established, and successional plantations should be put out at once, the best time for moving the plants being towards evening, when they suffer less from being moved.

Tomatos.—It is useless now to allow these to make further growth or flower, and the way to manage the plants after this is to keep them stopped, and all fruit exposed by a judicious thinning of the leaves, giving plenty of water or liquid manure at the roots till rain comes, after which the plants may be left to themselves.

CATTLEYA HARDYANA.

Thanks to the kindness of Mr. George Hardy, Pickering Lodge, Timperley, we are enabled to give in our pages to-day an illustration (admirably rendered by our artist) of the magnificent hybrid Cattleya which he had the gratification to flower a month ago, and which afforded so much pleasure to Orchid lovers when shown at South Kensington on August 11th. Cattleya Hardyana, under which name it was certificated and will in future be known, is, there can be little doubt, a natural hybrid between C. aurea and C. gigas, both handsome species in themselves, but neither comparable to Mr. Hardy's lucky purchase. As was stated in a recent number by Mr. Swan, the plant was bought about five years ago as C. Sanderiana, but was soon seen to be distinct from that showy Orchid. The flowers measure 8 ins. across, and the sepals and petals are of a deep shade of mauve. The lip is large and well-formed, the lower half as indicated in our engraving, deep rosy-purple, which is carried into the throat between two large rich golden blotches. The plant has made several fine growths, is in splendid health, and Mr. Hardy is certainly to be congratulated on its possession, for no man loves a good Orchid better.

A COTTAGERS' SHOW.

The prizes offered for fruits and vegetables grown by cottagers and artizans brought such a wealth of produce to South Kensington on Tuesday last, as must have fairly astonished those visitors to the Inventions Exhibition who passed through the large Conservatory. We thought last year's display a most creditable one, but it was beaten in every way on the present occasion, the display being larger, and the produce staged of a much superior order of merit. We believe there were over 700 entries, and a thousand or more plates were used in displaying the samples of those who did not bring their own. The collections

of six distinct kinds of vegetables were both numerous and good, indeed, for the most part of a high order of merit, and consisting in the main of Potatos, Cauliflowers, Parsnips, Carrots, Beet, Runner Beans, Vegetable Marrows, Cabbage, and occasionally Tomatos. Besides this class, there were others for single dishes of various things, and in every instance the competition was keen. But few of the exhibitors, however, had taken the trouble to name their things, and consequently much of the value of the display, from an educational point of view, was lost. This is much to be regretted, and we hope the authorities will insist another season upon everything being legibly named. It is certainly not too much to ask of an exhibitor, cottager or otherwise, and we feel sure it will readily be done if special attention be drawn to the matter in time.

There were no less than thirty-three entries in the class for a collection of six kinds, and thirty-two exhibitors put in an appearance, some of whom we should judge to be very substantial cottagers. The first of the six prizes offered was won by Mr. C. Beckett, Tyler's Green, Penn, Bucks, who had Giant Rocca Onions, Long Red Surrey Carrots, Woodstock Kidney Potatos, Excelsior Tomatos, Autumn Giant Cauliflowers, and Carters' Champion Runner Beans, all of first-rate quality. The other awards were made, in the order named, to Mr. G. North, Mite Street, Buckingham; Mr. W. Cooper, Rose Cottage, Shrivenham; Mr. T. J. Pallett, 50, Russell Street, Loughborough; Mr. W. B. Gillam, Newland, Sherborne, Dorset; and Mr. J. Kite, Sherborne; while Mr. W. Warren, Shrivenham, and Mr. G. Haggard, Sherborne, were highly commended, and Mr. H. Gibbs, Church Green, Sevenoaks, and Mr. F. Beck, Nash Mills, Hemel Hempstead, were commended. Taking the collections collectively, the palm for quality must undoubtedly be given to the Carrots and Parsnips, of which the bulk were remarkable for their fine quality as varieties and high cultivation. Some of the Parsnips measured as much as 2 ft. in length, and a few were quite 27 ins. long, perfectly smooth and tapering, while of the Carrots, there were some of the Altrincham variety that for perfectly smooth, tapering form and good colour we have seldom seen surpassed. Potatos generally were of good table size, very clèan and round. Beet generally were large and coarse, but Leeks were good all round. The Peas shown were, as might have been expected, generally below par, but of Celery much that was staged showed admirable cultivation. The Onions generally were large, but not so clean as professionals generally stage; and French and Runner Beans, and Vegetable Marrows, were all that could be desired.

The Potato classes were well contested, the number of exhibitors of single dishes being twenty-nine in the case of Kidneys, and thirty-six in the round class. In the first-named competition a very fine clean sample, from Mr. T. Diver, White House, Petworth, was first, and the other winning dishes came respectively from Dartford, Coleshill, and Aylesbury. Mr. Diver was also first with rounds, a handsome large red variety. Another good red variety, coming from Heybridge, near Maldon, came next, followed by a good white from Northdown, near Margate. For three Kidney varieties, the highest award went to Mr. H. Gibbs, Sevenoaks, who put up Essex Challenge, Trophy, and Beauty of Hebron. In the corresponding class for round varieties, Mr. G. North, Buckingham, was first with good samples of purple, red, and white sorts. The Peas were poor, with few exceptions, one of which was the first prize single dish from Mr. W Barrow, Lutterworth, the large pods on which were of a good deep green colour, and well filled. The Onions ran large and good all round, a fine sample of Giant Rocca from Mr. J. Pallett coming in first. Walker's Exhibition, good strains of White Spanish, Carters' Golden Globe, and Ronsham Park Hero were well represented. The twenty-nine dishes of Carrots staged made up a grand class, and all the leading varieties were represented. The Broad Beans were poor, but the three dozen dishes of Runner Beans were a fine even sample, as also were the twenty-seven samples of French Beans.

Turnips, though numerous, were not remarkable for high quality, and the same must be said of the Beet and Cauliflowers, which were too large and coarse as a rule. The Cucumber class was a poor one, a most uneven lot, but the Vegetable Marrows were good, representing several varieties of a good useful size,

CATTLEYA HARDYANA.

and no monsters fit only for Pumpkin pies. The salad class was a coarse one, but that for six bunches of herbs more than atoned for any shortcomings in the former. The two Apple classes were also good ones, containing a number of splendid samples, but nearly all unnamed. The best three dessert sorts came from Mr. W. Jacob, Pound Street, Petworth, and consisted of Lady Sudeley (shown last year as Jacob's Strawberry), Duchess of Oldenburgh, beautifully coloured, and Devonshire Quarrenden. The best kitchen varieties were Warner's King, Loddington Seedling, and Stirling Castle, and the best single dish was one of Lord Suffield. Gooseberries, Currants, red, white and black, Plums, Morello Cherries, Apricots, Cob Nuts, &c., were also well represented.

FRUITS.

Fruit Culture under Glass.—Strawberries in Pots: If not already done, young Strawberry plants which were layered into the fruiting (6-in.) pots early in July should be detached forthwith from the parent plants, and the pots be stood on brick walls enclosing Vine-borders, on boards at the foot of the same, or on coal ashes in any situation well exposed to the south and west, so that the plants shall have the full benefit of the sun's rays to ripen and consolidate their crowns, without which satisfactory results in the way of a good crop next spring need not be looked for. Continue to give the plants liberal supplies of weak liquid manure daily, until they have completed their growth, towards the end of next month, and with the object of concentrating the energies of the plants to the formation of large and, as already stated, well-ripened crowns remove all runners and any small crowns that may spring from the original and principal ones as soon as they appear.—*H. W. Ward.*

Hardy Fruits at South Kensington.—Messrs. George Bunyard & Co., Maidstone, sent a very interesting collection of hardy fruits, principally Apples and Pears, to the meeting of the Fruit Committee on Tuesday. Amongst the Apples were noted some very fine samples of Pott's Seedling, large fruits weighing nearly 1 lb. each; handsome specimens of The Queen, Messrs. Saltmarsh's new variety, a fruit of good colour and remarkable for its high specific gravity; Lord Suffield, exceedingly fine fruits from an orchard-house tree; superb specimens of Cellini, also from an orchard-house tree; the new Worcester Pearmain, very highly coloured, a handsome variety for the dessert; Cardinal, a variety of medium size, of the old Nonsuch type, and a good bearer; and Peter the Great, a new American variety, much of the same character as Cardinal, and also a good, free bearer. Among the choicer sorts of Pears were Triomphe de Vienne, a large, handsome variety of the Beurré Bosc type, very early and of good flavour; Petite Marguerite, a new variety received from America, somewhat resembling the old Autumn Bergamot in size and shape, and of most delicious flavour; and Emile d'Heyst, a very fine sample of a variety which is as good as Marie Louise in flavour, and is well worth looking after as an early sort. A number of other good but better-known sorts were staged, and a Silver Banksian Medal was awarded for the collections. Messrs. Thomas Rivers & Sons also sent a collection of seedling Plums, several of which bore a close resemblance to each other; some fine Peaches and Nectarines, &c. From Chiswick, Mr. Barron brought up a collection of the Plums at present ripe, the best of which were McLaughlan's Gage, Reine Claude d'Oullins, a very fine early variety, of good size, almost round, of a rich golden-yellow colour, and of exquisite flavour; Bradshaw's or Black Imperial, a large purple Plum of the Victoria type and a very free bearer. That beautifully coloured and valuable early Apple, Duchess of Oldenburg, was also represented by some very fine specimens from small trees. It was hoped that there would have been an interesting display of Plums, but very few were forthcoming — the only gardener sending a collection being Mr. G. W. Cummings, gardener to A. H. Smee, Esq., The Grange, Wallingford, who had, amongst others, Denniston's Superb, Prince of Wales, Old Orleans, Jefferson's, and the Rochester Cluster Damson, a most prolific bearer. Mr. G. F. Wilson, one of the first to adopt the orchard-house system of fruit culture, showed a very fine sample of the Transparent Gage, gathered from trees which have been in pots for twenty-eight years.

FLOWERS.

Seasonable Work in the Plant-houses.—Dutch Bulbs: Where these are required for early forcing, they should now be potted as early as convenience will allow. There will be time enough later on for the general collection; therefore, those that are potted now should be selected from the early varieties which are known to force well; and in making a selection it will be better to keep to the best old varieties that have been well tried, rather than to depend upon newer sorts, which have not been proved; it is a good plan, however, to do a few of the newer sorts, say two or three pots of each for trial, and these should be carefully reported on, and if any of them prove to be improvements on older varieties, they may be included in the collection for the following year. Where it is desirable that the flowering season of these useful plants should be prolonged as far as possible, it will be better to make several pottings, rather than to pot the whole batch at one time, as is often done. We recommend that the first batch should be potted as early as possible, the general collection early in October, and the latest batch about Christmas-time. It requires a little care in keeping the bulbs that are to be potted later on; they should be placed in a dry, cool position, and if left in the bags, the bags should be open at the top, or it will be better to turn them out of the bags and place them on a shelf in the seed-room.

Selecting Bulbs.—It is a mistake to suppose that the largest bulbs will give the best results. Moderate sized, firm, well-ripened bulbs are the best. Although results will in a great measure depend upon the quality of the bulbs, yet good culture will be as apparent as in any other class of plants.

The Roman Hyacinths will be the first to flower; these, if started early, may be had in flower by the end of September or beginning of October, and with a little management, a succession may be kept up throughout the winter; these, with their slender spikes of pure white flowers, are even more useful than the larger sorts. The best method of starting these is to put them in pans or boxes, and as they begin to come into flower, the strongest may be taken out and potted, and the weaker ones will be useful for cutting. Tulips will also be better started in boxes, as the pots can then be made up more evenly than they can be obtained when grown in pots; this is especially the case with the early forced bulbs. In making up pots for table decoration, &c., small Ferns can be used, and when nicely combined are very effective. Paper-white Narcissus should be included among the bulbs for early forcing, as they may be had in flower by Christmas, when white flowers are very valuable.

Preparing Bulbs for Forcing.—The main points to be considered in preparing bulbs for forcing is to use good, rich, light soil for potting, and pot them moderately firm. In the case of Hyacinths, a little sand should be placed directly under the bulbs; this will prevent the young roots from damping off. After they are potted, they should be placed on a bed of ashes, which should be of sufficient thickness to prevent the worms penetrating the pots. The best material for covering them is cocoa-nut fibre refuse; this covering should be at least 3 ins. or 4 ins. thick, and in case of heavy rains it will be better to have extra covering to keep the wet off. If ashes have to be used for covering the bulbs, inverted pots should be placed over the Hyacinths before the ashes are put on.

Fuchsias in the Isle of Man.—During a trip recently made to this favourite holiday resort, I was much struck with the wondrous growth and size of the Fuchsias. It appears to be quite at home, and wherever it may be planted it flourishes in a most remarkable manner. Hedges may be seen along the road sides forming perfect lanes of Fuchsias, some of them from 8 ft. to 12 ft. high. They are used to divide fields and gardens, to form arbours and avenues. You can walk under them in some of the hotel grounds or public gardens; they are indeed wonderful, and to a gardener form one of the chief attractions of the place. Planted as specimens they form grand bushes, ranging from 10 ft. to 16 ft. high and as much as 30 ft. through. Under some are placed seats and tables to enable the visitors to take their tea, enjoy the fragrant weed, or read their Gardening World, as I did. Unfortunately, some of the bushes I did not see at their best, as the gale on the 10th inst. had injured them on the windward side as if by frost, whilst on the other side there was an abundance of flowers, hanging in beautiful pendulous clusters; the colour of the sepals is scarlet, and the corolla violet. Being questioned as to the name, I could not say what it is, unless it be the old Globosa. —*B. L., Lindley, August 25th.*

VEGETABLES.

The Kitchen Gardener's Calendar.—Ordinary Work: As crops of Peas and Beans become exhausted clear them off and prepare the ground for other crops, such, for instance, as Lettuce and Endive, which will come off in time this autumn to allow of the ground being trenched for early crops of Peas, Cauliflowers, &c., and for this purpose it will be necessary, now that the exhausted crops are being removed from the ground, to determine upon the space or spaces to be reserved, and in such positions as are best calculated to bring forward the respective kinds of early vegetables. If not already done, lose no time in getting the planting of Broccolis, Savoys, and Winter Greens completed. Late plantings, when the plants have previously had plenty of room in the nursery bed to develop themselves, and are let down to the bottom leaves when being planted, I find withstand the effects of severe winters better than those planted much earlier. Draw some soil to the stems of Broccolis, Cauliflowers, Savoys, Borecoles, and Leeks as they require it, and see to the earthing-up of Celery when the plants are dry—a condition in which I am afraid they have been longer than is good for the quality of the crop this year, and take care that no soil is allowed to get into the heart of them while the work is being done.

This crop, together with successional rows of Peas French Beans, and freshly planted Cauliflowers, Broccolis, and such-like, should have copious supplies of water given at the roots—that is, where the labour at command is adequate to the work to be done—during the prolonged spell of intensely hot weather, which, in this respect, will have rendered the year 1885 as memorable as any of its predecessors during the present century. It is during such a season as this that the manifold benefits resulting from the laying on of heavy surface-dressings of rotten dung on either side of rows of Peas, Beans, &c., are manifest. Make good plantings of Lettuce and Endive from sowings made the end of last month, and water the same every afternoon during the prevalence of hot weather, and also after the roots have taken well to the soil, otherwise the labour of planting will almost be as good as wasted; and Cabbage plants resulting from seed sown the same time should be pricked out 5 ins. or 6 ins. apart in nursery beds, so as to make a sturdy growth before being finally transplanted in drills 3 ins. deep and 2 ft. apart the middle of next month.

If Cauliflower and Lettuce seeds have not yet been sown as advised in a previous calendar (p. 779), no time should be lost in doing so. Another sowing of Radishes, and Mustard and Cress, can be made out-of-doors, after which it will be necessary to have recourse to a cold pit, where the sashes can be placed over the seed and seedlings when necessary. This will be a good time to cut a few bunches of the respective kinds of herbs when dry, and hang them up in a dry, airy shed or loft for future use. See that gravel and other walks in this department are kept free from weeds, &c., and in order to preserve these in a clean and good condition there should be a sufficient number of garden scrapers, which are easily made and should be got in readiness during bad weather, and distributed over the gardens, especially in the alleys leading from fruit walls and borders on to the walks, as also at short distances from each other at the sides and ends of the various plots, &c.—*H. W. Ward, Longford Castle.*

HORTICULTURAL SOCIETIES.

Royal Horticultural, *August 25th.*—Cottagers' fruits and vegetables, and the latter particularly, were in great force at this meeting, as we have noticed in another column, and the floral element was confined to Mr. T. S. Ware's extensive and permanent display of hardy herbaceous and alpine plants; to the new Plant and Bulb Company's large and attractive group of cut-spikes of Lilium auratum; to a large and exceedingly showy collection of Gladioli from Messrs. Kelway & Son, and a number of new things shown for certificates and noticed below. Messrs. Keynes, Williams & Co., Salisbury, showed a stand of new Dahlias, and Mr. Turner had also a good box of two dozen blooms. Mr. G. F. Wilson brought up a cut stem of Lilium auratum, bearing twenty fine blooms—an excellent representation of what good cultivation will do for this noble plant. Mr. Wilson had also another fine Lily in a red-striped form of Lilium superbum, very pretty and doubtless constant, as every flower was marked the same. From Mr. J. Linden, Ghent, came a variety of Cattleya speciosissima; and from Mr. T. S. Ware, two good boxes of cut-blooms of Cactus Dahlias, including the handsome and unapproachable Juarezi, the white Constance, and the new lemon-yellow-coloured Mrs. Hawkins.

The new plants certificated were as follows:—To Messrs. James Veitch & Sons, for Gladiolus Masque de Fer, one of Lemoine's hybrids, and a very peculiarly-coloured flower, bright scarlet, with a light centre, and two of the lower petals dark crimson; for Rhododendron Pearl, a very neat white-flowered greenhouse hybrid; and for Lælia Sedeni, a very fine thing with rosy-violet sepals and petals, and dark claret-purple lip. To Messrs. Kelway & Son, Langport, for the following new varieties of Gladiolus gandavensis:—Princess Olga, white, feathered with rose or rosy-purple; Prince Albert Victor, scarlet, with light centre; Princess Irene, rose-pink and light centre; Prince Henry, heavy rose shot with crimson, white blotch on the lower petal; Sir H. D. Wolff, bright scarlet, with rosy-purple bars on the lower petals; and Viscount Cranbrook, red, with a crimson bar on the lower petals. To Sir Trevor Lawrence, Bart., M.P., R. H. Measures, Esq., C. Dorman, Esq., W. Vanner, Esq., and Mr. Bull for Angræcum Leoni, which seems to be a very free-blooming plant, and its white blossoms very chaste and pleasing. To Henry Little, Esq., Hillingdon, for a lovely variety of Lælia elegans named Littleana, in which the sepals and petals are of an undescribable shade of rosy-violet, with a rich purple lip white at the base. To Mr. W. Bull for Caladium Comtesse de Maillé, with medium-sized cordate leaves of exceedingly delicate texture, pale creamy-yellow suffused with red, and narrowly bordered with dark green; and for Odontoglossum Insleayi splendens, a very fine variety in which the bold yellow lip is very conspicuous. To G. F. Wilson, Esq., for Androsace lanuginosa, a novelty received from Mr. Max Leichtlin, with neat white flowers changing to pink. To Messrs. H. Cannell & Sons for Dahlia Germannia nova, a dense heavy flower of medium size, and pointed petals as in the Cactus section, of a bright rose colour, and useful as a decorative variety. To Messrs. Rawlings Brothers, Romford, for Dahlia Mrs. John Walker, a fine, bold, fancy flower, white ground, tipped with purple. To Sir Trevor Lawrence for Gastronema hybrida, a most interesting hybrid between Gastronema sanguinea and Valotta purpurea, in size and habit partaking most of the former parent, with the flowers of the Valotta. Others have tried to make this cross, but without success, and now that it has been obtained the progeny should be looked after, for it is a good thing and very free blooming. Sir Trevor also received a Certificate for a fine specimen of the showy Blandfordia flammea. From H. J. Buchan, Esq., Wilton House, Southampton, came a flowering plant of that seldom seen, singular little Orchid, Aganisia cœrulea, which was awarded a Botanical Certificate.

At the Fruit Committee meeting, Mr. H. W. Ward, Longford Castle Gardens, was awarded a Bronze Banksian Medal for three very finely finished bunches of Buckland Sweetwater Grapes, which weighed in the aggregate 12 lbs. 8 ozs. In shape of bunch, size of berry, and rich colour, these were all that could be desired. Messrs. Kelway & Son sent examples of some of their new Cucumbers, the best of which appeared to be Hero of Langport, a good white spine variety from Tender and True and Kelway's Conqueror; and Melton, from Paragon and Prince of Wales, a long fruit of a deep green colour. Several collections of hardy fruits were staged, some remarks on which will be found in another column.

Wilts Horticultural, *August 20th.*—The courteous and energetic Honorary Secretary (Mr. W. H. Williams), the Mayor (Mr. Fulford), the ex-Mayor (Mr. T. W. Futcher), Messrs. Griffin, and the other gentlemen forming the Committee of Management of this society, of which his worship the Mayor is the Chairman, are to be congratulated upon the success which has attended their efforts to make the first resuscitated show of the old Wiltshire Horticultural Society worthy of the city under the shadow of whose beautiful Cathedral it was held, in the picturesque grounds of the Bishop's Palace, on the date named. This exhibition is destined, we think, to take rank as one of the best in the southern counties, judging by the excellence and number of the exhibits brought out on this occasion, which were effectually arranged in two large marquees—the large plants in the centre and the smaller ones on either side, with the luscious Pines, Melons, Grapes, Peaches, &c., crisp and fresh-looking vegetables fringed with rich green curled Parsley on the side stages in No. 1 tent, while the Roses, with a background of towering Gladioli spikes of various colours, and cut-flowers of choicer kinds, occupied the same position in tent No. 2. Messrs. Lock, Rann, Mould, Wills, Penford, and Smith, were the principal exhibitors of plants; and Mr. Warden beat all comers with twenty-four varieties of Roses. The chief exhibitors of fruit were Messrs. Ward, Iggulden, Miller, Thomson, Warden, and Pratt, who was invincible with Hamburgh and Muscat Grapes.

Plants.

In the class for twelve stove and greenhouse flowering plants, Mr. Lock, gardener to B. W. Cave, Esq., Crediton, Devon, was first, with a grand lot, every plant being good, his Ericas, Ixoras, Dipladenias, and Eucharis being really superb. He showed large, fresh, and profusely-flowered specimens of Erica Marnockiana, 6 ft. through, Ixoras Duffii and Williamsii, Dipladenias amabilis and Brearleyana, Clerodendron Balfourianum, and Ericas Fairreana and Uhriana superba, all in grand form; Mr. Mould, Pewsey, was second, his best plants being Ixora regina, Dipladenia amabilis, Bougainvillea glabra, and Erica Austeneana; and Mr. Wills, gardener to Mrs. Pearce, The Firs, Bassett, was a good third, his collection including a grand plant of Statice profusa, 5 ft. over. For a like number of fine-foliage plants, Mr. Rann, gardener to J. Warren, Esq., Handcross Park, Crawley, was a good first, showing a grandly-coloured Croton interruptus, 8 ft. through, C. Warrenii, equally well-coloured, but a trifle smaller, a large Latania borbonica, 18 ft. over, a splendid Gleichenia rupestris, and a handsome Cycas revoluta; second, Mr. Lock, whose best plants were his Gleichenia speluncæ, 6 ft. over, Croton Williamsii, C. Weismanni, and Latania borbonica; Mr. Wills was third, with a good even fresh lot of plants. Two extra prizes were awarded in this class: one to Mr. Penford, gardener to General Sir J. Fitzwigram, Leigh Park, Havant, and the other to Mr. Mould, for two really good lots. Mr. Lock was again placed in the front rank for six stove and greenhouse flowering plants, showing in this class finely-coloured Crotons Disraeli and Truffautiana; second, Mr. Wills; and Mr. F. Smith, The Palace Gardens, Salisbury, third. Mr. Lock was again first for nine Exotic Ferns and Mosses, staging grand plants of Davallia polyantha and D. Mooreana, each 6 ft. through, and a fine Nephrolepis Davalloides furcans; second, Mr. Wills, his best plants being Microlepia hirsta cristata, and Adiantum cardiochlœna; and Mr. Penford and Mr. F. Smith were placed equal thirds. Mr. R. West, gardener to J. Wigram, Esq., Northlands, was first for the best six Zonal Pelargoniums, as he also was for a like number of Begonias, showing creditable plants in each case; second, Dr. F. W. Coates, Salisbury, also showing nice plants; and third, Mr. J. Davidson, gardener to T. W. Staples, Esq., Belmont, Salisbury. Mr. C. Warden, gardener to Sir F. H. Bathurst, Bart., Clarendon Park, Salisbury, was first for six pots of Lilium auratum, showing good plants.

Cut-flowers.

For twenty-four single trusses of Roses, distinct, Mr. Warden was a good first, showing a very fresh, even lot of blooms of the leading sorts; second, Mr. Campbell, gardener to Dr. Budd, Bath; third, Mr. C. Fanner, gardener to T. W. Girdleston, Esq., Sunningdale. There was only one award (a first) made in another class for Roses, and this went to Mr. R. West. In the corresponding class for a like number of Dahlias, there was only a second prize award made, which went to Mr. J. Evans, gardener to Lady Ashburton, Melchet Court, Romsey. For eighteen bunches of cut-flowers, distinct, there was a keen competition, several really good lots being staged, the result being that Mr. F. Thomson, gardener to W. Baring, Esq., Norman Court, Salisbury, and Mr. Penford, were placed equal first, the former showing fine blooms of Cattleya crispa, Ixora Williamsii, Pancratium fragrans, and Dipladenia amabilis. Mr. Penford's stand contained a grand bloom and buds, in various stages of development, of the Victoria regina Lily; the third prize in this class going to Mr. Evans. The last-named exhibitor had the best lot of Gladiolus spikes, Mr. Warden the second, and Mr. West the third best.

Fruits.

If not shown largely these were shown well in most instances. Four good collections of eight kinds were staged in competition for the three prizes offered in the schedule, the exhibitors being Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury; Mr. W. Iggulden, gardener to the Earl of Cork, Marston House, Frome; Mr. A. Miller, gardener to W. H. Long, Esq., M.P.; and Mr. F. Thomson, the prizes going in the order named to the first three. Mr. Ward staged Muscat of Alexandria and Madresfield Court Grapes, Smooth Cayenne Pine, Captain Lark Melon, Dr. Hogg Peaches, Pine-apple Nectarines, Moor Park Apricots, and Brunswick Figs, the latter being his weakest dish. Mr. Iggulden, who was a very close second, showed a good Cayenne Pine, Grosse Mignonne Peaches, Pine-apple Nectarines, Black Grapes (Hamburghs), and Moor Park Apricots. Mr. Miller's collection contained a good Pine, Barrington Peaches, Apricots, and a nice fruit of Eastnor Castle Melon. Out of seven good lots of Hamburghs staged, Mr. Pratt, gardener to the Marquis of Bath, Longleat, Warminster, was first with three magnificent bunches, weighing nearly 12 lbs., and superbly finished; Mr. Iggulden was a good second, showing smaller, compact, and perfectly-finished bunches; third, Mr. Warden, also showing well. Mr. Pratt was again easily first for three bunches of Muscats of about the same dimensions as the Hamburghs, truly fine specimens of this noble Grape; second, Mr. Warden, with smaller bunches, which were a long way ahead of the other five lots which were staged in this class; third, Mr. Evans. In the any other white Grape class, Mr. Ward was easily first, showing three bunches of Buckland Sweetwater, the central one weighing 4 lbs. 8 ozs. and the other two 4 lbs. each; second, Mr. Miller, with Foster's Seedling. Mr. Warden was first in the any other Black than Hamburgh class, with three well proportioned and well-finished bunches of Madresfield Court; second, Mr. Ward, with Alnwick Seedling. Mr. Lock, Crediton, had the best Pine-apple, a fine, smooth-leaved Cayenne; and Mr. Ward the second best, a Providence. Mr. Thomson was first for Peaches, with large, even fruits of Barrington; Mr. Ward second, with Bellegarde. Mr. Thomson was also first for Nectarines, showing a nice, even dish of Elruge; Mr. Miller being a good second with the same variety. The last-named exhibitor was first for Plums, and Mr. Ward second, the former showing a fine dish of Greengage and the latter Old Orleans; Mr. Iggulden was third. Mr. Evans was placed first for six dishes of Apples, and Mr. Iggulden second, an award which was not generally accepted as the correct one; third, Mr. F. Smith, for a good lot. Mr. Iggulden had the best-flavoured Melon in a nicely netted and highly-coloured fruit of Hero of Lockinge; second, Mr. Thos. Wilkins, gardener to Lady Theodore Guest, Iwood House, near Shaftesbury. Mr. F. Smith had the best and only four dishes of Pears, showing nice even

clean fruits of Louis Bonne of Jersey, Marie Louise, Jargonelle, and Williams' Bon Chretien.

COLLECTIONS OF VEGETABLES.

These were shown largely and extremely well for the season: first, Mr. Thos. Wilkins; second, Mr. Miller; third, Mr. Richards, gardener to the Earl of Normanton, Somerley House, Ringwood, Hants. The first prize collection contained fine Autumn Giant Cauliflowers, Reading Tomato, International Kidney Potato, Intermediate Carrot, Wright's Giant White Celery, and White Elephant Onions. In Mr. Miller's collection were good Cauliflowers and Tomatos. Mr. Pope, gardener to the Earl of Carnavon, Highclere Castle, Newbury, Berks, was the only exhibitor of a collection of Salading, for which he was awarded a first prize.

AMATEURS' CLASSES.

In many instances these classes were well contested, and the exhibits generally good. For six stove and greenhouse plants there was only one exhibitor, namely, Mr. J. Curry, gardener to Colonel Pepper, Mulford Hill, Salisbury, who was awarded the first prize. The class for a like number of Ferns brought out three competitors: first, Mr. J. W. Lovibond, St. Anne Street, Salisbury; second, Mr. Hinksman, gardener to Mr. H. G. Gregory, Fisherton Mills, Salisbury; third, Mr. J. Curry. The last-named exhibitor had the best six Zonal Pelargoniums, distinct, and Mr. Lovibond the best six plants of variegated-leaved Pelargoniums.

For eighteen Roses, Mr. Fenner was first, Mr. F. Hatch, Salisbury, second. The last-named exhibitor was first for twelve Roses. Dr. F. W. Coates, Salisbury, had the best twelve blooms of German Asters, the Rev. A. B. Burnett, Winterbourne, Dauntsey, had the best twelve blooms of French Asters, and Mr. Hatch the second best; and Mr. H. Guillaume, Oriental Place, Southampton, had the best twelve bunches of cut-flowers, distinct, and Mr. Hinksman the second best. For eighteen Carnations or Picotees, six lots were put up, but none of them were of superior merit. The markings of the flowers were good, and the colours bright, but in point of size and substance they were a long way behind those shown at the National Society's Exhibitions at South Kensington. First, Mr. H. Guillaume; second, Mr. W. Gilbert, Bishop's Waltham; third, Mr. J. Curry.

The ladies' classes were well filled, and the light and graceful way in which some of the exhibits were arranged indicated how much we are indebted to the natural taste and skilful execution of the "fair sex" for our standard of merit in artistic adornment. For a dressed flower vase for the decoration of the dinner-table, the first prize went to Mrs. G. H. Farrant, Bemerton, for a rather massive arrangement; the second to Miss Prewett, Hammersmith, for a pretty stand; the third going to Miss Bessie Flight, Winchester, for an exceedingly light, graceful, and in every respect an admirable arrangement, and which, in the opinion of those competent to judge, should have been placed first. An extra prize was accorded to Miss Griffin, of the Wilton Road, Salisbury, for a tastefully arranged stand. For a dressed vase for decoration of a drawing-room, first, Miss Agnes Flight, for an elegant and beautiful arrangement; second, Miss Lovibond; third, Miss Griffin. For three buttonhole bouquets, Miss Prewett secured first honours with a simply yet exquisitely arranged exhibit; second, Miss Lovibond; third, Mrs. Brittain, Salisbury. In the class for ladies' shoulder sprays, Miss Prewett was again to the front with, like her other exhibits, excellent specimens of good taste; second, Miss Staples, Belmont, also showing excellent taste in her floral composition; third, Mrs. Brittain; an extra prize going to Miss C. A. Mathews, of Quidhampton.

For a collection of nine kinds of vegetables, Mr. J. Rocket was first, and Mr. Curry was second; and in a similar class for six kinds Mr. H. Guillaume was first, and Mr. T. S. Futcher, Wilton Road, Salisbury, second.

MISCELLANEOUS COLLECTIONS.

The grand display of Roses, Dahlias, and Gladiolus made by Messrs. Keynes, Williams & Co., of the Castle Street Nurseries, Salisbury, formed quite an attractive exhibition in themselves. The Rose and Dahlia blooms were perfect as regards size and form of the flower, variety and freshness of colour, and the whole were effectively arranged on the right-hand stage of the large plant tent, in which, too, were several boxes of Roses, contributed by Messrs. Brittain & Son, florists, Salisbury. Messrs. Cross & Steer, of The Canal, Salisbury, staged several stands of Carnations, The Governor, Gloire de Nancy, as well as several stands of Roses; and from Mr. George Read, Wilton Road, Salisbury, came some nice plants; and from Mr. H. W. Ward, some plants of Lilium auratum, and eight bunches of Grapes, consisting of two bunches of Madresfield Court, two bunches of Muscat of Alexandria, and one each of Black Prince, Alnwick Seedling, and Foster's Seedling, bunches which were among the prize winners the following day at Exeter.

Hastings and St. Leonards Flower Show.—This annual flower show was held on August 19th in the Alexandra Park, Hastings, and in many respects it surpassed all previous efforts. The park is a most suitable place for an exhibition of this sort, and is besides a great boon to the inhabitants as well as to the many thousands of visitors who annually flock to this favourite sea-side resort; the park is over 70 acres in extent, and the undulating grounds, in combination with the lake, make it very picturesque. It was laid out by Mr. Marnock, whose abilities as a landscape artist are so well known, and it was opened in 1882 by the Prince and Princess of Wales, who on that occasion graciously planted trees, a Beech and an Oak, which are doing well, and considering the dry season the park is also looking well, there having been no rain in Hastings to speak of since June. Bedding is well carried out, and several half-hardy trees and shrubs thrive well here, notably the Eucalyptus. Improvements and additional features of interest are annually introduced under the superintendence of Mr. Lyon, the gardener-in-chief, to whom great credit is due for the high condition in which the park is kept. To the Secretary, Mr. Stewart, and a hard-working Committee, great credit is due for the admirable arrangements made for the show. The weather was very fine, the company large, and the entries far in excess of any previous show, so much so, in fact, that more room was wanted for the collections, which were a little too crowded, a fault which can easily be remedied another season. We trust the society reaped a financial benefit, for it is richly deserving of liberal support. The competition in most classes was very keen, the exhibits cleanly grown and well put up, conspicuously so being some magnificently flowered Ericas, Statices, Kalosanthes, &c. It was quite a pleasure to see such fine flowering plants predominate, for such is not the case at this season of the year at most of our shows.

In a class for plants in bloom, open to all England, Mr. Gilbert, nurseryman, Hastings, was first, and his plants were quite up to his old form, fine examples of good cultivation. His champion eight consisted of Statice Gilbertii, over 4 ft. through, a mass of flowers; Allamanda Hendersoni, Kalosanthes coccinea, over 3 ft. through; Erica œmula, a well-flowered plant, 3½ ft. through; Allamanda nobilis, Stephanotis, Dipladenia amabilis, and Ixora Williamsii—altogether a most meritorious lot. Second, Sir A. Lamb, Hastings (gardener, Mr. Portnell), with a good eight, consisting of Statice Gilbertii, Ericas cerinthoides coronata and ampullacea, the old Clerodendron fallax, well done; Dipladenia amabilis, profusely flowered; Bougainvillea glabra, Allamanda Hendersoni, and Stephanotis; these were in fine health, and well flowered. Third, Mr. Warner, gardener to Capt. Hankey, who also showed a meritorious lot, but lacking the size and good qualities of the former. For six stove and greenhouse plants, open to those not competing in the former class, nice neat specimens were shown by Mr. Dennis, gardener to C. H. Woodroffe, Esq., who was first; and Mr. J. Duffin was second.

The classes for variegated and fine-foliaged plants brought out some nice collections, and the first prize for eight also fell to Mr. Gilbert, who had clean healthy plants of Brahia filamentosa, Kentia Forsteriana, Phormium tenax variegata, Crotons Johannis and majesticus, Corypha australis, Cycas revoluta, and Chamærops Fortunei. Second, Mr. Portnell, with Seaforthia elegans, Latania borbonica, Cibotium princeps, Corypha australis, Crotons Interruptus, Queen Victoria, and Johannis, and Cycas revoluta—a good lot, well put up, and evenly matched. Third, Mr. J. Dennis, gardener to C. H. Woodroffe, Esq., whose plants were good but smaller. Eight Exotic Ferns: first, Mr. Gilbert; second, Mr. Portnell. The former had good plants of Dicksonia antarctica, Cyathea dealbata, Todea africana, Dicksonia squarrosa, Davallia Mooreana, Adiantum Sancta Catherinæ, Adiantum Farleyensis, and Gymnogramma peruviana; all well done, a little larger in size and more varied than those from Mr. Portnell. Third, Mr. Dennis, gardener to C. H. Woodroffe, Esq. Six Fuchsias distinct: first, Mr. Portnell, for a good, well-flowered half-dozen; second, Mr. Lavender, gardener to Col. Tubbs; third, Mr. W. Hobden, nurseryman, whose plants were nothing near so fine as the former. Double and single-flowered Zonal Pelargoniums were as well done as they are often seen, and made a fine display. The abilities of the judges were sorely taxed in this class, and Mr. Gilbert had in both classes to lower his colours to Mr. Portnell. It was a very close shave indeed, both having some of the best grown plants we have seen; third, Mr. Hobden, in both classes. Collection of six miscellaneous plants in or out of flower: first, Mr. Gilbert; second, Mr. Portnell; third, Mr. J. Dennis. Single fine-foliage plant: first, Mr. Allen, gardener to Sir Thomas Brassey, M.P., K.C.B., Normanhurst, with a good Cycas revoluta; second, Mr. Portnell; third, Mr. Gilbert. Single specimen flowering plant: Here a grand specimen of Statice Gilbertii from Mr. Gilbert was first; a good Erica œmula from Mr. Portnell second; and a specimen of Begonia Sparkler from Mr. S. Golding, Clive Vale, third.

Begonias and Gloxinias were not up to the usual standard: the latter in many cases were well flowered, but had travelled badly. Ericas were extremely well done. First for six, Mr. Gilbert's superbly flowered plants of Exquisite Aitonia Turgida, Lindleyana, Massoni, Faireana, and Cerinthoides coronata—a good half-dozen; second, Mr. Portnell, who likewise showed well; third, Mr. Warner, gardener to Capt. Hankey. Table plants were poorly represented, the competition being confined to three or four whose plants were not evenly matched, and call for no further comment.

CUT-FLOWERS.—Asters, Dahlias, Phlox Drummondii, and Verbenas, were shown well, considering the dry season; Roses and Gladiolus were poor, but bouquets and dinner table epergnes were well represented, and the competition very keen. First for bouquets, Mrs. Bishop, Croydon; second, Messrs. Kinmont & Kidd, Canterbury; third, Mr. T. Gilbert. Three stands for dinner tables, open to ladies only: first, Mrs. Gilmour, Hawhurst. In the nurserymen and gardeners' competition, the first prize went to Mr. Bishop, Croydon. These were nicely put up, light and graceful, and formed a very interesting feature. With a group of plants, 9 ft. by 6 ft., arranged for effect, Mr. Gilbert was a very easy first, his collection being put up in his well-known style.

FRUIT.—The display of fruit was first-rate, the Grapes especially being well coloured and highly finished, particularly those shown by Mr. Allen, gardener to Sir Thos. Brassey, M.P., K.C.B., of Normanhurst, Mr. Jupp, of Eastbourne, and Mr. Johnson, Bayham Abbey. Mr. Allen was an easy first for Black Hamburghs and Muscat of Alexandra, showing good bunches, fine berries, well coloured and thoroughly ripe; while for any other kind of black Grape, Mr. Jupp was first, with Madresfield Court in great perfection; second, Mr. Johnson, whose Alnwick Seedlings were very fine also. The class for a collection of eight dishes brought out a good competition: first, Mr. Dixon, gardener to Sir M. Wilson; second, Mr. Gore, gardener to Capt. Taylor; third, Mr. F. Morris, gardener to C. J. Ebden, Esq. Apples were well to the fore, grand fruit, both dessert and culinary being shown in quantity, as were also Melons, Nectarines, Cherries, Figs, Peaches, and Plums.

VEGETABLES.—Considering the dry season, these were well represented both in quality and quantity; the collections of nine sorts exhibited were very good. The other vegetables, such as Cucumbers, Cauliflowers, Celery, Carrots, Onions, Tomatos, Potatos, and Turnips were shown well, the competition being very keen in most classes.

In Division II., open to gentlemen's gardeners and amateurs, the various classes were well filled. In the plant classes, Mr. Portnell was first for six stove and greenhouse plants, ornamental foliage plants, Fuchsias, Pelargoniums, and Ericas, Mr. Morris and Mr. Warner

also figuring well; the former also was awarded the first prize for groups arranged for effect. Cut-flowers, fruit, and vegetables in this division were all well represented; the amateurs' classes were also well represented. It is pleasing to note that the cottagers came out in full force, both plants and vegetables being well done, and reflecting great credit upon the numerous competitors.

In the miscellaneous class, Mr. Allen, The Gardens, Normanhurst, Battle, showed two fine cones of Araucaria imbricata, taken from a magnificent specimen which is coning freely in the lovely grounds at Normanhurst. Mr. J. Gilbert, Queen's Avenue, contributed a group of summer-flowering Chrysanthemums, and Mr. Ralph, nurseryman, some miscellaneous stove and greenhouse plants. Messrs. Cheal & Sons, Crawley, sent some fine stands of Dahlias and herbaceous cut-flowers; and Messrs. F. & D. Dann, Pevensey, showed good boxes of Grapes and fine Tomatos. Mrs. Smout, of Hastings, had a tent exclusively devoted to marine plants, in which she exhibited an interesting and effective collection of sea-weeds; the general arrangement of this tent was very attractive, and much admird. It is gratifying to state that everything passed off satisfactorily to all concerned.—*A. O.*

Trowbridge Horticultural, *August 19th.*—It is given to but few societies to carry on an existence without a break for the space of thirty-six years, and yet this has been the good fortune of the above society. It is true that at one or two periods of its career things looked about as bad as they could be; but a determined courage overcame all difficulties, and now the Trowbridge Show is one of the most popular, and in some respects one of the very best in the West of England. It has an excellent Hon. Secretary in Mr. James Huntley, The Galley, Trowbridge, who has filled this office with great credit for the space of twenty-two years; there is an excellent working committee, that any society might be proud of, and it is also well supported by the leading townspeople; the President is J. P. Stancomb, Esq., J.P.; the Treasurer, A. P. Stancomb, Esq., and the inhabitants give the society a hearty support. On the show day, heavily laden excursion trains come in from Bath, Bristol, Bradford-on-Avon, Westbury, &c., and on this particular occasion the attendance was enormous, the day being very fine, and the streets of Trowbridge were gaily decorated, flags being profusely displayed. Trowbridge is a town famous for its woollen manufactures, and the operatives appear to thoroughly enjoy their annual flower show.

The above exhibition took place, as usual, in a field close to the railway station, and occupied several tents, one of them being of very large size. Here were found the Fuchsias, for which the Trowbridge district is famous, just as Manchester is famous for its Orchids, and York for its Pelargoniums. On this occasion, Mr. J. Lye, who almost invariably stands at the head of the competitors, had to give way to Mr. J. Matthews, gardener to W. R. Brown, Esq., J.P., Trowbridge, who staged some of the finest plants ever seen at this show. He was first in the classes for six and for four varieties; his plants averaged 8 ft. in height, and they were both superbly grown and flowered. His lot of six comprised Rose of Castille, Arabella, and Marchioness of Bath, light; Charming, Doel's Favourite, and the Hon. Mrs. Hay, dark varieties. Second to him came Mr. H. Pocock, gardener to J. P. Haden, Esq., Trowbridge, who had very fine examples of Doel's Favourite, Charming, and Bountiful, dark; Arabella, Beauty of Hillvard, and Beauty of Wilts, light. Mr. J. Lye, gardener to the Hon. Mrs. Hay, Clyffe Hall, Market Lavington, was third with smaller, but nicely-grown plants, not yet fully in flower, but immensely superior to anything we had previously seen this season, the varieties being Henry Brooke, the Hon. Mrs. Hay, Final, and Doel's Favourite, dark; Harriet Lye and Arabella, light.

Mr. Matthews' plants in the class for four varieties were superb in quality, and consisted of Doel's Favourite and the Hon. Mrs. Hay, dark; Wiltshire Lass and a seedling, light. Second, Mr. George Tucker, gardener to Major W. P. Clark, J.P., Trowbridge, who had very fine examples of Load-me-well and Doel's Favourite, dark; Charming and Arabella, light. Third, Mr. J. Lye, with Duke of Albany and Mrs. Hooper Taylor, dark; Miss Lye and Gustave Doré, a double white corollad variety, light. A group from Mr. H. Pocock was highly commended. It is very doubtful if such fine Fuchsias can be found in any part of the country as in the Trowbridge district.

Stove and greenhouse plants were, as is usual, a very fine feature, some of the local growers being conspicuous for their good cultivation. In the class open to all, Mr. Matthews had the best nine plants, staging admirable examples of Allamanda Hendersoni, A. nobilis, Rondeletia speciosa major, such a specimen of Lasiandra macrantha florabunda as is rarely seen, the plants finely grown and flowered, the rich, deep purple blossoms being specially attractive; Erica Aitonia hybrida, E. Marnockiana, E. McNabiana rosea, Ixora aurantiaca, and Bougainvillea glabra; second, Mr. Tucker, whose best plants were Bougainvillea glabra, Eranthemum Andersoni, Dipladenia Brearleyana, Allamanda Hendersoni, Ixora Williamsii, and Plumbago rosea. But Mr. Tucker had put his strength into the class for six plants, and came in a good first with fine examples of Bougainvillea glabra, Clerodendron Balfourianum, Allamanda nobilis, Anthurium Scherzerianum, Dipladenia amabilis, and Ixora Fraseri; second, Mr. H. Pocock, with Dipladenia Brearleyana, D. amabilis, Lapageria alba, Allamanda Hendersoni, Ixora coccinea, and I. Williamsii; third, Mr. J. Matthews. But the last-named was first with three plants, Mr. Tucker taking second prize.

Other flowering plants comprised Petunias and Verbenas, both of which are done exceptionally well at this show; Gloxinias, Pelargoniums, Begonias, Balsams, &c., all of which gave charming masses of colour.

Of foliage plants; the best lot of nine came from Mr. Clack, gardener to E. E. Colston, Esq., Roundway Park, Devizes. They were a good, but somewhat uneven lot, but had been well-developed; Mr. W. C. Drummond, nurseryman, Bath, was second. Then Ferns made an excellent feature also, shown in collections of fifteen plants, including Mosses. Mr. Tucker had the best lot, staging even and admirably grown specimens, which included Gymnogramma sulphurea, G. chrysophylla, G. peruviana argyrophylla, and its crested form; Adiantum Peruvianum, Asplenium nidus avis, Nephrolepis tuberosa, &c. Equal second prizes were awarded to Messrs. Clack and J. Cole, gardener to A. P. Stancomb, Esq., Trowbridge, with capital groups; Mr. H. Pocock being third. The best six varieties of Caladiums, as also the best six Coleus, came from Mr. Matthews.

Amateurs and cottagers' plants were also well shown. Among the latter were some very fine Fuchsias and Zonal Pelargoniums, much better than we are in the habit of seeing shown by gentlemen's gardeners at county shows. The two tents filled by cottagers were so full of high-class exhibits that they made a capital exhibition in themselves.

Cut-flowers.—In this department there is always an excellent display at Trowbridge, and Dahlias are always a leading feature. For many years the late Mr. John Keynes exhibited at and attended this show, and his successors, Messrs. Keynes, Williams & Co., Castle Street Nursery, Salisbury, continue the practice. In the class for twenty-four distinct varieties, they staged a very good lot of blooms, comprising William Rawlings, Buttercup, Charles Wyatt, Royal Queen, Earl Radnor, Harriett Tetterell, Imperial, Miss Cannell, Joseph Ashby, Seraph, Henry Walton, Prince Bismarck, F. J. Saltmarsh, Mr. Spofforth, Thomas Goodwin, Goldfinder, John Henshaw, Mrs. Foreman, Rosetta, Mrs. Harris, Mrs. Douglas, Herbert Turner, Mrs. Langtry, and Triumphant; really a very good lot indeed. Second, Mr. Thomas Hobbs, Lower Easton, Bristol, whose flowers showed the effects of the dry season; the best blooms were Ethel Britton, Fairy Queen, Adelaide, The Hon. Mrs. Wyndham, Canary, Ovid, Mr. Gladstone, Senator, Lady Golightly, and Mr. Harris.

In the amateurs' division, the flowers were poor, the season having proved very hostile. Messrs. Keynes & Co. had the best twelve fancy varieties, setting up charming blooms of Hercules, James O'Brien, Gaiety, Charles Turner, Professor Fawcett, George Barnes, John Forbes, Rev. J. B. M. Camm, Henry Glasscock, General Gordon, and Chorister. Second, Mr. George Humphries, Kingston Langley, Chippenham. In the class for seedling Dahlias of 1884, six blooms of each, Messrs. Keynes & Co. were the only exhibitors, being placed first with Richard Dean, a very fine bright purple self, of fine substance, centre, petal, and outline, and Salamander, a fancy variety, yellow ground, flaked with crimson, a very bright and pleasing flower.

In the class for seedlings of 1885, Certificates of Merit were awarded to Messrs. Keynes, Williams & Co., for General Grant, crimson, heavily shaded with purple on the edges of the base petals; and to William Slack, a very fine and full flower, bright scarlet in colour, but somewhat reflexed. Other good flowers shown in the class were George Sanger, J. W. Cross, and Thomas Hobbs.

Table decorations, button-holes, bouquets, and memorial wreaths, were all very nicely shown; Asters were much better than we could have expected, and cut Roses were finely shown by Messrs. Geo. Cooling & Son, Bath; Messrs. Keynes & Co., and Mr. W. H. Mattock, Oxford.

Fruit.—Of this there was a very fine display, as many as five collections of ten dishes being staged. The best came from Mr. A. Miller, gardener to W. H. Long, Esq., Rood Ashton, Trowbridge, who had Alicante, Black Hamburgh, and Foster's Seedling Grapes, Barrington and Bellegarde Peaches, Hunt's Tawny Nectarine, Washington Plums, Moor Park Apricots, and Best of All and Eastnor Castle Melons; second, Mr. W. Ridge, gardener to James Durham, Esq., Bristol, who had Muscat of Alexandria and Black Hamburgh Grapes, Early York and Ford's Seedling Peaches, Downton Nectarine, Shipley Apricot, Jargonelle Pears, Greengage Plums, and Morello Cherries; third, Mr. Thomas Smith, Bath. Mr. A. Miller had the best Pine, showing a fine Queen.

The best table decoration, consisting of flowers and fruit, came from Mr. E. Cole, gardener to W. Petherick, Esq., Bristol, an excellent arrangement, Mr. E. J. Hill, Westbury-on-Trym, being second.

Mr. A. Young, gardener to B. Thomson, Esq., had the best black Grapes, staging two bunches of very fine Black Hamburgh; Mr. G. Hodges, Bath, being second; and Mr. H. Gay, gardener to L. Dobney, Esq., Bath, third. Mr. H. Clack had the best two bunches of Black Muscats, staging very fine Madresfield Court; Mr. E. J. Hill being second with the same. The best two bunches of white Grapes were Foster's Seedling, from Mr. A. Young; Mr. Miller being second with the same. Mr. G. W. Shelton, gardener to W. K. Waite, Esq., Bristol, had the best two bunches of white Muscats; Mr. F. Smith, The Palace Gardens, Salisbury, being second. Peaches, Nectarines, Plums, Melons, Apricots, dessert and culinary Apples, as well as Pears, Cherries, and Filberts, were well shown, and made an excellent display.

Vegetables were in the very best condition, numerous, and very good. The cottagers' productions were deserving of the highest praise, the Potatos being especially fine, regard being had to the season of the year.

Cheadle Floral and Horticultural.—The 18th exhibition of this society was held on Friday and Saturday last, the 21st and 22nd inst., and was in every way a thorough success. The collections of plants were of a very high order of merit, and numerous also. Fruit was good all through, bouquets and cut-flowers were well represented, and some very pretty arrangements were to be observed. Vegetables, considering the trying season, were also very creditable. Since there were eighty-eight classes in which prizes were offered, and over 560 entries, it will readily be seen that it would be a matter of difficulty to enumerate all that was staged. The principal tent in which the plants were placed measured 65 yds. in length, two others were 56 yds. long, and all available space was filled, so that only a few of the principal collections can be touched upon. The most meritorious group of plants was that put up by Mr. R. Mackellan, gardener to J. Watts, Esq., Abney Hall. This exhibitor was very successful, altogether securing over twenty prizes, the greater number being firsts. In the group alluded to, ten stove and greenhouse plants, we noticed Croton Queen Victoria, a grand mass of colour, a good Cocas and Cycas, Eucharis amazonica, with forty-six spikes of bloom and superb foliage; Ixora

Prince of Orange, with 120 trusses, and I. Williamsii with 200; these three latter plants were again and again commented on, for they were certainly the best that have been seen in the neighbourhood of Manchester these last few years; also a Stephanotis and Dipladenia amabilis, with forty trusses of high-coloured blooms. The second prize fell to J. Leigh, Esq. (Mr. J. Kirk, gardener). This latter gentleman was first, however, in the open class for a similar collection, showing fine plants of Crotons angustifolius and Disraeli, Ixora Fraserii, Eucharis amazonica, with thirty-six spikes, and a well-bloomed Dipladenia amabilis; S. Baerlein, Esq. (Mr. G. Williams, gardener), was second, with nice healthy plants, among which were Croton Evansiana, Ericas tricolor coronata and Irbyana, and Ixora Williamsii. The latter gentleman was first for six Ferns, showing large healthy plants of Dicksonia antarctica, Gleichenia flabellata, Cyathea dealbata, with a stem 6 ft. high, and Cibotium Scheidei among his best plants. Mrs. Sykes was second with Davallia Mooreaua, Adiantum farleyense, and Alsophylla excelsa, in good condition. Mrs. Sykes (Mr. G. Kemp, gardener) came well to the front with six stove and greenhouse plants in bloom, having Statice profusa, Stephanotis, Gloriosa superba, and Eucharis amazonica, in first-class order; D. Adamson, Esq. (Mr. J. Brierley, gardener), was second, and J. Watts, Esq., third. D. Adamson, Esq., was successful with Caladiums, beating Mrs. Sykes and Mr. J. H. Sykes, who secured the second and third positions. J. Judgson, Esq. (Mr. E. Shaw, gardener), showed large plants of Zonal Pelargoniums, full of bloom, and came in first, having Alice Spencer, Lady Sheffield, and Laura Strachan as his best. H. Schill, Esq. (Mr. G. Coulson, gardener), was first with a nice even lot of tricolors. With table plants, Mr. J. Hill was first, Mrs. Deakin securing a similar position with four hardy Ferns, and also with two pots of Lilium auratum. D. Adamson, Esq., showed nice dwarf plants of L. speciosum rubrum, and was first, the second falling to H. Schill, Esq. Lycopods were shown by G. W. Mould, Esq. (Mr. A. Macdonald, gardener), and W. Hudson, Esq. (Mr. G. Gass, gardener), who were placed first and second.

A very fine lot of tuberous-rooted Begonias were put up, H. Schill, Esq., coming in well first with plants full of bloom of large size and colour; W. Hudson, Esq., was second. H. Schill, Esq., was successful with four Fuchsias, and with four plants of Celosia pyramidalis plumosa. Mrs. Hodgkinson (Mr. D. Boardman, gardener) showed some good plants of Adiantums, and was placed first, Mrs. Sykes coming in a close second. Mrs. Sykes was again first for four Dracænas, showing Mooreana, Baptistii, amabilis, and Regina.

For groups of miscellaneous plants arranged in a circle 10 ft. in diameter, Mr. J. Hooley, nurseryman, Edgeley Road, near Manchester, was awarded the first prize, the second being taken by Mr. J. Burnett. For a similar group shown by amateurs, S. Baerlein, Esq., succeeded in securing first honours with a very effective arrangement. Here very few flowers were used, but by a careful and intelligent placing of Adiantums for a surface ground, and light-coloured foliage plants just lifted above them, a pretty effect was produced. The other groups, of which there were five or six, were composed of the usual flowers and Ferns, &c., but nothing novel or striking was to be observed in any of the arrangements; they were, however, a very useful adjunct to the show. Mrs. Sykes was second, D. Adamson, Esq., third, and T. H. Sykes, Esq., and J. Leigh, Esq., equal fourth. For a collection of cut stove and greenhouse flowers, Miss Cole was first, beating several very fine stands. In the winning group were large bunches of Allamanda Hendersoni and A. nobilis, Lapageria rosea and alba, Ixoras Williamsii, coccinea, and Colei, a fine spathe of Anthurium Ferierense, &c. J. Watts, Esq., was second, showing in his stand fine trusses of Disa grandiflora.

Fruit.

With six dishes of fruit, including Muscat aud Black Hamburgh Grapes, Peaches, Pears, Cherries, and Captain Lark's Melon, J. Watts, Esq., was placed first; Mrs. Patterson was second, staging Muscat and Black Hamburgh Grapes, Royal George Peaches, Lee's Prolific Fig, Elruge Nectarines, and a Melon; Mrs. Sykes was third. J. Watts, Esq., was also first with six dishes of hardy fruits; Mrs. Patterson second, and A. J. Grant, Esq., third. J. Watts, Esq., was first with fine bunches of Muscats; and J. Evans, Esq., second with excellent samples; J. E. Platt, Esq., being third. For Black Hamburghs, Alderman Raynes was first with large bunches of splendid colour and size; J. Watts, Esq., being second. Alderman Raynes was also first with bunches of Madresfield Court, staged in perfect condition both as regards size and colour. J. Evans, Esq., was first for the largest bunch of Grapes; Major Dickson being second, and D. Adamson, Esq., third. C. E. Thorneycroft, Esq., was first with a Pine, J. Watts, Esq., first for Peaches, and D. Adamson, Esq., first for Nectarines. J. Watts, Esq., was again first for a green-fleshed Melon, Mrs. Patterson securing a similar honour with scarlet-flesh. Cherries, Raspberries, Gooseberries, &c., were numerously represented and of excellent quality. Mrs. Patterson showed Lord Suffield for culinary Apples, and was first; Major Dickson being first for dessert Apples. With a brace of Cucumbers, A. Greenshields, Esq., came in first, beating G. Wilkes, Esq., who was second, and J. Evans, Esq., who was third.

A large number of vegetables were staged, generally of good quality. For a collection of ten distinct varieties, there were eleven competitors, and formidable indeed did they appear. A. J. Grant, Esq., was awarded the first prize, having very samples all through; G. Wilkes, Esq., was second, and H. Schill, Esq., third. Peas and Beans were well represented, and Tomatos were put up by a large number. Mrs. Cruso was first with six Kidney Potatos, showing Garnet's Seedling, Mrs. Deakin taking the first for rounds with Early Oxford.

Mr. J. Hooley, Messrs. W. G. Caldwell & Sons, and Mr. C. Cleave, nurseryman, showed good groups of miscellaneous plants. Collections of cut-flowers, Roses, and Gladioli were shown by Messrs. Dickson, Brown & Tait; Messrs. Dickson & Robinson had a group of herbaceous flowers and spikes of Gladioli. Messrs. F. & A. Dickson, of Chester, had a good stand of cut-blooms, and Messrs. J. Dickson & Sons, Chester, had a grand stand of choice herbaceous plants. Mr. Mackellar, Abney Hall, showed numerous spikes of Hollyhocks, which were much admired. The attendance both days was very good, but the second day was marred during the afternoon by a sharp thunderstorm; it, however, soon cleared over, and left things little the worse. The Committee deserve hearty congratulations for getting together such a good lot of exhibits, and a word of praise is justly due to E. D. Stone, Esq., the Hon. Sec., who has taken a deep interest in the society since its its formation, and who is still as ardent and enthusiastic as during its earlier years.—*X.*

ANSWERS TO CORRESPONDENTS.

Herbaceous Plants.—*A. G.*—Carnations are not herbaceous plants, and therefore should not be shown in a class for "cut-flowers of herbaceous plants."

Names of Plants.—*C. G.*—1. Antirrhinum spurium; 2. Antirrhinum Linaria; 3. Euphrasia odontites; 4. Botonica officinalis; 5. Too much withered for identification; 6. Inula dysentrica; 8. Antirrhinum elatine; 10. Spergula arvensis; 11. Asperula odorata. The others were too much withered for identification. Please remember our limit is six specimens at a time.—*John Rainbird.*—It seems to be a portion of a seed vessel of the common Iris, Iris fœtidissima, a hardy native plant.—*H. Marks.*—Acropera Loddigesi.—*G. W. Gardener.*—Cattleya intermedia, the variety which generally comes with Lælia elegaus. Masdevallia maculata var., and the small brown flower Acropera Loddigesii.—*W. Smith.*—1. Lysimachia vulgaris; 2. Veronica incana; 3. Solidago virgaurea; 5. Veronica salicifolia; 6. Helianthus multiflorus probably.—*W. T. F.*—Pavia macrostachya.

Communications Received.—W. T. F.—H. J. F.—E. J.—A. W.—H. J. C.—J. S.—W. S.—E. M.—A. O.—H. S. (uext week).—A. F. L.—T. M.—J. D.—W. T., junr.—J. T. P.—F. C.—Scrutator—James Smith—A. O. W.—T. W.—A. B.

Trade Catalogues Received.

James Carter & Co., 237 and 238. High Holborn, W.C.—Dutch and other Bulbs, Flowers for Christmas and Eastertide.

Daniels Brothers, Norwich.—Illustrated Catalogue of Dutch Flower Roots.

F. & A. Dickson & Sons, 106, Eastgate Street, Chester.—Dutch Flower Roots, &c.

Jacob Wrench & Sons, London Bridge, E.C.—Wholesale Catalogue of Flower Roots.

C. Frazer, Palace Plain, Norwich.—Illustrated Catalogue of Horticultural Buildings.

James Veitch & Sons, King's Road, Chelsea, S.W.—Hyacinths and other Bulbous Roots—Hardy Trees, Shrubs, Conifers, and American Plants, &c.

LONDON SEED TRADE.

August 26th, 1885.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a brisk demand for Trifolium incarnatum, and owing to smallness of stock this article has advanced in value, fully 3*s.* per cwt. during past week. Winter Tares and Rye meet a steady sale at unchanged rates. Red Clover is dearer owing to bad reports; as to new crop no change in values of White or Alsyke; new samples of latter show fine quality. No change in value of Bird Seeds.

COVENT GARDEN MARKET.

August 27th.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, ½ sieve	1 0- 3 0	Pine-apples, Eng., lb.	2 0- 3 0
Cherries, ½ sieve	-	Pine-apples, St. Michaels, each	3 0- 5 0
Grapes, per lb.	0 6- 2 0	Plums, ½ sieve	1 6- 4 6
Kent Filberts, per 100 lbs.	30 0-	Red Currants, ½ sieve	3 0- 3 6
Melons, each	0 6- 1 6	Black do.	4 6- 5 0
Peaches, per doz.	2 0- 8 0	Strawberries, per lb.	-

Vegetables.—Average Retail Prices.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per dozen	1 0-	Herbs, per bunch	0 2- 0 4
Asparagus, English, per bundle	-	Horse Radish, bundle	3 0- 5 0
Beans, French, per lb.	0 4-	Lettuces, Cabbage, per dozen	2 0-
Beet, per dozen	2 0- 3 0	— Cos, each	0 2-
Cabbages, Spring, doz.	1 6- 2 0	Mushrooms, p. basket	1 0- 2 0
Carrots, per bunch	0 6-	Onions, per bushel	5 0- 7 6
Cauliflowers, English, per dozen	4 0- 6 0	Parsley, per bunch	0 6-
Celery, per bundle	1 6- 2 6	Radishes, per dozen	1 6-
Cucumbers, each	0 6- 0 9	Small salading, per punnet	0 4-
Endive, French, per dozen	2 6- 3 6	Spinach, per striko	2 0-
		Tomatos, per lb.	0 9-
		Turnips, per bunch	0 6-

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Abutilon, 12 bunches	2 0- 4 0	Marguerites, 12 bun.	2 0- 6 0
Anemone, 12 bun.	-	Mignonette, 12 bun.	1 6- 3 0
Arum Lilies, 12 blms.	2 0- 6 0	Pelargoniums, per 12 sprays	0 6- 1 0
Asters, 12 bun.	2 0- 6 0	—scarlet, per 12 sprays	0 4- 0 6
Azalea, 12 sprays	-	Pinks, various, 12 bunches	1 0- 4 0
Bourvardias, per bun.	0 6- 1 0	Primula, double bun.	0 6- 1 0
Camellias, 12 blooms	-	Primulas, Chinese, bun.	-
Carnations, 12 blooms	1 0- 3 0	Pyrethrum, 12 bun.	2 0- 4 0
Carnations, 12 bun.	2 0- 4 0	Rhodanthe, 12 bun.	6 0- 9 0
Cornflower, 12 bun.	2 0- 4 0	Roses (coloured)	1 0- 2 0
Cyclamen, doz. blooms	-	Roses, indoors, p. doz.	1 0- 3 0
Cineraria, per bunch	-	Roses, per dozeu bunches	2 0- 6 0
Day Lily, 12 bunches	-	Spiræa, 12 bun.	-
Epiphyllums, 12 blms.	-	Stephanotis, 12 spr.	3 0- 4 0
Eschscholtzia, 12 bun.	-	Stocks, 12 bunches	2 0- 4 0
Eucharis, per dozen	3 0- 6 0	Sweet Peas, 12 bun.	2 0- 4 0
Gardenias, 12 bms.	2 0- 5 0	Sweet Sultan, 12 bunches	2 0- 4 0
Heliotropes, 12 sprays	0 6- 1 0	Tuberoses, per dozen	0 4- 0 6
Lapageria, white, 12 blooms	2 0- 3 0	Tulips, per doz.	-
Lapageria, red, 12 blms.	1 0- 2 0	White Jasmine, bun.	0 6- 0 9
Lavender, 12 bun.	4 0- 6 0	Woodroffe, 12 bunches	-
Lilium candidum, 12 blooms	-		
— Longiflorum, 12 blooms	2 0- 4 0		

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Aralia Sieboldi, doz.	6 0-24 0	Genista, per dozen	-
Arum Lilies, per doz.	-	Heaths or Erica, var., per doz.	-
Asters, per doz.	0 4- 6 0	Hyacinths, doz.	-
Azalea, per doz.	-	Ivy Geraniums, per dozen	3 0- 6 0
Balsams, per doz.	3 0- 6 0	Lilium longiflorum, per doz.	18 0-36 0
Begonias, per dozen	4 0-12 0	Lilium laucifolium, per doz.	9 0-12 0
Bouvardias, dozen	9 0-18 0	Marguerites, per doz.	6 0-12 0
Calceolarias, per doz.	4 0- 6 0	Palms in variety, each	2 6-21 0
Cineraria, per dozen	-	Pelargoniums, per dozen	6 0-18 0
Cockscombs, dozen	3 0- 6 0	Pelargoniums, scarlet per dozen	2 0- 6 0
Cyclamens, doz.	-	Petunias, per dozen	4 0- 6 0
Cyperus, per dozeu	4 0-12 0	Poinsettia, doz.	-
Deutzia, per dozen	-	Rhodanthe, per doz.	-
Dracæna term., doz.	30 0-60 0	Spiræa, per dozen	-
— viridis, per dozen	12 0-24 0	Stocks, per dozen	-
Epiphyllums, doz.	-	Tropæolums, per doz.	2 0- 4 0
Evergreens, in var., per dozen	6 0-24 0		
Ferns, in var., dozen	4 0-18 0		
Ficus elastica, each	1 6- 7 0		
Fuchsias, per doz.	3 0- 9 0		
Foliage Plants, various, each	2 0-10 0		

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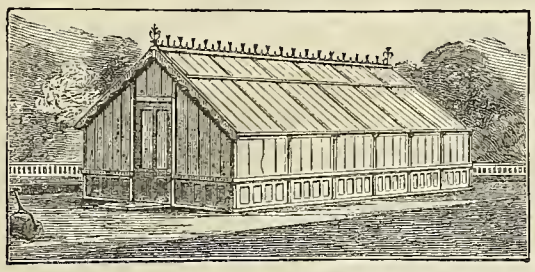

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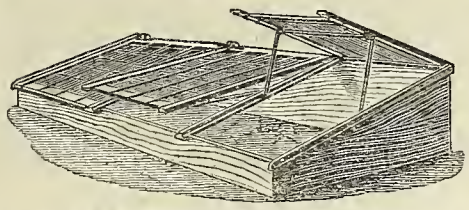

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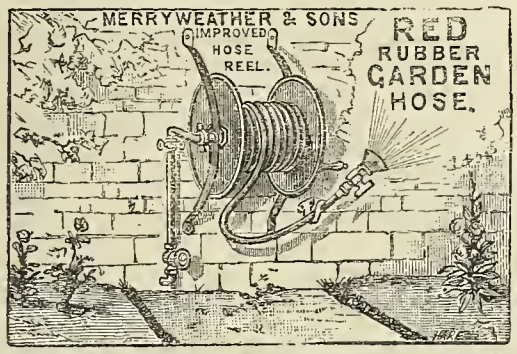

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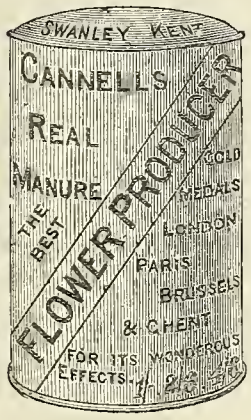

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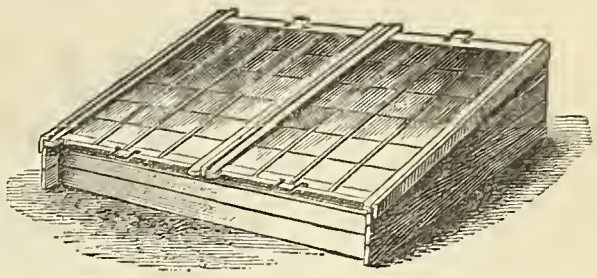

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TESTIMONIAL.

"The Gardens, Burghley, Stamford,
"September 11th, 1884.

"GENTLEMEN,—I have received the Garden Frames, and I am quite delighted with them. They are really well got up, well timbered, and the sides and ends being grooved, will prevent that objectionable swaging so prevalent in these kind of boxes. I shall certainly recommend them to my brothers in the trade.—R. GILBERT, Head Gardener to the Marquis of Exeter."

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I BEG to call attention to the following specialities, and to solicit trial orders, the execution of which I feel sure will please my customers, for Lilies and Orchids. I can compete, both in price and quality, with any house in the trade, my object being to secure a repetition of orders. I send out nothing but the best plants.

TREE PÆONIES (*First-Class Certificate, Royal Horticultural Society*).—I have also been especially fortunate in introducing some entirely new Tree Pæonies, such lovely forms and in endless variety; they were late this spring in blooming, as they have only just been sufficiently strong to be allowed to carry their massive flowers, but I was enabled to bloom those named in the Catalogue. I have not endeavoured to give more than the leading colours of these, as the markings are so very peculiar, and so charmingly interwoven are the many neutral shades and markings, that I should be doing them an injustice were I to describe them; they must be seen to be admired. They were very much eulogized by all who saw them at the Royal Horticultural Society's Show, and received a First-Class Certificate. Snowball, a lovely white flower, very much resembling a ball of snow when first opening, was specially mentioned, but Flag of Truce, a very large and lovely white, an immense flower, was not in time to be exhibited, but it was generally voted even more beautiful. There is no doubt that many which did not flower possess even greater charms, and to those who are exhibitors these new Tree Pæonies will be a desirable acquisition. They are very beautiful specimens for the conservatory, so miniature, and yet loaded with such lovely flowers. They require little or no care, and are very easily cultivated. Price for Snowball, 21*s.*; Flag of Truce and upwards of thirty other varieties, 7*s.* 6*d.* to 10*s.* 6*d.* each.

LILIES.—My collection comprises the most beautiful and desirable of this lovely genus of plants; and as I import direct from all parts of the world, I am able to compete with any house in the trade,—indeed, I lay claim to have been the first to offer to the public at reasonable prices many lovely varieties, including that Queen of Lilies, Lilium auratum, and the lovely Lilium Krameri. Amongst the novelties for last season, I may fairly take credit for the introduction of a new species of Lilium auratum, which is fully described in the Catalogue. It is named by some of the trade Lilium auratum platyphyllum, Lilium auratum candidum, but I consider that the forms are so varied that they are not identified by these two species, beautiful as they undoubtedly are; they are finer than the ordinary forms sold under these names, and until they are correctly named I prefer to still consider them as a new species hybridized by those clever gardeners, the Japanese. I am promised some fine importations of this lovely Lily during the coming season. For prices, see List, on application.

As an example of the perfection to which the ordinary Lilium auratum can be grown, I append a copy of a letter received from one of my customers, only one amongst many—

"DEAR SIR,—The first Lilium auratum I planted outside I got from you, I think about four years ago, this autumn. I have had to fill up once since, and now I want to make good a few more clumps; the rest are doing splendidly. Last year I had some of the finest spikes I ever saw or heard of. I shall be glad to know if you have seen anything better in this country. I give you the measurement and number of blooms of some of the best:

Height of Stem.	Number of Blooms.	Height of Stem.	Number of Blooms.	Height of Stem.	Number of Blooms.
8 feet 5 inches ...	29	6 feet 6 inches ...	21	5 feet 4 inches ...	21
7 feet 4 inches ...	26	5 feet 8 inches ...	21	6 feet 5 inches ...	21
7 feet 4 inches ...	25	5 feet 8 inches ...	19	6 feet 5 inches ...	22
7 feet 1 inch ...	43	5 feet 6 inches ...	18	3 feet 6 inches ...	35

and I have one stem with 46 blooms, 7 feet 6 inches in height, and my others are proportionately good.

"J. HOPKINS,
"*Gardener to* ARTHUR SPARROW, Esq., *Preen Manor, Shrewsbury.*"

JAPANESE IRIS.—I have been very successful in importing some wonderful forms of Iris; they are specially hybridized for me in Japan, and have now reached a great state of perfection, which possibly will not be improved upon. They have flowered this year with me in every possible variety and such lovely forms of flower, massive, and even 6 ins. to 8 ins. across, the colours being principally pure white, mauve, violet, purple, chocolate, blue, and red, in all possible shades, and with very beautiful markings. Some of the flowers are incurved, and the under side of the petal being of a different colour forms a fine contrast. Price 1*s.* 6*d.* each; 15*s.* per dozen.

ORCHIDS.—I have been most successful in obtaining some of the finest varieties from all parts of the world, and my prices will bear comparison with those of any house in the trade; the plants are thoroughly established, and some of them the largest pieces that have ever been imported into this country, and contain some fine varieties, while those who prefer imported and semi-established but unflowered plants can have them equally good. I shall be glad to forward it free to any of my customers who may intimate a wish to receive one. My Autumnal Catalogue will contain certain Orchids imported in large quantities which can be offered at low prices. I shall also be happy to quote specially for any Orchid not included in the list, as I import Orchids very largely, and am in a position to quote for most varieties on very low terms. I have found it somewhat difficult to compile a general list, as prices are constantly altering, owing to fresh importations from abroad arriving so frequently, but at all times am pleased to quote.

Aerides Lobbii, 3*s.* 6*d.* to 5*s.*
,, virens Dayana, 3*s.* 6*d.* to 5*s.*
Burlingtonia fragrans, 3*s.* 6*d.* to 5*s.*
Calanthe discolor, 2*s.* 6*d.*
,, Regnierii, 10*s.* 6*d.* to 15*s.*
,, Sieboldii, 3*s.* 6*d.*
,, Veitchii, 3*s.* 6*d.* to 5*s.*
,, vestita, 2*s.* 6*d.*
Cattleya Aclandiæ, 5*s.*
,, citrina, 2*s.* 6*d.*
,, Gaskelianum, 5*s.* to 7*s.* 6*d.*
,, gigas, 5*s.* to 7*s.* 6*d.*
,, intermedia, 5*s.* to 7*s.* 6*d.*
,, maxima, 5*s.* to 7*s.* 6*d.*
,, Mendelii, 5*s.*, 7*s.* 6*d.* to 10*s.* 6*d.*
,, Mossiæ, 3*s.* 6*d.* to 5*s.*
,, Percivalliana, 3*s.* 6*d.*, 5*s.* to 7*s.* 6*d.*
,, speciosissima, 3*s.* 6*d.*, 5*s.* to 7*s.* 6*d.*
,, Skinneri, 5*s.* to 7*s.* 6*d.*
,, Sanderiana, 7*s.* 6*d.* to 10*s.* 6*d.*
,, Trianæ, 5*s.*, 7*s.* 6*d.* to 10*s.* 6*d.*
Cœlogyne cristata, 3*s.* 6*d.* to 5*s.*
,, Parishii, 5*s.* to 7*s.* 6*d.*
Colax jugosus, 5*s.* to 7*s.* 6*d.*
Cymbidium eburneum, 3*s.* 6*d.* to 5*s.*
Cypripedium Argus, 3*s.* 6*d.* to 5*s.*
,, barbatum, 2*s.* 6*d.* to 3*s.* 6d.
Cypripedium cililare, 5*s.*
,, concolor, 3*s.* 6*d.*, 5*s.* to 7*s.* 6*d.*
,, Harrisianum, 5*s.* to 7*s.* 6*d.*
,, Haynaldianum, 5*s.* to 7*s.* 6*d.*
,, Hookerii, 3*s.* 6*d.* to 5*s.*
,, insignis, 2*s.* 6*d.*
,, lœvigatum, 5*s.* to 7*s.* 6*d.*
,, Lawrenceanum, 3*s.* 6*d.*, 5*s.* to 7*s.* 6*d.*
,, niveum, 5*s.* to 7*s.* 6*d.*
,, Robbelinii, 5*s.* to 7*s.* 6*d.*
,, Sedeni, 5*s.* to 7*s.* 6*d.*
,, Spicerianum, 7*s.* 6*d.*
,, Stonei, 5*s.* to 7*s.* 6*d.*
,, venustum, 2*s.* 6*d.* to 3*s.* 6*d.*
,, villosum, 3*s.* 6*d.* to 5*s.*
Dendrobium aggregatum majus, 3*s.* 6*d.* to 5*s.*
,, albo sanguineum, 5*s.* to 7*s.* 6*d.*
,, Bensoni, 3*s.* 6*d.* to 5*s.*
,, Cambridgeanum, 3*s.* 6*d.* to 5*s.*
,, chrysotoxum, 3*s.* 6*d.* to 5*s.*
,, crissinode Barberiauum, 2*s.* 6*d.*, 3*s.* 6*d.* to 5*s.*
,, crepidatum, 3*s.* 6*d.* to 5*s.*
,, Dalhouseanum, 5*s.* to 7*s.* 6*d.*
,, Dearei, 3*s.* 6*d.*, 5*s.* to 7*s.* 6*d.*
Dendrobium densiflorum, 5*s.* to 7*s.* 6*d.*
,, dixanthum, 3*s.* 6*d.* to 5*s.*
,, formosum giganteum, 3*s.* 6*d.*, 5*s.* to 7*s.* 6*d.* (mostly showing flower).
,, Fitchyianum, 3*s.* 6*d.* to 5*s.*
,, Freemanii, 5*s.*
,, heterocarpum, 3*s.* 6*d.* to 5*s.*
,, hedyosmum, 3*s.* 6*d.*
,, infundibulum, 5*s.*
,, Jamesianum, 5*s.* to 7*s.* 6*d.*
,, luteolum, 2*s.* 6*d.*, 3*s.* 6*d.* to 7*s.* 6*d.*
,, nobile (imported this spring), 2*s.* 6*d.* to 3*s.* 6*d.*
,, Pierardi latifolia, 2*s.* 6*d.* to 3*s.* 6*d.*
,, thyrsiflorum, 3*s.* 6*d.*, 5*s.* to 7*s.* 6*d.*
,, Wardianum, 2*s.* 6*d.*, 3*s.* 6*d.* to 5*s.*
Epidendrum vitellinum majus, 2*s.* 6*d.* to 3*s.* 6*d.*
Lælia acuminata, 2*s.* 6*d.*
,, albida, 2*s.* 6*d.* to 3*s.* 6*d.*
,, purpurata, 5*s.* to 7*s.* 6*d.*
Limatodes rosea, 2*s.* 6*d.* to 3*s.* 6*d.*
Lycaste Skinneri, 3*s.* 6*d.* to 5*s.*
Masdevallia Harryana, 5*s.*
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Mormodes luxatum eberneum, 5*s.* 6*d.* to 7*s.* 6*d.*
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,, constrictum, 3*s.* 6*d.*
,, grande, 3*s.* 6*d.* to 5*s.*
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,, maculatum, 2*s.* 6*d.* to 3*s.* 6*d.*
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